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/075

Date: 16-05-2025

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: Compliance Report of EC conditions for Amtipani Chirodih Bauxite Mine of M/s Minerals & Minerals Limited located in Gumla, Jharkhand for the period October'24 to March'25.

Ref: Environmental Clearance letter no F.No.11015/31/2017-IA-II (M), dated 13.08.2021

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Amtipani Chirodih Bauxite Mine (130.01 ha)** project of **M/s Minerals & Minerals Limited** located in Gumla, Jharkhand for the period October'24 to March'25. The slease detail is as below:

Lease area (ha)	Production Capacity (MT)	Lease Period
130.01	450000	11.01.2017 to 10.01.2067

Hope you will find the same in order.

Thanking You

Yours Sincerely

FOR Minerals & Minerals Limited

(Basudev Gangopadhyay)

AVP (Planning, Environment & Compliance)

Enclosure: - As Above

CC: ro.ranchi-mef@gov.in, mef@ori.nic.in, mef@nic.in, mef.or@nic.in, mscb.cpcb@nic.in,

<u>zokolkatta.cpcb@nic.in</u>, <u>ranchijspcb@gmail.com</u>, <u>roranchi47@gmail.com</u>

Name of the Project : Amtipani Chirodih Bauxite Mine (130.01 ha)

M/s Minerals & Minerals Ltd

Environment Clearance No & date : F.No.11015/31/2017-IA-II (M), dated 13.08.2021.

Period of compliance Report : From 1st October 2024 to 31th March 2025

Specific Conditions

Condition 1- As per the submission of the PP after the meeting, two alignments have been proposed for the diversion of the road. Alignment 1 will be used for the first three years and will have a protection from the mining area. PP will only do controlled primary blasting to remove Laterite and monitor the vibration and noise at a distance of 100 m towards the roadside to assess any impact of mining. The Alignment 2 will be used after 3 years in the mined out and backfilled area with proper care for subsidence, contraction, and road safety as it has been practiced by same in its other mines.

Reply to Condition 1- Presently a separate road has been constructed for evacuation of Bauxite from the mine. Post mining of the present area, the road will be shifted to the mined-out area after proper reclamation. We are only doing controlled blasting to remove hard laterite and Bauxite ore. Vibration and noise monitoring are being monitored during blasting.

Condition 2- The road will be divided into two parts. Total width will be 12 m with 1 m median. One half of the road will be exclusively dedicated for the movement of villagers whereas the other half will be used for mining operation.

Reply to Condition 2- Agreed. A separate road has been made for movement of villagers and other road is being used for vehicular activities related to mining operations.

Condition 3- PP will also submit the cost benefit analysis looking at the reserves and the total excavation proposed which includes 9.47 LTPA of OB/SB/IB (Laterite), 7.74 LTPA of soil and 1.4 LTPA of quarry waste, leaving only 3.10 of Bauxite market grade out of 21.71 LTPA of total excavation.

Reply to Condition 3- Agreed. The cost benefit analysis has already been made. The exploration is being carried out and it is completed along with analysis details. Post completion of detail exploration the cost benefit analysis will be made based on Bore holes results. Then it will be further complied as per the condition.

Condition 4- There is traffic of villagers at NW direction of the mine intersecting many roads. PP should come out with a clear statement of impact on this transport and traffic due to this mine quantifying the social impact on the utilization of road by villagers due to operation of mine.

Reply to Condition 4- Agreed. Impact study due to transport and traffic has been covered in EIA/EMP Report. Continuous water sprinkling on the road is being done to suppress dust emission.

Condition 5- At the time of revision of the mining plan, PP shall submit the action taken as per the mine closure plan of the previous plan after every 5 years.

Reply to Condition 5- Agreed. Currently no revision of the mining plan has been done yet. Progressive mine closure plan is included in the current mining plan.

Condition 6- Robust integrated Wildlife Conservation Plan should be prepared for this mine along with other two mines present in the vicinity of this mine.

Reply to Condition 6- Wildlife conservation plan has already been prepared and approved by PCCF, Wildlife, Ranchi. Adjacent two mines namely Kujam-I and Kujam-II have also been prepared WLCP and approved by PCCF, Wildlife, Ranchi via Office Order No. 50 and 51 dated 03.12.2021 for Kujam I and Kujam II Bauxite Mines respectively.

Standard Conditions

I. Statutory Compliance

Condition 1- This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

Reply to Condition 1- – Noted. However, common cause conditions are not applicable for this mine.

Condition 2- The Project proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors before commencing the mining operations.

Reply to Condition 2- Noted. However, common cause conditions are not applicable for this mine.

Condition 3- The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of

Judgment of Hon'ble Supreme Court dated 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India & Ors.

Reply to Condition 3- There had been no illegal mining involved. Hence, there is no demand from the State Government regarding common cause matter for Amtipani Chirodih Bauxite mine

Condition 4- This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

Reply to Condition 4- Noted. However, this mine is located beyond the ESZ boundary. Hence, NBWL Clearance is not applicable for this mine.

Condition 5- This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

Reply to Condition 5- Noted. There is no forest area involved within the mining lease. Hence this condition is not applicable.

Condition 6- Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

Reply to Condition 6- Noted. CTE and CTO have already been received from JSPCB, Ranchi.

Condition 7- The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

Reply to Condition 7- Noted. All the provisions and regulations made under Mines Act,1952 and MMDR Act, 2015 and various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines are being adhered to.

Condition 8- The Project Proponent shall obtain consents from all the concerned landowners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

Reply to Condition 8-Agreed. Land acquisition for mining purposes is being done with the permission of competent authority of State Government i.e. concerned Deputy Commissioner

(D.C.). The land lease agreement is being done with raiyat (Landowner) after permission of State Govt with provision of returning the land as per the norms set by D.C. The compensation and facilities are being provided as per norms set in agreement.

Condition 9- The Project Proponent shall follow the mitigation measures provided in MoEFCC's Office Memorandum No. Z-11013/57/2014-IA.II (M), dated 29th October 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area."

Reply to Condition 9- Noted and being adhered to.

Condition 10- The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

Reply to Condition 10- Noted. We have obtained NOC for withdrawal of groundwater from CGWA/CGWB for drinking purposes only. The scan copy of the same NOC is attached below.

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NOC for Ground Water

Condition 11- A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

Reply to Condition 1- Complied. A copy of the clearance letter has already been submitted to Gram Panchayat Mukhiya. Acknowledgment copy of the same is attached herewith as **Annexure 8**

Condition 12- State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

Reply to Condition 12- Complied. The EC Letter has been submitted to JSPCB for display of same at its Regional office and other government offices.

Condition 13- The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www.parivesh.nic.in). A copy of the advertisement may be forwarded to the concerned MoEFCC Regional Office for compliance and record.

Reply to Condition 13- 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.

Condition 14- The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

Reply to Condition 14- Noted and will be informed if applicable.

II. Air quality monitoring and preservation

Condition 1- The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical parameters, relevant for mining operations, of air pollution viz. PM_{10} , $PM_{2.5}$, NO_2 , CO and SO_2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCI/I, dated 18.11.2009 covering the

aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office buildings, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

Reply to Condition 1- We have already established four ambient air quality monitoring stations in the core zone as well as the buffer zone. We have established four ambient air quality monitoring stations in the core zone as well as buffer zone. Monitoring is being carried out and reported to the concerned authorities. Monitoring Report is attached as **Annexure 2.** Digital display board is already installed in front of mine gate office. We have already installed an online PM10 analyzer at mine site.

Condition 2- Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metaled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM₁₀ and PM_{2.5} are evident such as haul road, loading and unloading point and transfer points. Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipment/ machineries and preventive maintenance. Use of suitable water soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level confirm to the standards prescribed by the MoEFCC/ Central Pollution Control Board.

Reply to Condition 2- Continuous water sprinkling is being done for dust suppression on haul road. Online PM10 analyser has been installed for regular monitoring purposes. Suitable water-soluble chemical dust suppressing agents will be used in future if required. The photograph of Water Sprinkler is already attached below.



Mobile Water Tanker with Sprinkling Facilities.

III. Water quality monitoring and preservation

Condition 1- In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEFCC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

Reply to Condition 1- Noted. Shallow depth mining is being carried out in the 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. The copy of the same report is attached herewith as **Annexure 1.**

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

Condition 2-Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water tables in open dug walls located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on a sixmonthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.

Reply to Condition 2- Noted. Regular monitoring of drinking water and stream/spring water are being carried out. As 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. A piezometer has been installed in mine for monitoring of ground water level. Drinking water is being provided to nearby villages regularly.

The ground water level and water quality reports are being sent regular to regional office of Ministry, CGWA and JSPCB. The same are attached herewith as **Annexure 1 & 2**.

Condition 3- Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be submitted on six monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department/ State Pollution Control Board.

Reply to Condition 3- We are not using ground water for any mining purposes. 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. A piezometer has been installed for monitoring of ground water level. The ground water level and water quality reports are being sent regular to regional office of Ministry, CGWA and JSPCB. The same are attached herewith as **Annexure 1 & 2**.



Piezometer at Amtipani Chirodih Mine

Condition 4- The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carry out regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-a vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEFCC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on a sixmonthly basis.

Reply to Condition 4- Regular monitoring of water quality parameters of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease is being carried. There are no watercourses/bodies existing in the mining lease area. No natural water bodies are being / will be obstructed due to any mining operations.

Monitoring Reports are being sent regular to regional office of Ministry, CGWA and JSPCB on sixmonthly basis. The same are attached herewith as **Annexure 2**.

Condition 5- Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IA.II (M) dated 27.05.2009 issued by the Ministry of Environment, Forest and Climate Change may also be referred in this regard.

Reply to Condition 5- There is no polluted water generated during mining operations of this mine.

Condition 6- Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area in consultation with Central Ground Water Board/ State Groundwater Department. A report on the amount of water recharged needs to be submitted to the Regional Office MoEFCC annually.

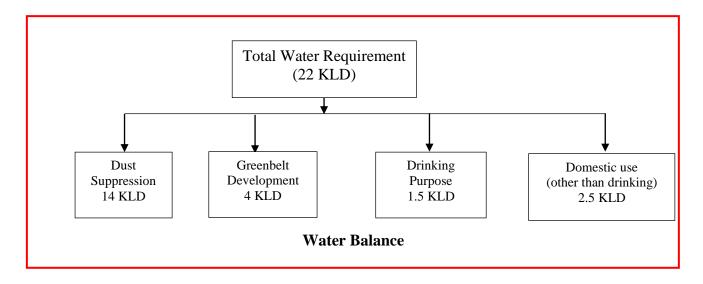
Reply to Condition 6- Rainwater harvesting pond with proper fencing has been planned post creating some voids during mining operations. Photographs of the same will be submitted to your good office once it is constructed.

Condition 7- Industrial wastewater (workshop and wastewater from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

Reply to Condition 7- The mine has been started recently. Infrastructure development is in process. The mentioned condition will be complied with once the infrastructure is developed fully.

Condition 8-The water balance/water auditing shall be carried out and measures for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

Reply to Condition 8- Noted. The water balance for this mine is attached below. We are taking water from a rainwater harvesting pond located at our adjacent mine namely Kujam-II for sprinkling and other activities. However, we have obtained NOC from CGWA for drinking purposes only.



IV. Noise and Vibration monitoring and prevention

Condition 1- The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines. Photo attached below for your kind reference.

Reply to Condition 1- Noted and is being adhered to. Blast vibration monitoring is being carried out periodically as per guidelines of DGMS and the report is attached herewith as **Annexure 7.**

Condition 2- The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limit for day/night hours.

Reply to Condition 2- Noted. Mining operation is restricted to daytime only. So, there is no disturbance created in the nearby villages regarding illumination and sound.

Condition 3- The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel, including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PP shall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

Reply to Condition 3- Noted. The noise level monitoring is being conducted at a regular interval. The noise level is below the prescribed norms. Report has been attached as **Annexure 2.** All workers engaged in operation have been provided with PPEs. Training in Health and safety is being imparted by the respective officials.

V. Mining plan

Condition 1- The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and topsoil etc. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

Reply to Condition 1- Noted and being adhered.

Condition 2- The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of the approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

Reply to Condition 2- Noted and will be adhered in due course.

Condition 3- The land-use of the mine lease area at various stages of the mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis a-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self-sustaining. The compliance status shall be submitted half-yearly to the MoEFCC and its concerned Regional Office.

Reply to Condition 3- Noted and being adhered to. The mine has been started recently and Greenbelt development & plantation work have been started. The excavated area is being back filled concurrently and back filled area is being used for afforestation/agricultural activity as required. Monitoring and management of rehabilitated areas is continuing through supervision.



Reclaimed Area

VI. Land reclamation

Condition 1- The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of topsoil/OB dumps. The topsoil shall be used for land reclamation and plantation.

Reply to Condition 1- Overburden is being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation and plantation.

This mine has been started recently. Therefore, the present OB dump site is temporary in nature. The mining is being carried out as per the approved mining plan by IBM and the guidelines/circulars issued by DGMS with respect to safety in mining operations is being adhered to. Monitoring and management of rehabilitated areas is being done through effective supervision. Data pertaining to backfilling is enclosed as **Annexure 4.**

Condition 2- The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

Reply to Condition 2- Overburden and waste rock are being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation as per mining plan approved by IBM. All Safety measures are being adhered to the guidelines/circulars issued by DGMS. Monitoring and management of rehabilitated areas is being done through effective supervision. Data pertaining to backfilling is enclosed as **Annexure 4.**

Condition 3- The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

Reply to Condition 3- Mining is in progress. The land reclamation of OB dumps is being done after concurrent backfilling as per approved mining plan in scientific manner. Photographs of the same is attached below.



Reclaimed Area

Condition 4- The slope of dumps shall be vegetated in a scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/compactors thereby ensuring proper filling/leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners/ Bentonite etc. shall be undertaken for stabilization of the dump.

Reply to Condition 4- Noted. The OB dump currently present at site is temporary and kept in adherence with DGMS guidelines. However, Overburden and waste rock is being used for concurrent back filling.

Condition 5- The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC concerned.

Reply to Condition 5- Noted. The OB dump currently present is temporary in nature and its height is not more than 30 m. However, it is currently being used for concurrent backfilling as per the approved mining plan. Therefore, this condition is not applicable for this mine.

Condition 6- Catch drains, settling tanks and siltation ponds of appropriate size shall be constructed around the mine working, mineral yards and Topsoil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de silted regularly, particularly after monsoon season, and maintained properly.

Reply to Condition 6- Noted. Garland drains of appropriate size are being constructed in both areas around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sumps of adequate capacity are provided and maintained as required.



Garland drains around Mine Pit

Condition 7- Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing

proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

Reply to Condition 7- Noted. Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable.

Condition 8-The topsoil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the topsoil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purposes.

Reply to Condition 8- Noted. Topsoil is stored in an appropriate way within mine lease as per guidelines of DGMS. Concurrent backfilling process is adopted and topsoil is being spread on the backfilled area for reclamation and plantation purposes.

VII. Transportation

Condition 1- No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation, with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

Reply to Condition 1- - Haul Road has been constructed for transportation of minerals. Mobile water tankers with sprinkling facilities have been provided along-haul roads, loading, unloading & at transfer points to arrest dust emission. Regular maintenance of vehicles is undertaken to minimize vehicular emission. All measures are being taken to control vehicular emission. The vehicles are being covered with tarpaulin while transportation of mineral. Photographs of Tarpaulin covered Truck and PUC Certificates are attached below:



Tarpaulin covered truck for transportation of bauxite.

		Form 59 (See rules 115 (2))		
Pollution Under Authorised By : Government of Jihar	Control Certificate	page nates (15 (2))		
Date Time Validity upto	: 19/03/2025 : 20:36:29 PM : 18/09/2025			
Cemilicana SL. No. Registration No. Date of Registration Month & Year of Manual Month & Year of Manual Months Number Emission Norma Fuel GSTIN Fees MIL observation		#01980240079 #084092 27/34/2005 - July2005 - July2005 - Honor Stage I DIESEL JH0190024 - Rs.300.00 - No		
	with Registration platem		H-08H	
60 mm x 30 m	Pollutant (as	Units (as	H-08H 092	Measured Value
Vehicle Photo 60 mm x 3O m	Pollutant (as applicable)	Units (2s applicable)	092	(upto 2 decima places)
60 mm x 30 m	Pollutant (as applicable) 2 Carbon Monazide (CO) Hydrotarbon, (THC/NC)	Units (as applicable) 3 percentage (%)	092	(upto 2 decima
60 mm x 30 m sr. No.	Pollutant (as applicable) 2 Carbon Monoxide (CO)	Units (as applicable) 3 percentage (%)	092	(upto 2 decima places)
Sr. No. I liding Emissions High idling emissions Smoke Density	Pollutant (as applicable) 2 Carbon Menazide (CO) Hydrocarbon, (THC/HC) CO 8,944	Units (as applicable) 3 percentage (%) ppm percentage (%)	Emission limits 4 2500 ± 200	(upto 2 decima places)
Sr. No. I liding Emissions High iding emissions Smoke Density	Pollutant (as applicable) 2 Carbon Menastrie (CO) Hydrocartice, (THC/HC) CO E994 Larrioda Light absorption coefficient	Units (as applicable) 3 percentage (%) porm percentage (%) RPM 1/metre	Emission limits 4 2590 ± 200 1 ± 0.03 2.45	(upto 2 decima places) 5

PUC Certificate

Condition 2- The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipment's like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

Reply to Condition 2- Noted. Haul road has been constructed for transportation of minerals. Mobile water tankers with sprinkling facilities have been provided on haul roads, loading, unloading & at transfer points to suppress the dust emission. The Photograph of Water sprinkler is attached below:



Mobile Water Tanker with Sprinkling Facilities

VIII. Greenbelt

Condition 1- The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Greenbelt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

Reply to Condition 1-The mine has been started recently and Greenbelt development & plantation work have been started. During FY 2024-25, a total of 7375 nos. saplings have been planted in the mining premises. Cumulative 4.73 ha areas have been planted till date. Green belt development work is also being carried out in safety zone of mining lease. Plantation work is being governed as per approved mining plan and as per EC condition.





Plantation activities

Condition 2- The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered to. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for the protection and care of trees.

Reply to Condition 2 - Noted. The mine has been started recently, and greenbelt development and plantation work have commenced. These activities are being carried out in and around the mining lease area, reclaimed areas, etc., in consultation with the local forest department. Roadside plantation has also been undertaken.

During FY 2024-25, a total of 7375 saplings have been planted within this lease. Cumulative 4.73 ha areas have been planted till date.





Roadside Plantation.





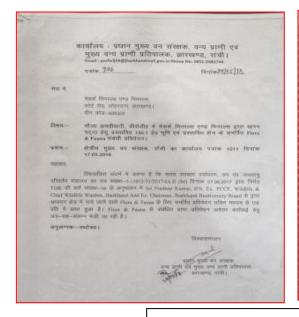
Plantation activities

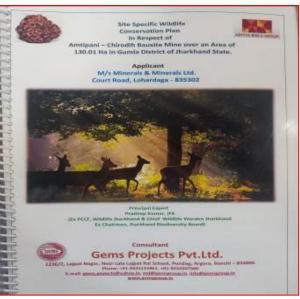
Condition 3 - The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensating those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide midday shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

Reply to Condition 3- As per the agreement by DC, we are acquiring land on the lease basis in consultation with the State Government and with the consent of the landowner. After completing mining operation followed by reclamation and topsoil spreading, we return the land to the landowners for agriculture purpose or plantation whichever is desired by them (landowners /villagers). Hence, we do not deteriorate the quality of the land and there is no need to create grazing land. No cutting of trees/ felling of trees are involved in the mining process.

Condition 4- The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wildlife Warden of the State Govt.

Reply to Condition 4- We have prepared Wildlife Conservation Plan in consultation with State Forest Department and also obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand for conservation and protection of flora and fauna in the core and buffer zone. However, this Mine is located outside the eco-sensitive zone.





Site Specific Wildlife Conservation Plan

Condition 5- And implemented in consultation with the State Forest and Wildlife Department. A copy of the Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

Reply to Condition 5 – Noted and complied with.

IX. Public hearing and human health issues

Condition 1- The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carry out Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures be taken. A status report on the same may be sent to MoEFCC Regional Office and DGMS on a half-yearly basis.

Reply to Condition 1- Noted and being complied. Regular and periodical medical examination of the workers engaged in the project is being carried out and records are being maintained by the Medical Officer. IME/PME record is attached herewith as **Annexure 6.**

Condition 2- The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to biomass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carry out base line HRA for all the categories of workers and thereafter every five years.

Reply to Condition 2 – Regular awareness programs are conducted to educate the local community on healthcare, sanitation, hygiene, and related topics. We organized an awareness drive on heat waves in and around operational areas and distributed ORS packets to workers and staff. "Poshan Kits" were distributed to TB patients to enhance their nutrition and support recovery. Rural medical camps are organized regularly.

Additionally, awareness programs are regularly provided to local villagers, focusing on women's health and hygiene, as well as the hazards of tobacco and alcohol use.

All workers and company staff are provided with appropriate PPE. We also conduct regular IMEs (Initial Medical Examinations) and PMEs (Periodic Medical Examinations) to ensure the health and well-being of workers in the mines.













Medical Camp and Awareness Programme in nearby Schools and Villages

Condition 3 - The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and

Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for recording purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

Reply to Condition 3- Occupational health surveillance is being conducted in regular intervals by specialized doctors and nurses. Rural medical camps are being organized every Friday. Periodical medical examination of the workers engaged in the project is being carried out and records are being maintained by Medical Officer. IME/PME record is attached in compliance report as **Annexure 6.**

Condition 4- The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The record of the same should be submitted to the Regional Office, MoEFCC annually along with details of the relief and compensation paid to workers having the above indications.

Reply to Condition 4- Noted and being complied with. However, Regular, and periodical medical examination of the workers engaged in the project is being carried out and records are being maintained. IME/PME record is attached in compliance report as **Annexure 6.**

Condition 5- The Project Proponent shall ensure that 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.

Reply to Condition 5- Personnel working in dusty areas are provided with proper respiratory devices. Regular training is being conducted on occupational health and work safety environments.

Condition 6- Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic

infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project-related infrastructure. The domestic wastewater should be treated with STP in order to avoid contamination of underground water.

Reply to Condition 6- Mine has been started recently and infrastructure development is going on. The condition will be duly complied with once the infrastructure development completed, if applicable. However, temporary rest shelters have been constructed for laborers. As most of the workers/ labors are from local village, there is no need for labor camps.

Condition 7- The activities proposed in the Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

Reply to Condition 7- Noted. The issues raised during the Public Hearing is being implemented as per the budgetary provisions.

X. Corporate Environmental Responsibility (CER)

Condition 1- The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

Reply to Condition 1- Every year, the funds earmarked for corporate environmental responsibility is being budgeted separately and its expenditure is being reported to the regional office of Ministry. The copy of the same is attached as **Annexure 5.**

Condition 2- Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEFCC and its concerned Regional Office.

Reply to Condition 2 Every year, the funds earmarked for environmental protection measures is being budgeted separately and its expenditure is being reported to the regional office of Ministry. The copy of the same is attached as **Annexure 5**.

XI. Miscellaneous

Condition 1- The Project Proponent shall prepare a digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

Reply to Condition 1- Noted and will be complied with. However, Digital Map of land use and land cover is being prepared every year and is being submitted to IBM Ranchi. The same is attached herewith as **Annexure 9.**

Condition 2-The Project Authorities should inform the Regional Office regarding the date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

Reply to Condition 2 – This is an operative mine hence provision related to financial closure is not applicable.

Condition 3 - The Project Proponent shall submit six monthly compliance reports on the status of the implementation of the stipulated environmental safeguards to the MOEFCC & it concerned Regional Office, Central Pollution Control Board and State Pollution Control Board

Reply to Condition 3- Six monthly reports on the status of the EC are being submitted regularly.

Condition 4- A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEFCC

Reply to Condition 4- 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 5- The concerned Regional Office of the MoEFCC shall randomly monitor compliance with the stipulated conditions. The project authorities should extend full cooperation to the MoEFCC officer(s) by furnishing the requisite data/ information/ monitoring reports.

Reply to Condition 5- Noted and Agreed.

Condition 22- The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

Reply to Condition 22- Noted.

Condition 23- Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attracts action under the provisions of Environment (Protection) Act, 1986.

Reply to Condition 23- Noted.

Condition 24- The above conditions will be enforced inter-alia, under the provisions of the water (prevention & control of pollution) Act, 1981 the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/High Court and any other Court of law relating to the subject matter.

Reply to Condition 24- Noted.

Condition 25- Any appeal against the environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Reply to Condition 25- Noted.

Condition 26- The issue with the approval of competent Authority.

Reply to Condition 26- Noted.

Piezometer Monitoring Report

Mine: Amtipani Chirodih Bauxite Mine

S No	Month	Ground Water Level (BGL) (in meters)
1	Oct-24	30.55
2	Nov-24	30.95
3	Dec-24	31.16
4	Jan-25	30.28
5	Feb-25	30.76
6	Mar-25	31.19

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Chirodih (130.01ha) Bauxite Mine-Environmental Monitoring Report

October 2024



CONTENT

	October 2024
_	Amtipani Chirodih (130.01ha)Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Site (AmtipaniChirodih Bauxite Mine)
2	Weigh Bridge (AmtipuniChirodih Bauxite Mine)
3	Mine Office (AmtipaniChirodih Bauxite Mine)
4	Entrance Gate (AmtipaniChirodih Bauxite Mine)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Pakri Gada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near Dipa Kujam Village





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10-1255

TEST REPORT

Test Report No.	: ELES/RNC/2024/6333	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004216F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7412 : Mine Site; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 22.10.2024 to 23.10.2024 : 23.10.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 23.10.2024 to 28.10.2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	- 29	2	Barometric Pressure (mmHg)	: 740
3	Relative 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	64	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	7.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.5	80 (24hrs)	
Ozone (O ₃)	µg/m²	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/m³	IS 5182 (Part- 22): 2019	0.015	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Berzene (C.H.)	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 Outslity Manager

****End of Report****

Authorised Signatory

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

Page Lot 1

Technical Manager

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SU-SIES

TEST REPORT

Test Report No.	: ELES/RNC/2024/6334	Report Release Date	: 28.10.2024
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC135872400004217F		

CUSTOMER DET		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7413 : Weigh Bridge; Amtipani Chirodil Bauxite Mine (130.01 ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 22.10.2024 to 23.10.2024 : 23.10.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 23.10.2024 to 28.10.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION				
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740
3	Relative 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	IS 5182 (Part- 23): 2022	75	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	9.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.1	80 (24hrs)	
Ozone (O ₃)	µg/m³	1S 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)	
Lead (Pb)	µg/m³	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 _s H _a)	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)	

Akash Kukhar Quality Manager

****End of Report****

Leting States

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

Page 1 of 1

Technical Manager

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TC-12887

TEST REPORT

Test Report No.	: ELES/RNC/2024/6335	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004218F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7414 : Mine Office; Amtipani Chirodih Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.10.2024 to 23.10.2024 : 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	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740
3	Relative 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	IS 5182 (Part- 23); 2022	58	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	7.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.5	80 (24hrs)	
Ozone (O ₅)	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)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m²	IS 5182 (Part- 22); 2019	0.015	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Amual)	
Arsenic (As)	ng/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ 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****

Authorised Signatory

Dr. Deependra Kumar Sinha

Page I of I

D. Environmental Engg.

The Discussion could be Law Report, is present by the Laborary motion Company unity Conditions, only on Company large listed as a Technological Manager shows in the Test Report rates or relates only to the primary or the fathermore only. The information stand on the East Report reflects the findings does by the Laboratory at the time of incollectment andy and within the loans of dism's methodome. The Laboratory is employed to all the information or data provided on the report, except the adjunction which is provided by the client. The Report named be regarded except in full and are part of the report is not disposed, without prior written approval of the Laboratory. The Report is full and one part of the report is not taken out of expendic written approval of the Laboratory. The Report is full and one part shall not be published. saferring, used fix are legal actions solving prior partitions has been partition the Management of the Laboratory. According to those so the limitation of liability, compromises and jurisdiction mosts. Any member and alternation & folialization of the content or appearance of the Test Report is unlawful and alternative may be pronounted to the foliast extent of the law. All the complies are noticed for Wideys from the Date of release tone of the Test Report. The samples from Regulatory bodies are no be entanted as specified. Any type of Greenvisions or Complians regarding the Report what is thus within 15 days from the Date of Test Report released instant. After the pinn period material before, no compliant will be accepted. The arms Test Report as in 20 mass format. Addisonable most NA (Not Applicable), RDC (Below Detection Limit), LDC (Lewer Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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TE-13501

TEST REPORT

Test Report No.	: ELES/RNC/2024/6336	Report Release Date	: 28.10.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400004219F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7415 : Entrance Gate; Amtipani Chirodil Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.10.2024 to 23.10.2024 : 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. : Scaled & Preserved	

MI	ETEOROLOGICAL INFOR	MATION				
î	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 58	1	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	61	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	8.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.6	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 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)	<1.0	2 (8hrs)
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.016	I (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 Enga

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PLOT NO-SO, MANSAROVAN EVOLAVE, TURUGANA HATEA, RANCHI-334003 (JHARNHAND) GST NO-2014EC697150121



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TEST REPORT

Test Report No.	: ELES/RNC/2024/6201	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004092F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/7230 : Near Pakri Gada Village
Address	: Lohandaga, Thurkhand-835302	Sampling Date Sample Received Date Type of Sample	: 16.10.2024 to 17.10.2024 : 18.10.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis		: Sealed & Preserved	

ď	ETEOROLOGICAL INFOR	MATION			
Ī	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Homidity (%)	: 64	4	Weather Condition	Partly Cloudy

Discipline: Chemic	al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	TS 5182 (Part- 23): 2022	61	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ¹	15 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1); 2023	7.8	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg'm ¹	IS 5182 (Part- 6): 2022	25.7	80 (24hrs)		
Ozona (O ₃)	ug/m1	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)		
Ammonia (NH ₂)	μg/m [®]	IS 5182 (Part- 25): 2018	<10.0	400 (24brs)		
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10); 2019 (NDIR Mathod)	<1.0	2 (8hrs)		
Lend (7b)	ug/m ¹	15 5182 (Part- 22): 2019	<0.002	f (24hrs)		
Nickel (Ni)	og/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	egran!	ELES/AIR/SOP/01: 2021	<2.6	06 (Annual)		
Benzene (C.H.)	142/112 ³	ELES/GC/SOP/06: 2023	<2.3	05(Annual)		
Benzo-(a)-Pyrene	re/m³	ELES/GC/SOP/05: 2023	<0.5	Ol(Annual)		

Reviewed by Akosh Kumar

Ossility Manager

****End of Report ****

Dr. Deapendry Rights Sinha Ph. D. Environmental Engg.

Technical Manager

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PLOY NO-36, GUANSAROYAR EMILAVE, TUPUGANA HATTA, ZANCH-334003 (IHAHINANO) GUTHO-200465037130124

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6202	Report Release Date	: 25.10.2024
Work Order No.	: 13612312113	Work Order Date	1 28.03.2024
ULR No.	: TC135872400004093F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/7231 : Near Pol Pol Village : 16.10.2024 to 17.10.2024	
		Sample Received Date Type of Sample Sampling Procedure	: 18.10.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 18:10:2024 to 24:10:2024	Sample Condition	; Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (*C)	: 27	2	Barometric Pressure (mmHg)	:742
3	Relative Humidity (%)	: 64	- 4	Weather Condition	: Partly Cloudy

Discipline: Chemic	al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ²	7S 5182 (Part- 23): 2022	59	100 (24brs)		
Particulate Matter (PM2.5)	µg/m³	15 5182 (Part- 24): 2019	33	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	pg/m³	15 5182 (Part- 2/Sec1): 2023	6.9	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2022	23.7	30 (24hrs)		
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH _a)	μg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24lics)		
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part- 10); 2019 (NDTR Method)	<1.0	2 (8hrs)		
Lead (Pb)	ng/m	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (NI)	raini	IS 5182 (Part- 25): 2020	<6.0	20 (Annui)		
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Berzene (C _i H _i)	pin/m²	ELES/GC/SOP/06: 2023	<2.5	05(Amusl)		
Benzo-(a)-Pyrene	'ayrim"	ELES/GC/SOP/05: 2023	<0.5	01(Ammil)		

Reviewed by

Quality Manager

****End of Report****

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Authorised Signatory Dr. Deependra Rumar Sinha

Ph. D. Environmental Engg.

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Page 1 of 1.

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PLOT NO-30, AUNTEARCHARZ ENCLANE, TUPUCIANA MATIA, RIGICHI-ES4003 (DERBIOLANO) GST NO-20A4ECEF/1305N



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Phone no.: 0551-7290103 Waballe: www.elegol.co.in



TEST REPORT

Test Report No.	; ELES/RNC/2024/6203	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004094F			

CUSTOMER DET	ARS	SAMPLE DETAILS		
Customer Name Address	: Hindulco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Lucation Sampling Date Sample Received Date	: ELES/RNC/2024/AA/7232 : Near Shakhuapani Village : 16.10.2024 to 17.10.2024 : 18.10.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure — Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 18.10.2024 to 24,10.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION						
1	Average Temperature (°C)	27.	2	Barometric Pressure (mmHg)	:742	
3	Relative Humidity (%)	54	. 4	Weather Condition	: Partly Cloudy	

Discipiine: Chemic	at	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	ug/m³	1S 5182 (Part-23): 2022:	58	100 (24hrs)		
Particulate Matter (PML5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	ug/m"	IS 5182 (Part- 2/Sec1); 2023	7.4	80 (24hrs)		
Nitrogen Di-Oxide (NO ₁)	µg/m [±]	IS 5182 (Part- 6): 2022	20.8	80 (24hrs)		
Ozune (O ₃)	H8/m ³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	ug/m ⁷	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<3.0	2 (8hrs)		
Lead (Pb)	Jag/m/	IS 5182 (Part- 22): 2019	0.010	1 (24hrs)		
Ntckel (Nt)	ag/m ^a	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Amenic (As)	ng/m	ELES/ABUSOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₁ H ₁)	µg/m²	ELES/GC/SOP/06: 2023	<1.5	05(Annud)		
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SDP/05: 2023	<0.5	D1(Anoust)		

Resewed by

Akada Komor Quality Manager ****End of Report****

Authorised Signal

Dr. Diebenard Kanap Sinha Ph. D. Environmental Engg. Technical Manager

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PLOT NO-BU, MANISAURONAR ENCLAVE, TUPULLANA RATTA, RATICHI-ESPAGIS (IRABINHANO) GIT NO-20AAECERTISOLIN

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TEST REPORT

Test Report No.	: ELES/RNC/2024/6204	Report Release Date	: 25.10.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400004095F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/7233
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: Near Dipa Kujam Village : 16.10.2024 to 17.10.2024 : 18.10.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 18.10.2024 to 24.10.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION	
1 Average Temperature (°C) 727	2 Barometric Pressure (mmHg) : 742
3 Relative Humidity (%) : 64	4 Weather Condition : Partly Cloudy

Discipline: Chemical		Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Resuit	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Pirt-23); 2022	53	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	6.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	22.8	80 (24hrs)	
Ozone (O ₁)	pagim ²	IS 5182 (Part- 9): 2019	<20.0	100 (8pta)	
Ammonia (NH ₃)	µg/m³	15 5182 (Part- 25): 2018	<10.0	400 (24firs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDTR Method)	<1.0	2 (Bhrs)	
Lezd (Pb)	lan,m,	IS 5182 (Part- 23): 2619	0.011	1 (24hrs)	
Nickel (NI)	123/111	15 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	122/m ²	ELES/AIR/SOF/01: 2021	<2.0	66 (Annual)	
Benzene (C,H,)	liā, a.,	ELES/GC/SOP/06: 2023	Q.5	05(Annual)	
Benzo-(a)-Pyvine	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Akash Kumiti

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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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Chirodih (130.01ha) Bauxite Mine-Environmental Monitoring Report

November- 2024



CONTENT

	Amtipani Chirodih (130,01ha)Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
	Mine Site (AmtipaniChirodih Bauxite Mine)
2	Weigh Bridge (AmtipaniChirodih Bauxite Mine)
3	Mine Office (AmtipaniChirodih Bauxite Mine)
4	Entrance Gate (AmtipaniChirodih Bauxite Mine)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Pakri Gada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near Dipa Kujam Village
	Drinking Water





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

ENGINEERING SERVICES PVT. LTD.

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TIC-13987

TEST REPORT

Test Report No.	: ELES/RNC/2024/7161	Report Release Date	: 04.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005027F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8296
		Location	: Mine Site; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 26.11.2024 to 27.11.2024
		Sample Received Date	: 28.11.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 28.11.2024 to 04.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved

M	METEOROLOGICAL INFORMATION					
1	Average Temperature ("C)	: 20	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 46	147	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	69	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	13.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	24.8	80 (24hrs)	
Ozone (O _j)	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)	1.09	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.021	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)	нg/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

ories & A

****End of Report****

Authorised Signatory Axasn Kumar

Page 1 of 1

The Decement stated in Proposition of the State of the St The Decement street in the Perport of the Control of Control Control Control Control Control on Company letter head in per-approved forms. The months shows in the Test Separt of the original only to the policy of the policy of the Control only and soften the Separt of current be reproduced except to field and any part of the report is not taken our of coursest, without given written approval of the Laboratory. The Report in full or in part shall not be published. advertise, used for any legal actions author prior permission has been necessed from the Management of the Liberatory. Attention is drown to the limitation of liability, prospectation and periodiction. House. Any annual content of all affections of the content or appearance of the Test Report is uniqueful and offenders may be prosecuted to the full of extent of the law. All the samples are minuted for 10days from the Date of referenciesas of the Test Report. The samples from Regulatory budies are to be retained as specified. Any type of Observations in Complaints regarding the Raptors shall be dime within 15 days from the Date of Test Report released issued. After the time period shall be fire, on associates will be accepted. The sense Time schedule mentioned in Test Report is an 14 hours former. Abbreviation used: N. A. (Stor Applicable): NDL (Billow Datastion Limit): LDL (Lower Descripton Limit).



NMENTAL LABORATORIES &

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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/7162	Report Release Date	: 04.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005028F	- Indiana yang ang ang ang ang ang ang ang ang ang		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8297
		Location	: Weigh Bridge; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 26.11.2024 to 27.11.2024
		Sample Received Date	: 28.11.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 28.11.2024 to 04.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 20	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 46		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	68	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	10.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	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 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/m³	1S 5182 (Part- 22): 2019	0.021	1 (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 ₈)	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)

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****End of Report****

Authorised Signatory

Goality Manager

Page 1 of 1
The Decement stated as a second is present the second of the Continuous and Continuous, only on Company latter head in pre-approved forms. The results shown as the Test Report unifor or inlanes only to the Page 1 of 1 to the continuous and on the Test Report surfaces only to the Laboratory or the time of according and unifor the limits of chem's material by the chemical for all the information or data provided on the report, assess the information which is provided by the chem. The Report is the limits of chem's material in the report, assess the information which is provided by the chem. The Report is the limits of chem's material in the report, assess the information which is provided by the chem. carried to reproduced except in full and any part of the report is not taken out of contact, webout prior written approval of the Laboratory. The Report in full or in part shall not be published, subscribe, west for any legal actions unless prior personation and been accurat from the Management of the Laboratory. Amention is above to the Emission of Enhister, compensation and jurisdiction somes. Any sematherized abstraction of the content in appearance of the Test Report is unfactful and offenders way be provinced to the fullest extent of the law. All the complex are minuted for 30 days from the Date of selementative of the Test Report. The samples from Regulatory bedies are to be retained so specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Text Report substance issued. After the time period stated believe, no complaints will be accepted. The entire Time sedecials mentioned in Text Report is in 20th as format. Objectation used: N.A. (Not Applicable); BOL (Below Detection Limit); J.D. (Lower Detection Limit).



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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/7163	Report Release Date	: 04.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005029F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8298	
		Location	: Mine Office; Amtipani Chirodil	
		1.4.5.5.5.5.5.5.111	Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 26.11.2024 to 27.11.2024	
	=	Sample Received Date	28.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
NACCHARLES CHECKED CONTRACTOR	COMMITTEE THE PROPERTY OF THE	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 28.11.2024 to 04.12.2024	Sample Condition	: Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	:20	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 46	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	82	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	49	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1); 2023	12.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	29.8	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 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part- 10): 2019 (NDIR Method)	1.28	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.024	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 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****

Authorised Signatory Akash Kumar

Page 1 of 1

The Dissement should be provided by the country ander Control Terms and Conditions, only on Company letter head in pre-approved forms. The results shown at the Test Report refer at relates only for the primary at the country at the country only. The information stated on the Test Report reflects the findings stend by the Laboratory at the time of conditionation only and within the limits of science at accountry. The first country is responsible for all the information or data provided on the report, except the minimum on which is provided by the claim. The Report country is the report of the Laboratory. The Report is full or in part shall not be published, and president on the Laboratory Attention is drawn to the fourness of helicity, compensation and jurisdistrion. issues. Any smoothermed alternion it indefication of the content or appearance of the Test Report is unlessful and offenders may be prosecuted to the failure extent of the base. All the samples one prisoned by 30days from the Date of references on oil the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Test Report released round. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Task Report is in 3 Shower former. Although the Acceptant No. (No. Applicable), BOL (Below Detection Limit).



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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/7164	Report Release Date	: 04.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03,2024	
ULR No.	: TC135872400005030F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/8299	
		Location	: Entrance Gate; Amtipani Chirodih Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 26.11.2024 to 27.11.2024	
		Sample Received Date	: 28.11.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
na tangan kalawasa	20 11 2021 - 04 12 2024	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 28.11.2024 to 04.12.2024	Sample Condition	: Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 20	2	Barometric Pressure (mmHg)	: 740	
3.	Relative Humidity (%)	: 46	4	Weather Condition	: Clear	

Discipline : Chemic	al	Group:	Atmospheric !	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ¹	IS 5182 (Part- 23): 2022	73	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	12.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	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	1S 5182 (Part- 10): 2019 (NDIR Method)	1.09	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22); 2019	0.024	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 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****

Authorised Signatory

Ayash Kumar

Page 1 of I

The Document solution of Regard, Is a results above in the Text Report refers and Condenses, only on Company latter head in pre-approved former. The results shown in the Text Report reflects the findings above by the Laboratory at the time of involvement only and within the limits of client's instruction. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the client. The Report of the information which is provided by the client. The Report of the information which is provided by the client. against be reproduced except as full and any part of the report in not taken out of contest, without prior written approval of the Laboratory. The Report in full or in part shall not be problement. advertise, used for my legal actions colors print partitions has been secured from the Management of the Laboratory. Microscop is drawn to the limitation of Bability, compensation and jurisdiction Any upon through alternation & Calculations of the comment or appropriate of the Test Report to unless find and offenders many by prosecuted no the fallest extent of the law. All the samples was commod for Midnys from the Date of release/vivous of the Tool Report. The samples from Regulatory holion are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report referred in Test from period stand believe, no completes will be accepted. The source Time schedule mentioned in Test Report is in Phones format. Addressering med. N.A.P.Or. Applicators, DDL (Below Detection Lieuty), LDL (Lower Demorson Limit).



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No UPROPRIETATION TO ALLES

TEST REPORT

Test Report No.	: ELES/RNC/2024/7017	Report Release Date	: 02.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400804886F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jaarkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/8223 : Near Pakri Gada Village : 21.11.2024 to 22.11.2024	
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure	: 25.11.2024 : Ambient Air : ELES/DOC/SMPL'02	
Period of Analysis	: 25.11.2024 to 02.12.2024	Sampling Done By Sample Condition	: BLES Pvt. Lid : Senled & Preserved	

Per	METEOROLOGICAL INFORMATION					
I	Average Temperature (*C)	:20	2	Barometric Pressure (mmHg)	: 740	
3	Relative Hamidity (%)	: 45	4	Weather Condition	: Clear	

Discipline: Chemic	col	Group:	Atmospheric l	Pollution.
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/m²	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	15 5182 (Part- 2/Sec1): 2023	9.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	pg/m³	IS 5182 (Part- 6): 2022	28.1	80 (24hrs)
Ozone (O ₂)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m²	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.19	2 (8hrs)
Lend (Pb)	μg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annuil)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₆ H ₉)	pg/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 Akesh Kumar

Quality Manager

Page 1 of 1

Figs 1 of 1

The December of the Happer of the Laboratory under General Temps and Company have hard in perspected from the sends shown in the Your Report of the senders only to the Laboratory of the Laboratory of the Laboratory of the client. The Mapper of the senders of the emined for Marys from the Date of sequentions of the Date Report. The samples from Repulsion, bedies not to be precised an excitled. Any type of Disservatures or Completes regarding the Report doubt from within 15th a from the Test of Test Report Monabilisated After the interpretal stand before, no completes within sequential Test state Total achieves from Report to in 15th and format. Alternative and No. (No. 2 principle), SDL (Below Detector Limit), U.O. (Cover Detector Limit).



PLOT NO-BS, MAINSAROVAR ENCLAVE, TURUSANA HATIA, RANCHI-834003 (MARKHANO) GST (MIX: 26MASOR#7130124



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TEST REPORT

Test Report No.	: ELES/RNC/2024/7018	Report Release Date	: 02.12.2024
Worlt Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400084887F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/8224 : Near Pol Pol Village : 21.11.2024 to 22.11.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 25.11.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/01 ELES Pvt, Ltd,
Period of Analysis	: 25.11.2024 to 02.12.2024	Sample Condition	Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (9C)	: 20	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline: Chemic	at:	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/m²	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	1S 5182 (Part- 2/Sec1): 2023	8.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	mg/m ³	IS 5182 (Part- 6): 2022	22.4	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/m¹	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/m ¹	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/m!	ELES/GC/SOP/05: 2023	<0.5	01(Annuai)	

****End of Report****

Reviewed by

Authorised Signatory
Aimsh Kuffar Custity Manager

Page 1 of 1

Page 1 of 1

A stand by the Laboratory code: Company Terra and Conditions, only an Company tener head in pre-approved former. The results shown in the Ten Report

of Conference on the Laboratory and Conditions, only an Company tener head in pre-approved former. The results shown in the Ten Report

of Conference on the Laboratory and Conditions. The Discourse street or Test Rape either weakens mily to the publications does for the Laboratory only. The influences ment on the Tain Report refacts the findings does by the Laboratory in the time of involvement only and writer the factor of almost interactions. The Laboratory is responsible for all the information or date provided by the report, causes the advantage of the influences of the providence occurs, or appear to the information which is provided by the class. The Report causes be reported on the Laboratory. The Report in the or in part of the report is not selected out to published. Advertise, used for any legal aptions unless than permission has been extend from the Management of the Californian. Attendion to the Interface of Lighteen and L Report is in 24 hours from a Advantation and All A (Non Age Incabile), 8001, (Belley December Limit), 1201 (Limite Determine Limit)



FEGT NG-30, ALANSAUROVAR ENCLAVE, TUPLIDAMA HATIA, KANCHI-BIHOOF (HARKRAND) 95T NO» MARECESTEREZA

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335/5186

TEST REPORT

Test Report No.	: ELES/RNC/2024/7019	Report Release Date	: 02.12.2024
Work Order No.	: 13612312113	Work Order Date	: 29,03,2024
ULR No.	: TC135872400004888F		

CUSTOMER DET		SAMPLE DETAILS	
	: Hindoleo Industries Limited	Sample Ref. No. Location Sampling Date	: HLES/RNC/2024/AA/8225 : Near Shakhuapani Village : 21.11.2024 to 22.11.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 35-11-2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pv. Ltd.
Period of Analysis	1:25.11,2024 to 02:12,2024	Sample Condition	: Scaled & Preserved

Mil	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:20	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline: Chemic	ail	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	jag/m ³	IS 5182 (Part- 23); 2022	68	100 (24hrs)
Particulate Matter (PM2.5)	µg/m²	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 [†]	15 5182 (Part- 6): 2022	22.2	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/m²	IS \$182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	-0.012	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/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)

Reviewed by

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Wills & Env

****End of Report****

Authorised Signatory
Aknah Kumar
Gentlity Manager

Page 1 of 1

The Deciment amount of the Application of the Laboratory sinds: Demand Science and Conditions, only on Company letter hand as accompanied from the same of according to the Laboratory and the Internation with the first separated as the Superior Superior and Superior Superi



PLOT NO-31, AGUNSAHOVAR ENCLAVE, TUPUGAMA HATIA: BANCHI-834003 DHARRHANDI 857 NO:- 30/(AECE9713012)

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7020	Report Release Date	: 02.12.2024
Work Order No.	113612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400604889F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Nume	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/8226 : Near Dipa Kujam Village : 21:11.2024 to 22:11.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 25.11.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES PVL Ltd.
Period of Analysis	: 25.11,2024 to 02.12,2024	Sample Condition	Sealed & Preserved

ME	TEOROLOGICAL ENFOR	MATION				
1	Average Temperature (°C)	: 20	2	Barametric Pressure (mmHg)	: 740	
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear	

Discipline: Chemic	ni i	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limi	
Particulate Matter (PM10)	µg/m³	IS 5182 (Purt-23); 2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m²	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	TS 5182 (Part- 2/Sect.): 2023	11.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	23.4	80 (24hrs)	
Ozone (O ₁)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	ug/m ⁷	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	810.0	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 ₄ H ₄)	pig/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELHS/GC/SOP/05: 2023	< 0.5	01(Annual)	

BE & Engl Reviewed by

(Ething)

****End of Report****

Authorised Signatory Orallty Manager

Page 1 of 1

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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@amail.com

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



TC-13887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7177	Report Release Date	: 05.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005041F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/DW/8302 : 27.11.2024	
		Sampling Date Sample Received Date	: 28.11.2024	
		Type of Sample	: Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample	: R.O Water	
		Location of Sample	: Kitchen	
		931 Jb. 26 W.	(Amtipani Chirodih Bauxite Mine)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 28.11.2024 to 04.12.2024	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 24.8 °C)	, já	APHA 24th Ed.2023, 4500-H	6.97	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	1.28	1.0	5.0
Taste		APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	25	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agrecable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	2.8	5,0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	74.8	500	2000
Chloride (as CI)	mg/L	APHA 24th Ed.2023, 4500 Cl B	13.8	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2320 B	35.0	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	24.7	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₁ th-E	2.68	200	400
Nitrate (as NO ₅)	mg/L	APHA 24 th Ed.2023, 4500 NO ₂ -B	1.16	45	No Relaxation

Page 1 of 4

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

ENGINEERING SERVICES PVT. LTD.

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

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



TOGERAT

TEST REPORT

Test Report No. : ELES/RNC/2024/7177 Report Release Date : 05.12.2024

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

ULR No. : TC135872400005041F

Discipline : Chemical Grou		p: Water	Regulatory Limit		
				The state of the s	0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₅ H ₅ 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	6.2	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	cal	Gro	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)	10.0	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	APHA 24th Ed.2023; 3111B	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 24 th Ed.2023; 3111B	0.072	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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10/12567

TEST REPORT

Test Report No. : ELES/RNC/2024/7177 Report Release Date : 05.12.2024

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

ULR No. : TC135872400005041F

Discipline: Chemical		Group: Resid	ues in Water	Regulatory Limit as per IS10500:2012		
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)	μψ/L	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation	
Pesticides			1 141 - 110 - 1	Li	mit	
Alachlor μg/L ELES/GC/SOP/01: 2023 BDL (DL: 0.5)		1	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)	Í	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)	190		
Methyl parathion	pg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.	0.30	
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	- 1	.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.	10	
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.	04	

Page 3 of 4

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70-12887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7177	Report Release Date	: 05.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005041F			

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

Reviewed by Akash Kuntar Gwality Manager

****End of Report****

Authorised Signatory Dr. Deepundra Navase Sinha Ph. D. Environmental Enog. Technical Manager

Page 4 of 4

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TEST REPORT

Test Report No.	: ELES/RNC/2024/7177	Report Release Date	: 05.12.2024	
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	: ELES/RNC/2024/DW/8302 : 27.11.2024	
		Sample Received Date	: 28.11.2024	
		Type of Sample	: Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample	: R.O Water	
	.57	Location of Sample	: Kitchen	
14-00400-000	MSW/mc4/033		(Amtipani Chirodih Bauxite Mine)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 28.11.2024 to 05.12,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical Parameter Unit		Group: Water		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 Civality Manager ****End of Report****

Authorised Signatory

Dr. Deependra Kumur Sluha Ph. D. Environmental Engl.

Technical Manager

Page I of I

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Chirodih (130.01ha) Bauxite Mine-Environmental Monitoring

Report

December 2024

CONTENT

	Minerals & Minerals : AmtipaniChirodile (130.01ha)Bauxite MineEnvironmental Monitoring Report December 2024
	Amtipani Chirodih (130.01ha)Banxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1:	Mine Site (AmtipaniChirodih Bauxite Mine)
2	Weigh Bridge (AmtipaniChirodin Bauxite Mine)
3	Mine Office (AmtipaniChirodih Bauxite Mine)
4	Entrance Gate (AmtipaniChirodih Bauxite Mine)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Pakri Gada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near Dipa Kujam Village



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

ENGINEERING SERVICES PVT. LTD.

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TG-T358T

TEST REPORT

Test Report No.	: ELES/RNC/2024/7685	Report Release Date	: 25.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005537F			

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/9003		
		Location	: Mine Site: Amtipani Chirodih		
		I was in the second	Bauxite Mine (130.01 ha)		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.12.2024 to 19.12.2024		
		Sample Received Date	: 20.12.2024		
		Type of Sample	: Ambient Air		
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02		
and the same of th		Sampling Done By	ELES Pvt. Ltd.		
Period of Analysis	: 20.12.2024 to 25.12.2024	Sample Condition	: Sealed & Preserved		

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature ("C)	:19	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	; 46	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	73	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	44	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	1S 5182 (Part- 6): 2022	27.2	80 (24hrs)	
Ozone (O ₁)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	μg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.09	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

Quality Managar

****End of Report****

Dr. chelhorised Signatory Ph. D. Environmental Engg.

Technical Mahager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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TC+13887

TEST REPORT

Test Report No.	: ELES/RNC/2024/7686	Report Release Date	: 25.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005538F			

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/9004		
		Location	; Weigh Bridge; Amtipani Chirodih Bauxite Mine (130.01 ha)		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.12.2024 to 19.12.2024		
		Sample Received Date	: 20.12.2024		
		Type of Sample	: Ambient Air		
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02		
Period of Analysis	: 20.12.2024 to 25.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

MI	ETEOROLOGICAL INFO	RMATION			
4	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 46	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	88	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	49	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	33.8	80 (24hrs)	
Ozone (O ₃)	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.28	2 (8hrs)	
Lead (Pb)	µg/m³	1S 5182 (Part- 22): 2019	0.041	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 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

Secolitics Billiams

****End of Report****

Dr. Dulhorised Signatory Ph. D. Environmental Engg.

feennical Manager

Page 1 of 1

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TG-1398F

TEST REPORT

Test Report No.	: ELES/RNC/2024/7687	Report Release Date	: 25.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005539F			

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/9005 : Mine Office; Amtipani Chirodih Bauxite Mine (130.01 ha)		
Address	: Lohardaga, Jhurkhand-835302	Sampling Date Sample Received Date	: 18.12.2024 to 19.12.2024 : 20.12.2024		
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02		
Period of Analysis	: 20.12.2024 to 25.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

METEOROLOGICAL INFORMATION			
1 Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 720
3 Relative Humidity (%) : 46	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	38	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	31.7	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)	1.22	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/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C ₆ H ₈)	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

Akesh Kumar Quality Manager

****End of Report****

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Or. Deependra Ramor Sigha Ph. D. Environmental Engg.

Page L of 1

Technical Manager

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TC-12087

TEST REPORT

Test Report No.	: ELES/RNC/2024/7688	Report Release Date	: 25.12.2024	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC135872400005540F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2024/AA/9006	
		Location	: Entrance Gate; Amtipani Chirodih	
			Bauxite Mine (130,01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.12.2024 to 19.12.2024	
		Sample Received Date	: 20.12.2024	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
December 1	- 20 12 2024 - 25 12 2024	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 20.12.2024 to 25.12.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 720
3	Relative Humidity (%)	: 46	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	79	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	49	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec 1): 2023	14.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	33.7	80 (24hrs)	
Ozone (O _x)	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	TS 5182 (Part- 10): 2019 (NDIR Method)	1.02	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.021	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenie (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)	

Reviewed by Akesh Kumar

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Pupe 1 of I

Technical Manager

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10-1388

TEST REPORT

Test Report No.	: ELES/RNC/2024/7531	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005386F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/8835 : Near Pakri Gada Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12.12.2024 to 13.12.2024 : 14.12.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02	
Period of Analysis	: 14.12.2024 to 21.12.2024	Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 720		
3	Relative Humidity (%) : 49	- 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	69	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	15 5182 (Part- 24): 2019	40	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	11.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30,4	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/m ²	IS 5182 (Part- 10); 2019 (NDIR Method)	1.19	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)	
Benzene (C ₆ H ₆)	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****

Authorised Sinual

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

Technical Manager

Page 1 of 1

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TIG-1398

TEST REPORT

Test Report No.	: ELES/RNC/2024/7532	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005387F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2024/AA/8836 : Near Pol Pol Village : 12.12.2024 to 13.12.2024	
Mines Status	: Operational	Sample Received Date Type of Sample Sampling Procedure	: 14.12.2024 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 14.12.2024 to 21.12.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	METEOROLOGICAL INFORMATION					
	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 720	
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	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/Sec1): 2023	10.3	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6); 2022	24.7	80 (24hrs)		
Ozone (O ₃)	ug/m¹	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/m³	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/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

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

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Dr. dethorised Signator Sinha Ph. D. Environmental Engg.

Technical Manager

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10-1300

TEST REPORT

Test Report No.	: ELES/RNC/2024/7533	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005388F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2024/AA/8837 : Near Shakhuapani Village : 12.12.2024 to 13.12.2024 : 14.12.2024
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 14.12.2024 to 21.12.2024	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 (%)	: 49	4	Weather Condition	: Clear

Discipline: Chemic	ai	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	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	10.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part- 6): 2022	24.8	80 (24hrs)	
Ozone (O ₁)	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)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m²	IS 5182 (Part- 22); 2019	0.019	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 Managor

****End of Report****

Authorised Signatur

Or. Despender Signatory Sinha Ph. D. Environmental Engg.

Technical Manager

Page 1 of 1

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TC-13087

TEST REPORT

Test Report No.	: ELES/RNC/2024/7534	Report Release Date	: 21.12.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400005389F	THE STATE OF THE S	7,5111111111111111111111111111111111111	

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	SAMPLE DETAILS Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2024/AA/8838 : Near Dipa Kujam Village : 12.12.2024 to 13.12.2024 : 14.12.2024
Mines Status	s Status : Operational Type of Sample Sampling Procedure Sampling Done By		: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 14.12.2024 to 21.12.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1 Average Temperature (°C) :21	2	Barometric Pressure (mmHg)	: 720		
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	65	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	13.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part- 6): 2022	25.7	80 (24hrs)	
Ozone (O ₃)	ug/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8brs)	
Ammonia (NH ₂)	μg/m²	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	0.022	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****

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.

Amtipani Chirodih (130.01ha) Bauxite Mine-Environmental Monitoring Report

January- 2025



CONTENT

	Amtipani Chirodih (130,01ha)Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Site (AmtipaniChirodih Bauxite Mine)
2	Weigh Bridge (AmtipaniChirodih Bauxite Mine)
3	Mine Office (AmtipaniChirodih Bauxite Mine)
4	Entrance Gate (AmtipaniChirodih Bauxite Mine)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Pakri Gada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near Dipa Kujam Village
	Surface Water
	Soil





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

ENGINEERING SERVICES PVT. LTD.

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10-13987

TEST REPORT

Test Report No.	: ELES/RNC/2025/0639	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000620F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0473	
		Location	: Mine Site; Amtipani Chirodil	
			Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.01.2025 to 19.01.2025	
		Sample Received Date	: 20.01.2025	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
1719 1 1 2 C C C C C C C C C C C C C C C C C	Discourage and contract of the	Sampling Done By	: ELES Pvl. Ltd.	
Period of Analysis	: 20.01.2025 to 27.01.2025	Sample Condition	: Sealed & Preserved	

Mi	ETEOROLOGICAL INFORM	ATION			
1	Average Temperature (*C) :	18	2	Barometric Pressure (mmHg)	: 720
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	80	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	49	60 (24hrs)		
Sulphur Di-Oxîde (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	14.1	80 (24hrs)		
Nitrogen Dî-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	31.5	80 (24hrs)		
Ozone (O ₁)	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	0.031	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 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 Akash Kurnar

****End of Report***

Hickory

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

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Technical Manager

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TC-43487

TEST REPORT

Test Report No.	: ELES/RNC/2025/0640	Report Release Date	: 27.01.2025	
Work Order No.	; RP/MJB/MM/24/0088/01	Work Order Date	: 30.03,2024	
ULR No.	: TC1358725000000621F	al management and	A CONTRACTOR OF THE PARTY OF TH	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0474
		Location	: Weigh Bridge; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18:01.2025 to 19:01.2025
		Sample Received Date	: 20.01.2025
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
March Co. C. Assertion	20.01.2025 4. 22.01.2025	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 20.01.2025 to 27.01.2025	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
T	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 720
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	79	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	51	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	13.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part- 6): 2022	35.1	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/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.32	2 (8hrs)	
Lead (Pb)	μg/m³	1S 5182 (Part- 22): 2019	0.025	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 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

Akasti Kumar

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/0641	Report Release Date	: 27.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000622F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	; Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0475 : Mine Office; Amtipani Chirodih Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.01.2025 to 19.01.2025 : 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	

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 54	4	Weather Condition	: Clear	

Discipline : Chemic	aí	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	48	60 (24hrs)
Sulphur Di-Oxide (SO ₅)	μg/m²	IS 5182 (Part- 2/Sec1): 2023	14.6	80 (24hrs)
Nitrogen Di-Oxide (NOz)	μg/m³	IS 5182 (Part- 6): 2022	33.3	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)	1.42	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part- 22): 2019	0.033	1 (24hrs)
Nicket (Ni)	ng/m²	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Ansenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₁ 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)

treat Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Envisonmental Enno

Akash Kumar Quality Manager

Page 1 of 1

Technical Manager

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TC-10067

TEST REPORT

Test Report No.	: ELES/RNC/2025/0642	Report Release Date	: 27.01.2025	
Work Order No.	; RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000623F	1800 1.0000		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/0476	
		Location	: Entrance Gate; Amtipani Chirodil Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 18.01.2025 to 19.01.2025	
		Sample Received Date	: 20.01.2025	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 20.01.2025 to 27.01.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	METEOROLOGICAL INFORMATION					
1	Average Temperature ("C) : 18	2	Barometric Pressure (minl	lg) ; 720		
3	Relative Humidity (%) : 54	4	Weather Condition	: Clear		

Discipline : Chemic	ai	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23); 2022	88	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	54	60 (24hrs)	
Sulphur Di-Oxide (SO ₁)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	16.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.8	80 (24hrs)	
Ozone (O _j)	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.25	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.029	I (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AJR/SOP/01: 2021	<2.0	06 (Annual)	
Bertzene (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

Alash Kumar

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

Page 7 of 1

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ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0511	Report Release Date	: 22.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000502F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0323 : Near Pakri Gada Village : 13.01.2025 to 14.01.2025
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 15.01.2025 to 14.01.2025 : 15.01.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES PVL Ltd.
Period of Analysis	: 15.01.2025 to 21.01.2025	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	:18	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	53	4.	Weather Condition	: Clear	

Discipline: Chemic	:ul	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	44	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1); 2023	13.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part- 6): 2022	33.1	80 (24hrs)
Ozone (O ₃)	µg/m²	IS 5182 (Part- 9): 2019	<29.0	100 (8hrs)
Ammonia (NH _t)	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 (8hra)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	nu/m	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(Annuil)

Reviewed by Austh Kumar Quality Manager

****End of Report****

Authorized Signator

Authorised Signatory Dr. Despendra Kumsr Sinha Ph. D. Environmental Engg.

Toehnical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0512	Report Release Date	: 22.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000503F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0324 : Near Pol Pol Village
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.01.2025 to 14.01.2025 : 15.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 15.01.2025 to 21.01.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 18	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 53	4	Weather Condition	: Cleur	

Discipline: Chemic	al	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	12.6	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	25.1	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 Monocide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.22	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/m'	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Banzane (CaHa)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(n)-Pyrene	ng/m³	ELES/GC/SOP/65: 2023	< 0.5	01(Annual)	

Reviewed by August Kunstr

****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Technical Manager.

Page 1 of 1

The Decument stand as Top Report, a record by the Laboratory scale General Tenne and Conditions, only as Company with just he property from the positive drown of the Conditions of the Second Second



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-26AARCE97130124

ENGINEERING SERVICES PVF. LTD.

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

Phone np.: 0651-2290103 Website: www.elespl.co.ln



TEST REPORT

Test Report No.	: ELES/RNC/2025/0513	Report Release Date	: 22.01.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000000504F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0325 : Near Shakhunpani Village
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.01,2025 to 14.01,2025 : 15.01,2025
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 15.01.2025 to 21.01.2025	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 18	2	Barometric Pressure (mm)	Hg) : 720
3.	Relative Humidity (%) : 53	4	Weather Condition	; Clear

Discipline: Chemic	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	15 5182 (Part- 23): 2022	69	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/m ²	IS 5182 (Part- 6): 2022	26.1	80 (24hrs)	
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH _a)	μg/m [®]	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 (Ph)	µg/m³	1S 5182 (Part- 22): 2019	0.023	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	(Annual)	
Benzene (CnH _A)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annoul)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Alapsh Kumar Quality Manager

****End of Report****

Dr. Deepelland Renalingtons Ph. D. Environmental Engg. Technical Manager

Page 1 of 1

The Decision stated is For Report, is invest by the Laboratory order Committee and Confession only on Company bear hand as properties from the sensits shown in the Text Report of Laboratory at the time of involvement only and norther only in the Laboratory is respectable in at the advantage or data provided as the report, except the information which is provided by the client. The Report cannot be experiently as a first support of the advantage or data provided as the report, except the information which is provided by the client. The Report cannot be expended as the report of the Laboratory as the part of the report of the



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TEST REPORT

Test Report No.	: ELES/RNC/2025/0514	Report Release Date	: 22.01.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000000505F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/0326 : Neur Dipa Kujam Village
Address	: 1.ohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.01.2025 to 14.01.2025 : 15.01.2025
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 15.01.2025 to 21.01.2025	Sample Condition	: Scaled & Preserved

MI	ETEOROLOGICAL INFO	RMATION				
1	Average Temperature (°C)	. 18	2	Barometric Pressure (mmHg)	: 720	
3	Relative Humidity (%)	: 53	- 4	Weather Condition	; Clear	

Discipline: Chemic	cal	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ^T	IS 5182 (Part-23), 2022	69	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m ⁵	IS 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- 2/Sec1): 2023	15.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	27.3	80 (24hrs)		
Ozone (O ₅)	hh/w _y	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	0,022	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)	hē/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 Guality, Manager

****End of Report****

Authorised Signature. Dr. Despendra (Currier Sinha

Ph. D. Environmental Engg.

Technical Manager

Page 1 of 3

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10,43387

TEST REPORT

Test Report No.	: ELES/RNC/2025/0703	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000684F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date	: ELES/RNC/2025/SW/0478 : 18.01.2025
		Sample Received Date	: 20.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Surface Water
		Location of Sample	: Near Jarlahi Kona, Amtipani Chirodili Bauxite Mine(130.01 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. : Scaled & Preserved

Discipline : Chemical		Group: Water		Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 18 2296-1992 Class C (Inland Surface Water)
pH (at 24.6 °C)	.5	IS 3025 (Part-11): 2022	6.60	6.5-8.5
Temperature	oC.	IS 3025 (Part 9): 2023	19.0	5 %
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2023	7.8	(m
Biochemical Oxygen Demand (BOD) (@ 20°C for 5 days)	mg/L	APHA 24th Ed.2023; 5210B	1.2	3.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16); 2023	117	1500
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17): 2022	6.6	-
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	BDL (DL: 0.1)	0.1
Calcium (as Ca)	mg/L	1S 3025 (Part-40): 2019	6.5	医

Page 1 of 2

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70,43687

TEST REPORT

Test Report No.	: ELES/RNC/2025/0703	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000684F			

Discipline: Chemical		Group: Residues in	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	14
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.124	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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77-11087

TEST REPORT

Test Report No.	: ELES/RNC/2025/0706	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000687F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/SL/0480 : 18.01.2025 : 20.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Amtipani Village, Amtipan Chirodih Bauxite Mine(130.01ha
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		Group : Pollution & l	Environment
Parameter	Unit	Test Protocol	Result
pH (1:2) at 24.4 °C	2	IS 2720 (Part-26): 2021	6.81
Conductivity (1:2) at 24.4 °C	μS/cm	IS 14767: 2021	158
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	0.99
Available Phosphorus (as P)	kg/ha	Soil Testing in India; 2011	3.08
Potassium (as K)	mg/kg	IS 9497: 2020	1200
Available Nitrogen	%	Soil Testing in India; 2011	9.52
Chloride (as CI) (1:2)	9%	ELES/SOIL/SOP/01: 2021	0.024
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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10-12007

TEST REPORT

Test Report No.	: ELES/RNC/2025/0706	Report Release Date	: 29.01.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000000687F			

Discipline: Chemical		Group: Pollution & Environment	
Parameter	Unit	Test Protocol	Result
Magnesium (as Mg)	mg/kg	Soil Testing in India; 2011	1795
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)

Reviewed by Akash Kumar

Quality Manager

****End of Report****

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

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2025/0706	Report Release Date	: 29.01.2025	
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	: ELES/RNC/2025/SL/0480 : 18.01.2025 : 20.01.2025
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Amtipani Village, Amtipani Chirodih Bauxite Mine(130.01ha)
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		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 Kumai Quality Manage:

****End of Report****

Ph. D. Environmental Engg.
Technical Manager

Page 1 of 1

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Chirodih (130.01ha) Bauxite Mine-Environmental Monitoring
Report

February 2025



CONTENT

	Minerals & Minerals : Amtipani Chirodih (130.01ha) Bauxite Mine Environmental Monitoring Report February 2025
	Amtipani Chirodih (130,01ha)Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
0	Mine Site (AmtipaniChirodih Bauxite Mine)
2	Weigh Bridge (AmtipaniChirodih Bauxite Mine)
3	Mine Office (AmtipaniChirodih Bauxite Mine)
4	Entrance Gate (AmtipaniChirodih Bauxite Mine)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Pakri Gada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near Dipa Kujam Village
	Drinking Water-2
	Stack





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

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104387

TEST REPORT

Test Report No.	: ELES/RNC/2025/1398	Report Release Date	: 03.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001369F		The second second	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1442
		Location	: Mine Site; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhund-835302	Sampling Date	: 21.02.2025 to 22.02.2025
		Sample Received Date	: 24.02.2625
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	; 21	2	Barometric Pressure (mmHg)	: 720	
. 3	Relative Humidity (%)	: 58		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	1S 5182 (Part- 24): 2019	51	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	28.7	80 (24hrs)	
Ozone (O _i)	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)	1.26	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.035	1 (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/m¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Arma Yadav
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Page 1 of 1

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

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TG-11587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1399	Report Release Date	: 03.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001370F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1443
		Location	: Weigh Bridge; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 21.02.2025 to 22.02.2025
		Sample Received Date	: 24.02.2025
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 24.02.2025 to 03.03.2025	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	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	90	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	55	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	31.5	80 (24hrs)	
Ozone (O ₆)	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)	1.34	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/m²	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 ¹	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	

Reviewed by

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Page I of I

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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1400	Report Release Date	: 03.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001371F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/1444 : Mine Office; Amtipani Chirodil Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 21.02.2025 to 22.02.2025 : 24.02.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

M	ETEOROLOGICAL INFORM	MATION				
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	:720	
3	Relative 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	IS 5182 (Part- 23): 2022	77	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	40	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	35.6	80 (24hrs)	
Ozone (O ₂)	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)	1.21	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.030	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/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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Page 1 of 1

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

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TC-13867

TEST REPORT

Test Report No.	: ELES/RNC/2025/1401	Report Release Date	: 03.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001372F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/1445
		Location	: Entrance Gate; Amtipani Chirodih Bauxite Mine (130,01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 21.02.2025 to 22.02.2025
		Sample Received Date	: 24.02.2025
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 24.02.2025 to 03.03.2025	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	al	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	IS 5182 (Part- 24); 2019	47	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	33.4	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/m²	1S 5182 (Part- 10): 2019 (NDIR Method)	1.12	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.035	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 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****

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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1218	Report Release Date	: 25.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001189F		

Customer Name : Hindalco Industries Limited Sample Ref. No. : ELES/RNC/2025/AA/L Location : Near Pakri Gada Village Sampling Date : 17.02.2025 to 18.02.202 Sample Received Date : 19.02.2025 Type of Sample : Ambient Air Sampling Procedure : ELES/DOC/SMPL/02	CUSTOMER DET	AILS	SAMPLE DETAILS	
Type of Sample : Ambient Air Sampling Procedure : ELES/DOC/SMPL/02	Customer Name	: Hindalco Industries Limited	Location Sampling Date	: ELES/RNC/2025/AA/1246 : Near Pakri Gada Village : 17.02.2025 to 18.02.2025
Sampling Done By : ELES Pvt. Ltd.			Type of Sample	: Ambient Air : ELES/DOC/SMPL/02
	Witnes Suns	, operations	 Sampling Done By 	: ELES Pvt. Ltd.
Period of Analysis : 19.02 2025 to 25.02 2025 Sample Condition : Sealed & Preserved	Period of Analysis	: 19.02.2025 to 25.02.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION	Market		
1	Average Temperature (°C) : 22	2	Barometric Pressure (mmH	g) : 720
	Relative Humidity (%) : 57	4	Weather Condition	: Clear

Discipline: Chemical 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	46	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	12.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	35.5	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.42	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 ₆)	pg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(n)-Pyrene	ng/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

****End of Report****

Authorised Signatory Aksati Yutgan

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Page I of I

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



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TEST REPORT

Test Report No.	: ELES/RNC/2025/1219	Report Release Date	: 25.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001190F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2025/AA/1247 : Near Pol Pol Village : 17,02,2025 to 18,02,2025
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 19.02.2025 : Ambient Air
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	
Period of Analysis	: 19.02.2025 to 25.02.2025	Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFORM	TATION			
1	Average Temperature (°C)	22	2	Barometric Pressure (mmHg)	: 720
_	Relative Humidity (%)	57	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	43	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	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/m³	IS 5182 (Part- 22): 2019	0.022	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	rig/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _a H _a)	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

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1220	Report Release Date	: 25.02.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001191F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Flindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2025/AA/1248 : Near Shakhuapani Village : 17.02.2025 to 18.02.2025
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 19.02.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	; 19.02.2025 to 25.02.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	; 720
_	Relative Humidity (%)	: 57	:4	Weather Condition	: Clear

Discipline: Chemic	al	Group :	Atmospheric l	Pollation
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	79	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	42	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part- 2/Sec1): 2023	12.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	29.5	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)	<1.0	2 (8hrs)
Lead (Pb)	µg/m²	IS 5182 (Part- 22): 2019	0.026	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 (CoHo)	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 Alfred Momez

Distriby Manager

Page 1 of 1

Page I of 1

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PLOT NO-30, MANSAROVAR ENCLAYE, TUPGDANA HATIA, RANCHI-834003 [JHARKHAND] GST NO:- 2NAAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2025/1221	Report Release Date	: 25.02.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001192F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2025/AA/1249 : Near Dipa Kujam Village : 17.02.2025 to 18.02.2025
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 19.02.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 19.02.2025 to 25.02.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature ("C) : 22	2	Barometric Pressure (mmHg)	: 720	
	Relative Humidity (%) : 57	4	Weather Condition	: Clear	

Discipline : Chemic	21	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	15:5182 (Part-23): 2022	75	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	31.6	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/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.28	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/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _a H _a)	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

THE Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20A8ECE9713D124

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TO-STREET

TEST REPORT

Test Report No.	; ELES/RNC/2025/1396	Report Release Date	: 03.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	; 30.03.2024
ULR No.	: TC1358725000001367F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2025/DW/1440 : 22.02.2025 : 24.02.2025	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample Location of Sample	: Drinking Water : Tap Water : Kitchen	
Mines Status	: Operational	Sampling Procedure	(Amtipani Chirodih Bauxite Mine) : ELES/DOC/SMPL/01	
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical	Discipline : Chemical		Water	The second secon	ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.9 °C)		APHA 24th Ed.2023, 4500-H	6.59	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.12	1.0	5.0
Taste		APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	1+1	IS 3025 (Part-5) :2018	Agrecable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	285	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 CI B	21.6	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 ₃)	mg/L	APHA 24 th Ed.2023, 2320 B	116	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	129	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ -2-E	12.4	200	400
Nitrate (as NO ₅)	mg/L	APHA 24th Ed. 2023, 4500 NO ₃ -B	4.38	45	No Relaxation

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

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10-13981

No

Relaxation

0.01

BDL

(DL: 0.01)

TEST REPORT

Test Report No. : ELES/RNC/2025/1396 Report Release Date : 03.03.2025

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

ULR No. : TC1358725000001367F

Regulatory Limit Group: Water Discipline: Chemical as per IS10500:2012 Acceptable Permissible Test Protocol Result Unit Parameter. Limit Limit BDL Phenolic Compound 0.002 0.001IS 3025 (Part 43/Sec1): 2022 mg/L (DL: 0.001) (as C₆H₅OH) BDL Free Residual Chlorine 0.2(Min) 1.0(Min) IS 3025 (Part-26): 2021 mg/L (DL: 0.1) (RFC) APHA 24th Ed.2023, 3500 Ca B 75 200 33.7 mg/L Calcium (as Ca) BDL Anionic Surfactants APHA 24th Ed.2023, 5540-C 1.0 0.2 mg/L (DL: 0.025) (as MBAS) Group: Residues in Water Discipline: Chemical BDL 0.2 IS 3025 (Part-55):2003; RA2019 0.03 mg/LAluminum (as Al) (DL: 0.02) No BDL 1S 3025 (Part-37): 2022 0.01 mg/LArsenic (as As) Relaxation (DL: 0.005) BDL 0.5 1.0 IS 3025 (Part-57): 2021 mg/LBoron (as B) (DL: 0.2) No BDL APHA 24th Ed.2023; 3111B 0.003 mg/L Cadmium (as Cd) Relaxation (DL: 0.003) No BDL APHA 24th Ed.2023; 3111B 0.05 mg/L Total Chromium (as Cr) Relaxation (DL: 0.03) BDL0.05 1.5 IS 3025 (Part 42): 2019 mg/L Copper (as Cu) (DL: 0.03) No BDL APHA 24th Ed.2023, 4500 CN-E 0.05 mg/L Cyanide (as CN) Relaxation (DL: 0.012) No 1.0 APHA 24th Ed.2023; 3111B 0.059mg/L Iron (as Fe) Relaxation No BDL APHA 24th Ed.2023; 3111B 0.01 mg/L Lead (as Pb) Relaxation (DL: 0.01) BDL APHA 24th Ed.2023: 3111B 0.1 0.3mg/L Manganese (as Mn) (DL: 0.05) No BDL 1.00.0 IS 3025 (Part-48): 2019 mg/L Mercury (as Hg) Relaxation (DL: 0.001)

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IS 3025 (Part-56): 2019

mg/L

Selenium (as Se)

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TG-1358

TEST REPORT

Test Report No.	: ELES/RNC/2025/1396	Report Release Date	: 03.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001367F		

Discipline: Chemical		Group: Resid	ues in Water	Regulatory Limit as per IS10500:2012	
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)	2	20
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	2.0
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		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)		0,8
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)		1.0
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	0.03
Alpha HCH	μg/L.	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	¢	10.0
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	(0.04

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TG-(388)

TEST REPORT

Test Report No.	: ELES/RNC/2025/1396	Report Release Date	: 03.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001367F		

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	Shan not be detected

Remarks: pH done at Site.

Reviewed by

Abast Kumar Quality Managar ****End of Report***

Authorised Signatory

Dr. Deopendra Kurpat Sinha Ph. D. Environmental Emph. Technical Manager

Page 4 of 4

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

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

m	: ELES/RNC/2025/1396	Report Release Date	: 03.03.2025
Test Report No.	: ELES/RNC/2025/1590	Report Release Date	SHOWER PROFESSION
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/2025/DW/1440 : 22.02.2025 : 24.02.2025 : Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Tap Water : Kitchen (Amtipani Chirodih Bauxite Mine	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Cher	mical	Group: Wa	ter		ory Limit 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

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Page 1 of 1

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TC-13583

TEST REPORT

Test Report No.	: ELES/RNC/2025/1296	Report Release Date	: 28.02.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001267F		

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/1299 : 20.02.2025 : 21.02.2025 : Drinking Water
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: RO Water : Kitchen (Amtipani Chirodih Bauxite Mine)
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01
Period of Analysis	: 21.02.2025 to 28.02.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved

Discipline : Chemical	Discipline : Chemical Group :		Water	Regulatory Limit us per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24,7 °C)		APHA 24 th Ed.2023, 4500-H ⁺	6.90	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed,2023, 2130 B	0.33	1.0	5.0
Taste	-	APHA 24th Ed 2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	:+	1S 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540H,C&D	89	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 Cl B	11.4	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 ₅)	mg/L	APHA 24th Ed.2023, 2320 B	28.8	200	600
Total Hardness (as CaCO ₂)	mg/L	APHA 24th Ed.2023, 2340 C	45.6	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ -2-E	BDL (DL: 1.0)	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₁ -B	BDL (DL: 0.5)	45	No Relaxation

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TC-13587

TEST REPORT

 Test Report No.
 : ELES/RNC/2025/1296
 Report Release Date
 : 28.02.2025

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

ULR No. : TC1358725000001267F

Discipline : Chemica	ıl	Grou	p; Water		ory Limit 0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₀ H ₃ OH)	mg/L	1S 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	12.1	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 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 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.043	1.0	No Relaxatio
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxatio
Manganese (as Mn)	mg/L	APHA 24 th 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 Relaxatio
Selenium (as Se)	mg/L	1S 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxatio

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

ENGINEERING SERVICES PVT. LTD.

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

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1296	Report Release Date	: 28.02.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001267F		

Discipline : Chemical		Group: Resid	ues in Water	Regulate as per IS1	ory Limit 10500:2012
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)	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)	7	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)	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	3.0
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		190
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)		1.0
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	BDL (DL: 0.02)		0.04

Page 3 of 4

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

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TG-15507

TEST REPORT

Test Report No.	: ELES/RNC/2025/1296	Report Release Date	: 28.02.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000001267F		

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	Small little de detected

Remarks: pH done at Site.

Reviewed by

Alash Kumar Quality Managa ****End of Report***

Authorised Signatory

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

Page 4 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D124 ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No.	: ELES/RNC/2025/1296	Report Release Date	: 28.02.2025	
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/1299 : 20.02.2025 : 21.02,2025 : Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	; RO Water : Kitchen	
Mines Status	: Operational	Sampling Procedure	(Amtipani Chirodih Bauxite Mine) : ELES/DOC/SMPL/01	
Period of Analysis	: 21:02:2025 to 28.02:2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Cher	mical	Group: Wa	ter		ory Limit 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

Alcost Rumss

Quality Managa:

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

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10/287

TEST REPORT

Test Report No.	: ELES/RNC/2025/1397	Report Release Date	: 03.03,2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000001368F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/SM/1441 : Amtipani Chirodih (130.01ha) Bauxite Mine DG (45 KVA)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 21,02,2025 : 24,02,2025 : Flue Gas	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02(A)	
Period of Analysis	: 24.02.2025 to 03.03.2025	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed	

1	Particular of the Plant	: Bauxite Mines
2	Emission Due to	: Burning of HSD
3	Stack Connected to	: DG 45 KVA
4	Material of Construction of Stack	: MS
5	Stack Height from Ground Level (m)	: 3.8
6	Height of Sampling Port from Ground Level (m)	: 3.8
7	Inner Diameter of Stack at Sampling Point (m)	: 0.102
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: 30 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 (Kcal/Kg)	; N/A	

Page 1 of 2

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Land Employment of Agent Pattern



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

ENGINEERING SERVICES PVT. LTD.

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TO:13517

TEST REPORT

Test Report No.	: ELES/RNC/2025/1397	Report Release Date	: 03.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03,2024	
ULR No.	: TC1358725000001368F			

Discipline : Cl	nemical	Group : Atmospher	ric Pollution
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm ³	1S 11255(Part-1): 2023	42
Sulphur Di-Oxide (SO ₂)	mg/Nm³	USEPA 6C: 2017	25
Oxides of Nitrogen (NO _c)	mg/Nm³	USEPA 7E: 2020	136
Carbon Monoxide (CO)	mg/Nm ³	USEPA 10B: 2017	25
Carbon Di- Oxide (CO ₂)	%	USEPA 3A: 2017	5.5
Flue Gas Temperature	«C	IS 11255 (Part-3): 2018	157
Barometric Pressure	mmHg	IS 11255 (Part-3): 2018	720
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2018	12,16
Quantity of Gas Flow	Nm³/hr	IS 11255 (Part-3): 2018	234

Reviewed by

wino

****End of Report****

Authorised Signatory

Akanti Kuma Wate by Massa

Page 2 of 2

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ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

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

Amtipani Chirodih (130.01ha) Bauxite Mine-Environmental Monitoring
Report

March 2025



CONTENT

	March 2025
	Amtipani Chirodih (130.01ha)Bauxite Mine
4	AMBIENT AIR QUALITY- CORE ZONE
1	Mine Site (AmtipaniChirodih Bauxite Mine)
2	Weigh Bridge (AmtipaniChirodih Bauxite Mine)
3	Mine Office (AmtipaniChirodih Bauxite Mine)
4	Entrance Gate (AmtipaniChirodih Bauxite Mine)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Pakri Gada Village
2	Near Pol Pol Village
3	Near Shakhuapani Village
4	Near Dipa Kujam Village
	AMBIENT NOISE
	WORKZONE NOISE
	Spring Water
1	Sarna Dari
	Stream Water
1	Up Stream (Dhardhari Nadi)
2	Down Stream (Dhardhari Nadi)



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



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TC-13557

TEST REPORT

Test Report No.	: ELES/RNC/2025/2192	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002146F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2451 : Mine Site; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 20.03,2025 to 21.03,2025 : 22.03,2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: 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	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 715	
3	Relative Humidity (%)	: 59	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	79	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	48	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	1S 5182 (Part- 2/Sec1): 2023	13.7	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	32.3	80 (24hrs)
Ozone (O ₃)	μg/m³	1S 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)	1.20	2 (8hrs)
Lead (Pb)	μg/m ¹	IS 5182 (Part- 22): 2019	0.039	1 (24hrs)
Nickel (Ni)	ng/m	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)	μ <u>α</u> /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 Akesh Kumar Quality Manager

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Page I of I

The Decembers maded to Test Report, to assembly the Laboratory under General Torms and Combiness, only on Company latter hand in pro- Technical Managerous in the Test Report ration or ratares only to the job/analysis stone by the Laboratory andy. The information stated on the Test Report reflects the findings done by the Laboratory at the time of insufcement only and mining the limits of client's instructions. The Laboratory is responsible for all the information or data provided in the export, except the information which is provided by the client. The Report cannot be reproduced aspect in full and any part of the appert is not taken our of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published. advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unsufferenced alteration of the content as appearance of the Test Report is under tid and offenders may be presented to the fullest extent of the law. All the complex are ratemed for Foliage from the Date of release issue of the Test Report. The samples from Regulatory bodies we to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be if one within 15days from the Date of Ten Report inhomoglymout. After the more period round before, we complaints will be accepted. The entire Time subsolute manifolded in Tant Report is at 200 men format. Althousanton med. N/A) Not Applicable), BOL (Bolew Detection Limit), 1.01. (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) G5T NO:- 20AAECE9713D1Z4

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2193	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002147F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2452 : Weigh Bridge; Amtipani Chirodih Bauxite Mine (130.01 ha)	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.03.2025 to 21.03.2025 : 22.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
	TOTAL CONTROL OF THE PARTY OF T	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 22,03.2025 to 28.03.2025	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	; 26	2	Barometric Pressure (mmHg)	: 715
3	Relative Humidity (%)	: 59	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	95	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	15.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.8	80 (24hrs)
Ozone (O ₂)	μg/m³	1S 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)	1.39	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22); 2019	0.026	I (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annuai)
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/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Akash Kumar

Chrality Manager

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

n. D. Environmental Enga

Page 1 of 1

The Document stand to Test Report, is issued by the Laboratory under General Terms and Conditions, sely not Company force hand to pre- Technical MADAGES was to the Test Report refer of relates only to the jobamations done by the Laboratory only. The information mend on the Test Report reflects the findings done by the Laboratory or the time of involvement only and within the firmts of client's metrocious. The Laboratory is responsible for all the information or dain provided on the report, except the information, which is provided by the client. The Deport cannot be reproduced greater as full and any part of the report is not taken out of contact, without prior screens approval of the Laboratory. The Report in full or in part shall not be published. advertise, used for any legal actions under a prior permission has been secured flow the Management of the Laboratory. Attention is drawn to the littorative of liability, compensation and paradiction mans. Any unaudiorized alteration: A. falsification of the context or appropriate of the Test Report is unknown and influences may be prevented to the full set assent of the less. All the samples we returned for Hideye from the Date of polescences of the Text Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Ten Report inferent/small. After the usus parted sneed before, no complaints will be recepted. The entire Time schedule mensioned in Ton Religion to in 2 Oktober Stemas, Althorysation wood, N.A. (Son Applicable), BDL (Helen Detection Limit), LDL (Lower Descript Limit).



CWO D740997H301EFTC011125

ENVIRONMENTAL LABORATORIES &

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



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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2194	Report Release Date	: 28.03.2025	
Work Order No.	; RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002148F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Minerals & Minerals Limited	Sample Ref. No. Location	: ELES/RNC/2025/AA/2453 : Mine Office; Amtipani Chirodih Bauxite Mine (130.01 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 20.03.2025 to 21.03.2025 : 22.03.2025 : Ambient Air
Mines Status	: Operational	Sampling Procedure	: 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	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 26	2	Barometric Pressure (mmHg	2) :715
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	73	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	11.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	28.5	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	ug/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/m³	1S 5182 (Part- 22); 2019	0.034	1 (24hrs)	
Nickel (Ni)	ng/m¹	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-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by Altash Kumar Disally Manager

****End of Report****

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

Page 1 of 1

Technical Manager

The Discussion should be Test Report, in consecting the Laboratory under Crement Ferror and Combination, only on Company before head in pre-approved format. The results shown in the Test Report software early to the job analysis done by the Laboratory only. The information stored on the Test Report software in the facilities of all the job analysis done by the Laboratory only. The information stored on the report, among the information which is provided by the client. The Report cannot be reproduced except to full and any part of the report is not rather out of compet, authors provided on the Laboratory. The Report in that or in that here is provided by the client was rather out of compet, authors approved of the Laboratory. The Report in that or in that here is particular, used for any legal actions unless prior permission has been accurate from the Management of the Laboratory Attention in drawn to the immediate of hability, correspondent and period and information of hability, correspond to the following extent of the law. All the samples are setting of the following the following from the Date of release wash of the Test Report released assumption to be received. Any type of Observations or Complaints regarding the Report whall he done within 15 days from the Date of Test Report released assumption and before the complaints will be recorded. The emiss Time schedule manifored in Test Report is in 15 flower Date and National Analysis and National Analysis and National Analys



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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2195	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002149F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Minerals & Minerals Limited	Sample Ref. No.	: ELES/RNC/2025/AA/2454	
		Location	: Entrance Gate; Amtipani Chirodih Bauxite Mine (130.01 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.03,2025 to 21.03,2025 : 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	ETEOROLOGICAL INFOR	MATION			
I	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 715
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline : Chemic	la	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	80	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	45	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- 2/Sec1): 2023	13.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	30.1	80 (24hrs)	
Ozone (O ₁)	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)	1.29	2 (8hrs)	
Lead (Pb)	μg/m²	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/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	
Benzene (C _a H _a)	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 Manac

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

D. Savironmental Enga

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TC-1356F

TEST REPORT

Test Report No.	: ELES/RNC/2025/1997	Report Release Date	: 24.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001955F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2025/AA/2139 : Near Pakri Gada Village : 12.03.2025 to 13.03.2025 : 17.03.2025
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.03.2025 to 24.03.2025	 Sampling Done By Sample Condition 	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
T	Average Temperature (°C)	:27	2	Barometric Pressure (mmHg	715
3	Relative Humidity (%)	: 59	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	72	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	41	60 (24hrs)	
Sulphur Di-Oxide (SO ₁)	μg/m³	IS 5182 (Part-2/Sec1); 2023	13.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m²	IS 5182 (Part- 6): 2022	32.4	80 (24hrs)	
Ozone (O ₃)	hā/m ₂	IS 5182 (Pnrt- 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 ⁸	IS 5182 (Part- 10); 2019 (NDfR Method)	1,35	2 (Shrs)	
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 ₆ H ₆)	µg/m²	ELES/GC/SOP/06; 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	'uā\ur,	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by

Akash Kumar Qualky Managar ****End of Report****

(dinter

Authorised Signatory Or. Despendra Kumar Sinha

Ph. D. Environmental Engg.

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Page 1 of 1

The Discounter acted as Test Report, is assent by the Laboratory scale: Control Level and Conditions, only on Company level has been by the Laboratory and a the Test Report reflects the Fordings date by the Laboratory at the time of evolvement only and within the hours of client's instructions. The Laboratory is temptonoidly for all the information stand on the Test Report reflects the fordings date by the Laboratory at the time of evolvement only and within the information of client's instructions. The Laboratory is temptonoidly for all the report of the property of the information which is presided by the about the Report remaind by reports of the Laboratory is full and any part of the report is not taken and of centers, without approved of the Laboratory. The Report in full or in part of all and the property of the support of the any legal actions and as president to be been accurated from the Nanoperus of the Laboratory. Accounts a throaton of the importance of the content or appearance of the Laboratory and affinders may be provided to the Utilization of the samples are assumed for 10 they from the Data of relationships of the Test Report is unfavorable and affinders may be provided to the Utilization of the time Report is unfavorable at appoint the According to Companions of the Test Report is not to be relatived as a position. Any type of Commissions of Completing the Report is a fairly from the laboratory from the Data of Test Report reflection. After the time period attend to the so applied. Any type of Commissions of the Report is the time period attend to the so applied. The period Test Report is the Report in the time period attend to the so applied. The period Test Report is Test Report to be Different to the Data of Test Report of the Data of Test Report in the time period attend to the so applied to the Scientific Test Report to the Data of Test Report of the Test Report to the time period attend to the source of the Test Report to the time period attend to the source of the Test Report to the ti



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TC-13561

TEST REPORT

Test Report No.	: ELES/RNC/2025/1998	Report Release Date	: 24.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001956F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date	: ELES/RNC/2025/AA/2140 : Near Pol Pol Village : 12.03.2025 to 13.03.2025 : 17.03.2025
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 17.03.2025 to 24.03.2025	Sample Condition	: Scaled & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature ("C)	: 27	2	Barometric Pressure (mmHg)	: 715
3	Relative Humidity (%)	: 59	-4	Weather Condition	: Clear

Discipline: Chemic	al	Group: Atmospheric Poliution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	77	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24); 2019	45	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec 1): 2023	12.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part- 6): 2022	26.5	80 (24hrs)	
Ozone (O ₃)	µg/m ¹	(S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₄)	μg/m ⁸	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	1.31	2 (8hrs)	
Lead (Pb)	μg/m²	TS 5182 (Part- 22): 2019	0.026	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(Annuel)	
Benzo-(a)-Pyrene	ng/m ¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Altanh Rumby
Quality Manager

****End of Report****

Dr. Despended Remarkinha Ph. D. Environmental Engg.

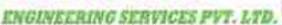
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Page 1 of 1

The Disantest stated as Test Report, is usual by the Laboratory order. General Large and Conditions, only on Company home head in pre-approved forms. The results shows to the Test Report reflects the findings does by the Laboratory at the time of inconvenuent only and souther the locates of client's inconvenuent only and souther the locates of client's inconvenuent only and souther the locates of client's inconvenuent only and souther the report of the report



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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/1999	Report Release Date	: 24.03.2025	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC1358725000001957F			

CUSTOMER DET	AILS	SAMPLE DETAILS		
Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2025/AA/2141 : Near Shakhuapani Village : 12.03.2025 to 13.03.2025 : 17.03.2025 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 17.03.2025 to 24.03.2025	Sampling Done By Sample Condition	ELES Pvt. Ltd.	

MI	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	715
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline: Chemic	:al	Group: Atmospheric Pollution			
l'arameter	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	40	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	9.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part- 6): 2022	24.3	80 (24hrs)	
Ozone (O _i)	µg/m ¹	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/m ³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.033	I (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 _k H _k)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benze-(a)-Pyrene	ng/m²	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	

Reviewed by Akash Kuma

Quality Manager

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg. rechnical manager

Page 1 of 1

The Deministration is Test Report, a second by the Laboratory under General Petros and Committees, only on Company Series local in pre-approved forms. The results shown in the Yest Report actions of chear's instructions. The Laboratory and it instruction which is provided by the cheese The Report values of chear's instructions. The Laboratory is responsible for all the information or data pre-values the fundings draw by the Laboratory at the same of instructions are the expect to the report of the Laboratory. The Report is used for any legal actions of limitative of the control of appearance of the Laboratory Accounts in these was the imputation of limitative compensation and paradiction to the Report of the Report is uniformally and offenders may be processed in the laboratory of the control of appearance of the Report is uniformally before any be processed to the following of the control of appearance of the Report is uniformally before any be processed to the following of the control of appearance of the Report is uniformally before any be processed to the following of the laboratory of the laboratory of the laboratory of the Report is stall be done within 150eys from the Date of Test Report relaxed from provided believed to the account of the report of the Report is stall be done within 150eys from the Date of Test Report relaxed from the Laboratory will be accorded. The rather Time accounts in Conference of the Report is stall be force within 150eys from the Date of Test Report relaxed from the Laboratory and the Report is stall be force within 150eys from the Date of Test Report relaxed from the Laboratory and the Report is stall be forced from the Report and the Report is stall be forced from the Report Inc. (The Report Inc. 150eys from the Re Supply in its Efforce former Aldert better west AVA (Not Applicable), BOL (Balley Discusses Limit), LDL (Lower Trinsition County)



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TC-15SEE

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TEST REPORT

Test Report No.	: ELES/RNC/2025/2000	Report Release Date	: 24.03.2025
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC1358725000001958F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2025/AA/2142 : Near Dipa Kujam Village : 12.03.2025 to 13.03.2025
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17,03.2025 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 17.03.2025 to 24.03.2025	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 27	2	Barometric Pressure (mmHg)	: 715
3	Relative Humidity (%)	: 59	4	Weather Condition	Clear

Discipline: Chemic	al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	TS 5182 (Part- 23): 2022	79	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part-24): 2019	45	60 (24hrs)		
Salphur Di-Oxide (SO ₂)	µg/m³	1S 5182 (Part- 2/Sec1): 2023	12.9	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2022	29.2	80 (24hrs)		
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₂)	ug/m"	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	1.20	2 (8hrs)		
Lead (Pb)	µg/m ³	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/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 Ahaah Kumar

Quality Managar

****End of Report****

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

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Page 1 of 1

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ENGINEERING SERVICES PVT. LTD.

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TO-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2197	Report Release Date	: 28.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000002151F		

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	: 20.03.2025 to 21.03.2025 : 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	

M	ETEOROLOGICAL INFO	RMATION			
Ţ	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 715
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Location	Unit	Test Protocol	Rest	ılt	Regulatory Limit (Industrial Zone)
Near office Shelter,			Time	Leq	
Amtipani Chirodih Bauxite Mine (130.01ha)	dB(A)	IS 9989: 2020	Day Time	63	75 dB(A) Day Time &
Sample ID: ELES/RNC/2025/AN/2456			Night Time	46	70 dB(A) Night Time

Reviewed by Akash Kumar Quality Managor

****End of Report****

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

Page 1 of 1

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2199	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002153F			

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	: 21.03.2025 : 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	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mml	lg) : 715
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)	
Near Mines Pit -			Time	Leq		
Amtipani Chirodih Bauxite Mine (130.01 ha)	dB(A)	dB(A)	dB(A) IS 4758: 2017	Date Times	02	90 dB(A)
Sample ID: ELES/RNC/2025/WN/2458			Day Time	82		

Reviewed by Aleash Kumar Quality Manager

****End of Report****

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

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TO 125 ST

TEST REPORT

Test Report No. : ELES/RNC/2025/2180 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002134F

CUSTOMER DETAILS		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/2439 : 20.03.2025 : 22.03.2025 : Surface Water : Up Stream : Dhardhari Nadi, Amtipani Chirodih Bauxite Mine(130.01 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. : Sealed & Preserved	

Discipline : Chemical Gro			oup: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)	36	IS 3025 (Part-11): 2022	6.62	6,5-8.5
Colour	Hazen	IS 3025 (Part -4): 2021	6.0	300
Odour	2	IS 3025 (Part-5) : 2018	Unobjectionable	-
Turbidity	NTU	IS 3025 (Part-10): 2023	12.2	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	62.0	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	14.1	GHE :
Total Hardness (as CaCO ₂)	mg/L	IS 3025 (Part-21): 2019	25.4	Sac .
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	5.4	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 2019	9.5	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	BDL. (DL: 0.1)	1.5
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	1.08	50

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TC-13587

TEST REPORT

Test Report No. : ELES/RNC/2025/2180 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002134F

Discipline : Chemical	Group: Wa	ter	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per 1S 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 ₂ OH)	mg/L	IS 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	6.2	¥
Discipline : Cher	nical	Gre	oup : Residues	in Water
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003;RA2019	BDL (DL: 0.02)	(4 5)
Arsenic (as As)	mg/L	IS 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57); 2021	BDL (DL: 0.2)	#4
Cadmium (as Cd)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24 th 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	0.157	50
Lead (as Pb)	mg/L	APHA 24 th 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	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	:+:
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-13587

TEST REPORT

Test Report No. : ELES/RNC/2025/2180 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002134F

Discipline : Chemie	enl	Group: Residue	s 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 24th 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)	**
Pesticides				
Alachior	μg/l.	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	**
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	22
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	#
Ethion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	22
Malathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	77
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	75
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	#
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)	#

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TC-13587

TEST REPORT

 Test Report No.
 : ELES/RNC/2025/2180
 Report Release Date
 : 28.03.2025

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

ULR No. : TC1358725000002134F

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	=
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	120 220 200
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)	*
Endosulfim (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	**
DDT(o.p and p.p-isomers of DDT) (DDE and DDD)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	# 1
Discipline: Biolo	gicat	Gro	oup: Water	
Total Coliform	CFU/100 mL	IS 15185; 2021	3.40×10 ³	5000
Escherichia coli	CFU/100 mL	IS 15185: 2021	1.21×10 ²	# 1

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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TEST REPORT

Test Report No.	: ELES/RNC/2025/2180	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	

CUSTOMER DETAILS		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/2439 : 20.03.2025 : 22.03.2025 : Surface Water : Up Stream : Dhardhari Nadi, Amtipani Chirodih Bauxite Mine(130.01 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. : Sealed & Preserved	

Discipline : Chemical Group : Water				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste)÷	APHA 24th Ed.2023, 2160C	N/A	++
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	1,0
Mineral Oil*	mg/L	1S 3025 (Part-39):2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.05)	<u> </u>

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

Reviewed by

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

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

Technical Manager

Page 1 of 1

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TG-13597

TEST REPORT

Test Report No.	: ELES/RNC/2025/2181	Report Release Date	: 28.03.2025
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024
ULR No.	: TC1358725000002135F		

CUSTOMER DETAILS		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/2440 : 20,03.2025 : 22,03.2025 : Surface Water : Down Stream : Dhardhari Nadi, Amtipani Chirodih Bauxite Mine(130.01 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	Discipline : Chemical Gro			Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.9 °C)	÷	IS 3025 (Part-11): 2022	6.61	6.5-8.5
Colour	Hazen	IS 3025 (Part -4): 2021	5.8	300
Odour		IS 3025 (Part-5): 2018	Unobjectionable	+-
Turbidity	NTU	IS 3025 (Part-10): 2023	12.7	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	57.0	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	10.1	¥4
Total Hardness (as CaCO ₂)	mg/L	IS 3025 (Part-21); 2019	23.4	裁
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	5.7	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 2019	8.6	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	BDL (DL: 0.1)	1.5
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₅ -B	1.31	50

Page 1 of 4

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

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TC-13583

TEST REPORT

Test Report No. : ELES/RNC/2025/2181 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002135F

Discipline : Chemical		Group: Wa	ter	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 ₅ H ₅ OH)	mg/L	IS 3025 (Part-43/Sec1): 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	5.4	*
Discipline : Cher	nical	Gro	oup: Residues	in Water
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003;RA2019	BDL (DL: 0.02)	44
Arsenic (as As)	mg/L	1S 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	757
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	0.132	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	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	(**)
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

Page 2 of 4

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

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TC-13587

TEST REPORT

Test Report No. : ELES/RNC/2025/2181 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002135F

Discipline : Chemi	Discipline : Chemical Group : Residues in Water					
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water		
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05		
Polynuclear Aromatic Hydrocarbons (PAH)	μg/1.	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	77		
Pesticides						
Alachlor	µg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	-		
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	22.1		
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	77.		
Chlorpyriphos	μg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	-		
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	**		
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	+-		
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	H i i		
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	4		
Phorate	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	227		
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	27		
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	<u> </u>		

Page 3 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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TG-13587

TEST REPORT

Test Report No.	: ELES/RNC/2025/2181	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002135F			

Pesticides	Tolerance Limits			
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	
Beta HCH	μg/L	ELES/GC/SOP/02; 2023	BDL (DL: 0.02)	=======================================
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	12
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)	**
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	4
Discipline: Biolo				
Total Coliform	CFU/100 mL	IS 15185; 2021	1.81×10 ³	5000
Escherichia coli	CFU/100 mL	IS 15185; 2021	95.0	# 1

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, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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TEST REPORT

Test Report No.	: ELES/RNC/2025/2181	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	

CUSTOMER DETAILS		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/2440 : 20.03.2025 : 22.03.2025 : Surface Water : Down Stream : Dhardhari Nadi, Amtipani Chirodih Bauxite Mine(130.01 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. : Sealed & Preserved	

Discipline: Chemic	Tolerance Limits			
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste		APHA 24th Ed.2023, 2160C	N/A	**
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 Manager

****End of Report***

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

Technical Manager

Page 1 of 1

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TO-155ET

TEST REPORT

Test Report No.	: ELES/RNC/2025/2182	Report Release Date	: 28.03.2025	
Work Order No.	: RP/MJB/MM/24/0088/01	Work Order Date	: 30.03.2024	
ULR No.	: TC1358725000002136F			

CUSTOMER DETAILS		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/2441 : 20.03.2025 : 22.03.2025 : Surface Water : Spring Water : Sarna Dari, Amtipani Chirodih Bauxite Mine (130.01 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: 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)	-	IS 3025 (Part-11): 2022	6.55	6.5-8.5
Colour	Hazen	IS 3025 (Part -4): 2021	2.8	300
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	2
Turbidity	NTU	IS 3025 (Part-10): 2023	1.55	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	45.0	1500
Total Alkalinity (as CaCO ₁)	mg/L	1S 3025 (Part-23): 2023	8.0	¥1
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21): 2019	13.6	221
Sulphate (as SO ₄)	mg/L	IS 3025 (Part-24/Sec1): 2022	4.6	400
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 2019	7,6	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	BDL (DL: 0.1)	1.5
Nitrate (as NO ₅)	mg/L	APHA 24th Ed. 2023, 4500 NO ₃ -B	0.82	50

Page 1 of 4

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TC-13587

TEST REPORT

 Test Report No.
 : ELES/RNC/2025/2182
 Report Release Date
 : 28.03.2025

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

ULR No. : TC1358725000002136F

Discipline : Chemical	B	Group: Wa	ter	Tolerance Limits
Parameter	Unit	Unit Test Protocol		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 _B 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	3.6	
Discipline : Cher	nical	Gre	oup: Residues	in Water
Aluminum (as Al)	mg/L	IS 3025 (Part-55); 2003;RA2019	BDL (DL: 0.02)	40
Arsenic (as As)	mg/L	1S 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57); 2021	BDL (DL: 0.2)	#
Cadmium (as Cd)	mg/L	APHA 24 th 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	0.193	50
Lead (as Pb)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	72
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	#1
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

Page 2 of 4

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TC-12587

TEST REPORT

Test Report No. : ELES/RNC/2025/2182 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002136F

Discipline : Chemi-	Discipline : Chemical Group : Residues 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 24th 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)	
Pesticides			1, 0	
Alachior	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	***
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	(H)
Butachior	μg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	14 ()
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	\$2.5°
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	**
Malathion	µg/1.	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	<u> </u>
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	5 2
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	**
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	961
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	25 5
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	-

Page 3 of 4

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

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TC-13567

TEST REPORT

Test Report No. : ELES/RNC/2025/2182 Report Release Date : 28.03.2025

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

ULR No. : TC1358725000002136F

Pesticides				Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water)
Alpha HCH	μ ψ /L	ELES/GC/SOP/02: 2023	BDL (DL; 0.006)	
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.02)	*
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)	# 1
Endosulfan (alpha, beta and sulphate)	µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	
DDT(o,p and p,p-isomers of DDT) (DDE and DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	*
Discipline: Biological		Gr	oup: Water	
Total Coliform	CFU/100 mL	IS 15185: 2021	2.18×10 ³	5000
Escherichia coli	CFU/100 mL	IS 15185: 2021	BDL (DL: 1.0)	#/

Remarks: pH & RFC done at site.

Reviewed by Akash Kumar Quality Managor

****End of Report****

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

Page 4 of 4

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CIN: U74999JH2Q18PTC011125

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D1Z4 ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2025/2182	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/2441 : 20.03.2025 : 22.03.2025 : Surface Water : Spring Water : Sama Dari, Amtipani Chirodil Bauxite Mine (130.01 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. : Sealed & Preserved	

Discipline: Chemic	al	Gro	up: Water	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)	
Taste	183	APHA 24th Ed.2023, 2160C	N/A	*	
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	1.0	
Mineral Oil*	mg/L	1S 3025 (Part-39);2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL: 0.05)	4	

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 at Amtipani Chirodih Bauxite Mine (Area 130.01 ha) comprising below mentioned team members. The team will ensure compliance with the Environment Act, Regulation & Rule in respect of the said mines of Minerals & Minerals Limited.

- 1. Mr. Shambhu Vashistha (Coordinator)
- 2. Mr. Amit Kumar Pradhan (Geologist)
- 3. Mr. Ankit Das (Environment Engineer)
- 4. Mr. Anand Prakash Tiwari (Environment Engineer)

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

Basudev Gangopadhyay

AVP (Planning, Environment& Compliance)

Annexure 4

	Production, Mined Out, Back Filled and Over Burden removal from October'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)

FORM "O" (See Rule 29 F(2) and 29L) REPORT OF MEDICAL EXAMINATION UNDER RULE 29 B (TO BE ISSUED IN TRIPLICATE)**

Certificate No:	CH0009	_			
Certified that has been examined The findings of the	CHANDRESH BHAGAT for a INITIA examining authority are given in the attached		in He appears to be ANDRESH BHAGAT	chirodih mine	, Form-A No. 231 years of age.
✓	Is medically fit for any employment in n	nines.			
×	(i) Any employme	nt below ground, or	nfit for		
×	Is suffering from examined within a period of of test of specialist from		and the opinion	re-examination with the result	

Sr. Consultant Reg. No.-33297, BR-2002

Place Rajendra Hospital , Lohardaga

*Delete whatever not applicable.

ture of the examining authority Name and designation in Block Letter

DR OMPRAKASH DUBEY

Dr. Omprakash Dubay
Dr. Omprakash Dubay
Sr. Consultant

Hindalco Mines Divi., Lohardaga Reg. No.-33297, BR-2002

*One copy of the certificate shall be handed over to the person concerned and another copy shall be sent to the Manager of the mine concerned by registered post and the third copy shall be retained by the examining authority.

pg. 1 of 5

Event Report

Velocity (mm/s)

Date/Time Trigger Source

Tran at 11:25:39 October 23, 2024 Geo: 0.700 mm/s, Mic: 100.00 dB(L)

Range Record Time Operator/Setup:

Geo: 254.0 mm/s 3.0 sec at 2048 sps Operator/BV.MMB

Serial Number **Battery Level Unit Calibration** File Name

UM17410 V 10-89 Micromate ISEE

3.8 Volts

October 13, 2023 by UES New Delhi _TEMP.EVT

Notes Location:

Client: User Name: General:

Linear Weighting Microphone 90.9 dB(L) at 1.311 sec PSPL

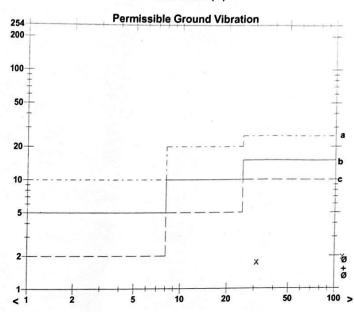
1.6 Hz **ZC Freq**

Channel Test Passed (Freq = 19.7 Hz Amp = 1244 mv)

	Tran	Vert	Long	
PPV	1.498	1.978	1.852	mm/s
ZC Freq	>200	128	>200	Hz
Time (Rel. to Trig)	0.003	0.002	0.003	sec
Peak Acceleration	0.201	0.275	0.275	g
Peak Displacement	0.031	0.056	0.032	mm
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.3	7.1	Hz
Overswing Ratio	4.7	4.7	4.8	

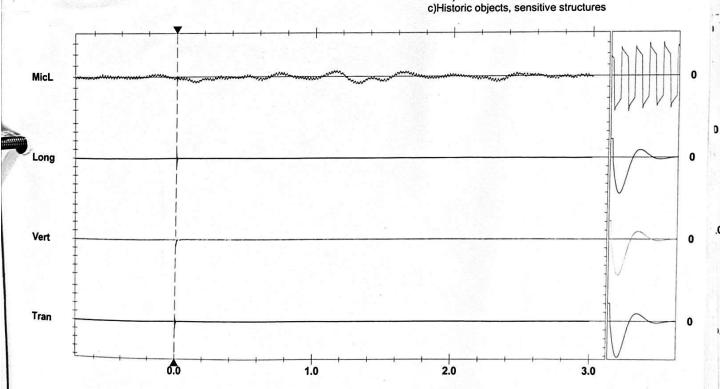
Peak Vector Sum 2.387 mm/s at 0.003 sec

DGMS India (A)



a)Industrial Buildings b)Domestic houses/structures

Frequency (Hz) Tran: + Vert: x Long: Ø



Time Scale: 0.20 sec/div Amplitude Scale: Geo: 2.000 mm/s/div Mic: 1.000 pa.(L)/div Trigger = ▶

Sensor Check

Printed: November 26, 2024 (V 10.74)

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MINERALS & MINERALS LIMITED

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

CIN NO. U26990JH1970PLC000875

Ref. :

Date

दिनांक - 16.09.2021

मिनरल्स एण्ड मिनरल्स लिमिटेड अमतीपानी-चिरोडीह बॉक्साईट माइंस

महाशय/महाशया,

आपको यह सूचित किया जाता है कि अमतीपानी-चिरोडीह बॉक्साईट माइंस (130.01 है0) को पर्यावरण स्वीकृति (E.C.) प्रदान किया गया है। उसका प्रतिलिपि इस सूचना के साथ संलग्न किया जा रहा है।

आपके सूचना के लिए प्रेरित।

100 Dr 4121)

15.2'022

प्रधान कार्याकारी अध्यक्ष ग्राम पंचायत अमतीपानी प्रखण्ड-विशुनगुर,जिला-गुहुक्का (झारखण्ड)।

खान प्रबंधक

(अमतीपानी बॉक्साईट माइंस)

MINERALS & MINERALS LIMITED

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

CIN NO. U26990JH1970PLC000875

Ref. :

Date

दिनांक - 16.09.2021

मिनरल्स एण्ड मिनरल्स लिमिटेड अमतीपानी-चिरोडीह बॉक्साईट माइंस

महाशय/महाशया,

आपको यह सूचित किया जाता है कि अमतीपानी-चिरोडीह बॉक्साईट माइंस (130.01 है0) को पर्यावरण स्वीकृति (E.C.) प्रदान किया गया है। उसका प्रतिलिपि इस सूचना के साथ संलग्न किया जा रहा है।

आपके सूबना के लिए प्रेरित।

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41211

यंकारी अध्यक्ष

ाम प०- चीरोडीह

खान प्रबंधक

(अमतीपानी बॉक्साईट माइंस)

