

Ref: HIL/LHD/ENV/MoEF/710

Date: 23.05.2024

To,

The Dy.Director General of Forest (C)
Ministry of Environment, Forests and Climate Changes
2nd Floor, Headquarter-Jharkhand State Housing Board
Harmu Chowk, Ranchi, Jharkhand-834002

Sub: Compliance Report of EC conditions for Pakhar Bauxite Mining (115.13 ha) project of M/s Hindalco Industries Limited located in Dist- Lohardaga, Jharkhand for the period October'23 to March'24.

Ref: Environmental Clearance letter no J-11015/406/2007 -IA II (M) dated 27th Nov 2012

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Pakhar** Bauxite Mining (115.13 ha) project of **M/s Hindalco Industries Limited** located in Lohardaga, Jharkhand for the period October'23 to March'24.

The lease detail is as below.

Lease area (ha)	Production Capacity (MT)	Lease Period
115.13	300000	19.07.1996 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours Sincerely
FOR HINDALCO INDUSTRIES LIMITED

(Basudev Gangopadhyay)
AVP (Planning, Environment & Compliance)

Enclosure: - As Above

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

Name of the Project : Pakhar Bauxite Mine (115.13 ha)
M/s Hindalco Industries Limited

Environment Clearance No. & date : J-11015/406/2007-IA. II(M), dated 27.11.2012

Period of Compliance Report : From 1st October 2023 to 31st March 2024

Specific Conditions: -

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

Reply:- Consent to Operate (CTO) has been obtained. The Stipulated conditions of CTO are being implemented and complied with. The existing Consent to Operate (CTO) is valid till 31st December 2025.

Condition ii:- All the conditions stipulated by the Jharkhand State Pollution Control Board in their NOC shall be effectively implemented.

Reply: - Implementations of stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time. The existing consent to operate is valid up to 31st December 2025. Productions of bauxite are within limits specified in consent to operate.

Condition iii: - Corporate Environment Policy and hierarchical system for ensuring adherence to the policy and compliance with environmental regulation in accordance with the office memorandum dated 26.4.2011 issued by MoEF should be put in place.

Reply: - Corporate Environment Policy and hierarchical system is in place.

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

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

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

Reply: - Land acquisition is being done with permission of competent authority of State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement is being done with raiyat (Landowner) 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. Thus, land acquisition has the approval of State Government.

Condition vi: - The critical habitat in the area including dens of python, fox and bear should be protected by adopting appropriate wildlife conservation measures.

Reply: - Safeguard Measures already implemented and being implemented as suggested by forest department are as follows:

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

We have also prepared Integrated Site-specific Wildlife Conservation in consultation with State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand via Office Order No.27 dated 26.05.2023 for conservation and protection of flora and fauna in the core and buffer zone for Pakhar Group of Mines.





Integrated Site-specific Wildlife Conservation for Pakhar Group of Mines

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

Reply: - Since shallow depth mining is being carried out, hence there is no intersection with the groundwater table. In future also, working zones will be restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintain in future also.

Moreover, we are regularly monitoring the groundwater table through the installation of a piezometer. A copy of the water level report is attached herewith as **Annexure-1**.

As the water table is not intersected during mining operations, a detailed hydro-geological study is not applicable for this mine.

Condition viii: - The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Adequate measures shall be taken for conservation and protection of the 1st and 2nd order streams, if any emanating or passing through the mine lease during the course of mining operation.

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

Condition ix: - The topsoil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.

Reply: - Topsoil is being stacked temporally properly with proper slope as and when required. Sequential backfilling and reclamation of mined out area are being exercised for which topsoil is being spread on backfilled area for reclamation of area. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision. Data pertaining to backfilling is enclosed as **Annexure 4.**



Reclaimed land

Condition x: - The over burden (OB) generated during the mining operation shall be temporarily stacked at earmarked dump site(s) only for the purpose of backfilling. Backfilling shall commence from the third year onwards and thereafter the waste generated shall be concurrently backfilled in the mined out area. There shall be no external OB dump. An area of 16.39ha of the worked out pit shall be backfilled and

reclaimed by plantation during the plan period. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office, Bhubaneshwar on six monthly basis.

Reply: - Overburden and waste rock are being used for concurrent backfilling, and topsoil is being spread on the backfilled area for reclamation. Currently, there is no OB dump present in the mine lease area. Monitoring and management of rehabilitated areas is continuing until vegetation becomes self-sustaining through supervision. Data pertaining to backfilling is enclosed as **Annexure 4.** Compliance status is being submitted to MoEF&CC on six monthly basis.

Condition xi: - Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, temporary soil, OB and mineral dumps to arrest flow of silt and sediment directly into the agricultural fields, the Chaupat Nadi, the Kisko Nadi, the Shankh Nadi, Kisko Nallah, the Narachiya Nal lah and other water bodies, The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after the monsoon and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and temporary over burden dumps to prevent run off of water and flow of sediments directly into the agricultural fields, the Chaupat Nadi, the Kisko Nadi, the Shankh Nadi, Kisko Nallah, the Narachiya Nallah and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.

Reply: - To collect & manage rainwater during monsoon, part of mined out area is used as settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary. Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable. Sump of adequate capacity is being provided and maintained as required. Photographs of the same is attached below.





Garland drains

Siltation pond

Condition xii: - Dimension of the retaining wall at the toe of the temporary OB dumps and the OB benches within the mine to check run-off and siltation should be based on the rainfall data.

Reply: - There is no external dump.

Condition xiii: - The void left unfilled in an area of 4.5ha shall be converted into water body. The higher benches of excavated void/mining pit shall be terraced and plantation done to stabilize the slopes. The slope of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.

Reply: - Water body created in Mine lease area. Total 2.49 ha has been converted into water bodies (Rainwater harvesting ponds) within the lease. Implementation of condition is in progress. Further water bodies will be created as required. Mining is being carried out in a scientific manner as per Mining Plan approved by IBM. Necessary measures have been implemented for easy accessibility by local people to use this harvested water. Proper fencing is provided along excavated area.



Rainwater Harvesting Pond

Condition xiv: - Plantation shall be raised in an area of 24.09ha including a 7.5m wide green belt in the safety zone around the mining lease by planting the native species around reclaimed area, mine benches, around water body, along the roads etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 1500 plants per hectare. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.

Reply: - Progressive plantation of native species is being carried out in consultation with local forest department within the safety zone and mining lease. Total 3825 nos. saplings have been planted for the FY 2023-24 within the lease. Total 17.69 ha areas have been planted till date. In addition to these, agricultural activities is going on reclaimed land as per consent from landowners. Green belt development program is in progress with progress of mining activities in a phased manner.



Plantation at mines

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

Reply: - Effective safeguard measures, such as regular water sprinkling is being carried out on haul road and in critical areas prone to air pollution. Regular Ambient Air Quality (AAQ) monitoring is being carried out by NABL accredited Laboratory and all parameters are found within the prescribed limit. Monitoring report of AAQ is attached herewith as Annexure-2. Photographs of Water Tanker is attached herewith below.



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

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

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

Reply: - We are not using ground water for any mining purpose. Since, Shallow depth mining is being carried out, hence there is no intersection of ground water table during the mining operation at present and in future also. A Piezometer has been installed for monitoring of ground water level. Water level and water quality reports are being sent regular to regional office of Ministry, CGWA/CGWB and JSPCB. The same is attached herewith **as Annexure 1 & 2**. Now, Regional office of MoEF&CC is in Ranchi.



Piezometer

Condition xviii: - Appropriate mitigative measures should be taken to prevent pollution of the Chaupat Nadi, the Kisko Nadi and the Shankh Nadi in consultation with the State Pollution Control Board.

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

Condition xix: - The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of ground water, required for the project.

Reply: - We are not using ground water for mining operation. Rainwater harvesting ponds with proper fencing have been already constructed in the mine premises. Rainwater harvested during rainy season is being used for sprinkling on haul roads and raising plantation.

However, we have obtained NOC for extraction of ground water from CGWA/ CGWB for drinking purpose only. The copy of same NOC is attached below.



Condition xx: - The project proponent shall practice suitable rainwater harvesting measures on long term basis and work out a detailed scheme for rainwater harvesting in consultation with the Central Groundwater Authority and submit a copy of the same to the Ministry of Environment and Forests and its Regional Office, Bhubneswar.

Reply: - Rainwater is being harvested in mined out pit. Apart from rainwater harvesting pond, catch drain, sump etc. is being provided with progress of mining activity. The backfilling and drainage system in mine is so designed that water do not flow outside mine lease area and gets recharge in mine lease area itself.

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

Condition xxi: - Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.

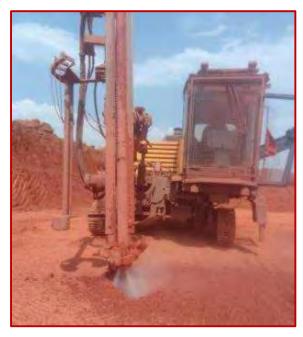
Reply: - To keep vehicular emissions under control, vehicles are periodically checked & repaired. All measures are being taken to control vehicular emission. All vehicles are covered with tarpaulins, and non-overloading guidelines are being followed during transportation of mineral.



Tarpaulin covered Vehicle.

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

Reply: - Wet drilling is in practice.



Wet Drilling

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

Reply: - Blasting time is fixed during Lunch Time i.e. 1.00 PM-2.00 PM. We have control blasting permission. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. Efforts and mitigative measures are being taken to mitigate the impact of the blast.

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

Reply: - Water sprinkling is being carried out regularly at mineral handling area, loading and unloading areas to control the dust.



Water sprinkling through tanker.

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

Reply: - As of now there is no colony within the lease hold. However, Domestic Wastewater generated from mine office area is being collected through individual Septic Tank and followed by Soak Pit.

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

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

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

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

Condition xxvii: - It shall be ensured that the fluoride level in the drinking water to be used by the workers in the project as well as to be provided to the public, if any, should meet the prescribed norms in this regard.

Reply: - Fluoride level in drinking water is being monitored and no issues have been found in respect of fluoride in and around the mines. The water quality monitoring report is attached as **Annexure-2**

Condition xxviii: - The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely python, leaf monkey (Presbyits phayrei) etc. spotted in the study area. The critical habitats in the area including dens of python, fox and bear should be protected by adopting appropriate wildlife conservation measures and the conservation plan prepared specific to this project in consultation with the State Forest and Wildlife Department should effectively address the same. All the safeguard measures brought out in the Wildlife Conservation Plan prepared specific to this project site shall be effectively implemented in consultation with the State Forest and Wildlife Department. A copy of approved wildlife conservation plan shall be submitted to the Ministry and its Regional Office, Bhubaneswar within 3 months.

Reply: - Safeguard Measures already implemented and being implemented as suggested by forest department are as follows:

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

We have also prepared Integrated Site-specific Wildlife Conservation in consultation with State Forest Department and obtained approval letter from Principal Chief Conservator of Forest, Wildlife & Chief Wildlife Warden, Jharkhand via Office Order No.27 dated 26.05.2023 for conservation and protection of flora and fauna in the core and buffer zone for Pakhar Group of Mines.





Integrated Site-specific Wildlife Conservation for Pakhar Group of Mines

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

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

Condition xxx: - The critical parameters such as RSPM (Particulate matter with size less than 10 micron i.e PM10) and NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2005-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.

Reply: - Noted and being adhered. We have established four ambient air quality monitoring stations in the core zone as well as buffer zone. Monitoring of Ambient Air Quality and Treated

Water is being carried out by NABL accredited Laboratory and reported to the concerned authorities. Monitoring Report is attached herewith as Annexure 2. Six monthly EC compliance along with Environmental monitoring reports is being uploaded on company website regularly.

A Display board is already installed near the mine gate office. We have also installed an online PM10 analyzer at mine site.

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

Reply: - Mining Plan along with progressive mine closure plan has been approved by Indian Bureau of Mines. Final Mine Closure Plan will be submitted in due time as per applicable guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on present resource estimate and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions: -

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

Reply: - Noted.

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

Reply: - Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining scheme and in scientific manner. Data pertaining to excavation, quantum of mineral bauxite etc. are mentioned in report attached as **Annexure 4.**

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

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

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

Reply: - Being adhered to. Monitoring Reports for the reporting period are attached as **Annexure-2**. Now, the Regional office of MoEF&CC is in Ranchi.

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

Reply: - Mobile water tanker with sprinkling facility has been provided along haul roads, at loading and unloading areas, and at transfer points to control dust emissions.

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

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

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

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

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

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

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

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

Reply: - 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 x: - The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneswar.

Reply: - Every year, the funds earmarked for environmental protection measures is being budgeted separately and its expenditure is being reported to the Ministry. The copy of the same is attached as **Annexure 5**. Now, the Regional Office of MoEF&CC is in Ranchi.

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

Reply: - This is an operating mine and hence the provision related to financial closure is not applicable. Now, the Regional office of MoEF&CC is in Ranchi.

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

Reply: - Noted and Agreed. Now, the Regional Office of MoEF&CC is in at Ranchi.

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

Reply: - Six monthly reports on status of compliance of the stipulated environmental clearance conditions including monitoring report are being submitted to the MoEFCC, Zonal office of CPCB & JSPCB, Ranchi and also uploaded on the website of the company. Now, the Regional Office of MoEF&CC is in Ranchi.

Condition xiv: - A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.

Reply: - Complied. A copy of clearance letter has already been submitted.

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

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

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

Reply: - Environment statement is being submitted regularly to Member Secretary, JSPCB. Also, the status of compliance of EC conditions is uploaded on the website of the company on regular basis.

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

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

	Annexure 1					
Piezometer Reading - Pakhar 115.13Ha						
S No Month Depth (meter)						
1	Oct-23	37.83				
2	Nov-23	38.1				
3	Dec-23	38.38				
4	Jan-24	39.23				
5	Feb-24	39.09				
6	Mar-24	38.94				



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	± ELES/RNC/2023/4413	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3939 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115,13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2023 to 15.10.2023 : 28.10.2023
Mines Status	Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	; 28.10.2023 to 09.11.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

Discipline : Chemica	ıl	Group: A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23); 2006; RA2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	20.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price 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 lability, compensation and jurisdiction resides. Any anathorized alteration & fabrillation of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the line. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4413	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Chemi	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₅ H ₆)*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report****

Authorised Signatory

or. Deependra Kumar Sinha

Ph. D. Environmental Engg

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4414	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3940 : Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2023 to 15.10.2023 : 28.10.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 28.10.2023 to 09.11.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
-1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

Discipline : Chemica	ıl	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	.57	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	36	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	7.4	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	23.1	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	f (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 lamination of liability, compensation and jurisdiction issues. Any unauthorized alternation & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fulless extent of the law. All the samples are retained for sliding from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period strated before, no complaints will be accepted. The entire. Time schedule mentioned in Test Report is in 24hours format. Abbreviation used, N/A (Not Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4414	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

****End of Report****

Authorised Signatory

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

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4415	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3941 : Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2023 to 15.10.2023 28.10.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 28.10.2023 to 09.11.2023	Sample Condition	Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	:25	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

Discipline : Chemica	d	Group: A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	48	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	1S 5182 (Part-6): 2006; RA2022	20.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS-5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, unly on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's metroctions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Roport cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 10days from the Date of release/assac of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit);



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4415	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

****End of Report****

Authorised Signatory

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

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Contpany letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jubilization done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in fall and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, adventise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlineful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time selectule mentioned in Test Report is in 24bours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4416	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3942 : Near Mine Block-B, Quarry No.7 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2023 to 15.10.2023 : 28.10.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 28.10,2023 to 09.11,2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMAT	ION		
1	Average Temperature (°C) : 25	2	Barometric Pressure (mml	Hg) : 734
3	Relative Humidity (%) : 57	4	Weather Condition	: Clear

Discipline : Chemica	ıl	Group : A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	49	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2); 2001; RA2022	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	15.1	80 (24hrs)	
Ozone (O ₃)	pg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4416	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

Reviewed by

-

****End of Report****

Authorised Signatory

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

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4425	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3951 : Near Bunglapart Village Pakhar Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.10.2023 to 15.10.2023 : 28.10.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd.
Period of Analysis	: 28.10.2023 to 09.11.2023	Sample Condition	Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	. 2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

Discipline : Chemica	d	Group: /	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	46	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	22	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.5	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.7	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m¹	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4425	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4426	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Customer Name : Hindalco Industries Limited Sample Ref. No. Location	
VALUE CONTRACTOR OF THE PARTY CONTRACTOR PORTY	: ELES/RNC/2023/AA/3952 : Yatri Shed (Near K-10) Pakhar Bauxite Mine
Address : Lohardaga, Jharkhand-835302 Sampling Date Sample Received Date	; 14.10.2023 to 15.10.2023
Mines Status : Operational Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis : 28.10.2023 to 09.11.2023 Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%)	157	4	Weather Condition	: Clear

Discipline : Chemica	ıl	Group : A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	- 55	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2006; RA2022	19.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8firs)	
Lead (Pb)	μg/m³	15 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4426	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4427	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3953 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar Bauxite Mine : 14.10.2023 to 15.10.2023 : 28.10.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 28.10.2023 to 09.11.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 25	2.	Barometric Pressure (mm	iHg) : 734
3	Relative Humidity (%) : 57	4	Weather Condition	; Clear

Discipline : Chemica	d	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m²	IS 5182 (Part-23): 2006; RA2022	49	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5,9	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	18.5	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Page 1 of 2

The Document stated as Test Report, it issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 untautherized alteration & falsification of the content or approximate of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report refers the firm period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report in a 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4427	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

Reviewed b

****End of Report****

Authorised Signatory

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

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in poe-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the content or uppearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Report shall be done within (5days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule institutioned in Test Report is in 24bours format. Abbreviation used. N/A (Not Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 Email: info@elespl.co.in , eles,ranchi@amail.com

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4428	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/3954
		Location	: Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Pakhar Bauxite Mine : 14.10.2023 to 15.10.2023
		Sample Received Date	; 28.10.2023 ; Ambient Air
Mines Status	: Operational	Type of Sample Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 28.10.2023 to 09.11.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	:: 57	4	Weather Condition	: Clear

Discipline : Chemica	d ·	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	20	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m ¹	IS 5182 (Part-2): 2001; RA2022	5.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6); 2006; RA2022	10.5	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4428	Report Release Date	: 22.11.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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

Reviewed b

****End of Report****

Authorised Signatory

or, Deependra Kumar Sinha

ph. D. Environmental Engg.

ELES Pvt Ltd. Technical Manager

Page 2 of 2

The Document stated as Test Report is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of limitation of institute, compensation and persidiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Foldays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule internored in Test Report is in 24bours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20A4ECE9713D124

ENGINEERING SERVICES PYT. LTD.

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

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



TC-8835

TEST REPORT

Test Report No.	: ELES/RNC/2023/4756	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4226 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.11.2023 to 14.(1,2023 : 24.11.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	Sealed & Preserved	

M	METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 21	2	Barometric Pressure (mml-	lg) : 734		
3	Relative Humidity (%) : 53		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): 2006; RA2022	62	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): 2001; RA2022	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	20.9	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha

Page 1 of 1

Ph. D'Environmentar chagg

The Document stated as test Report Research by the Laboratory under General Terms and Conditions, onlytical Surphy Laboratory Laboratory Laboratory Laboratory at the time of involvement only to the job/mulysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 lamitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & Edisification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be dose within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used: N/A (Not Applicable): BDL (Below Detection Limit)

des Environment Save Forum



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4756	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4226 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Address	: Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 13.11.2023 to 14.11.2023	
Mines Status			: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) ; 21	2	Barometric Pressure (mm)	Hg) : 734
3	Relative Humidity (%) : 53	.4	Weather Condition	: Clear

Discipline : Chemi	cal	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (CsH6)*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of chern's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions undess prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & faisification of the context or appearance of the Test Report is unliability and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Test Report released search. After the time period stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4757	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/4227
		Location	: Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 13.11.2023 to 14.11.2023
	I I I I I I I I I I I I I I I I I I I	Sample Received Date	: 24.11.2023
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure Sample Drawn By	; ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%) : 53	4	Weather Condition	: Clear

Discipline : Chemica	d	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	8.6	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	1S 5182 (Part-6): 2006; RA2022	20.8	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Dr. Deependia KumapSinha

Page 1 of 1

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4757	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4227 : Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	2 13.11.2023 to 14.11.2023 2 24.11.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Scaled & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 21	2	Barometric Pressure (mmHg) ±734
3	Relative Humidity (%)	:53	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group:	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	1S 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

-

****End of Report****

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

Page 1 of 1

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



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

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4758	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4228 : Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115,13 ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.11.2023 to 14.11.2023 : 24.11.2023	
Mines Status	; Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air ; ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 53	4	Weather Condition	: Clear

Discipline : Chemica	Group: /	tmospheric !	Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	53	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

****End of Report****

Dr. Deependra Nemarcsinha

n Environmental Enga

Page 1 of 1 ELES Pvt. Ltd. Technical Manager
The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relines only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 Institution of liability, compensation and jurisdiction issues. Any unuathorized alteration & full-infinition of the consent of appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule. mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4758	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4228 : Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.11.2023 to 14.11.2023 : 24.11.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 53	4	Weather Condition	: Clear

Discipline : Chemi	cal	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆) ³⁸	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m ¹	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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

Reviewed by

****End of Report****

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

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespi.co.in



TEST REPORT

Test Report No.	; ELES/RNC/2023/4759	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	CUSTOMER DETAILS		No. of the second second
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4229 : Near Mine Block-B, Quarry No.7 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.11.2023 to 14.11.2023 : 24.11.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 53	4	Weather Condition	: Clear

Discipline : Chemica	ıl	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	56	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6,1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	15-5182 (Part-6): 2006; RA2022	18.9	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.010	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part-26);2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

Page 1 of 1

The Document stated as Vest Report, is asserted by the Laboratory under General Terms and Conditions, only on ChipSo Pete I deal Technique McContragion the results shown in the Test Report reflects only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the fandings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report current be repreduced except in full and any part of the report is not taken out of centext, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any logal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the familiation of liability, compensation and jurisdiction issues. Any unauthorized alternation & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release-issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Descention Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4759	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/4229	
		Location	: Near Mine Block-B, Quarry No.7 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 13.11.2023 to 14.11.2023	
134		Sample Received Date	; 24.11.2023	
		Type of Sample	: Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%) : 53	4.	Weather Condition	: Clear

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

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

Reviewed by

181

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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



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

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4768	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4238 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.11.2023 to 15.11.2023 : 24.11.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11,2023 to 09.12,2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%) : 53	4	Weather Condition	: Clear

Discipline : Chemica	ıl .	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	25	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	6.1	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	16.8	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha

Page 1 of 1

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

The Document stand in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Roport refer or relates only to the jobianalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratury. 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. Amention is drawn to the limitation of liability, composition and jurisdiction issues. Any impulserized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release issue of the Test Report. The samples from Regulatory bodies are to be retained as specified, Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/sound. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDE (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Website : www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2023/4768	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4238 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.11.2023 to 15.11.2023 : 24.11.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mmHg	:734
3	Relative Humidity (%) : 53	-4	Weather Condition	: Clear

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

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

Reviewed by

****End of Report****

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

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD.

Email: Info@elespl.co.In , eles.ranchi@amail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4769	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4239 : Yatri Shed (Near K-10) Pakhar Bauxite Mine
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 14.11.2023 to 15.11.2023 : 24.11.2023
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	± 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATIO	N		
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%) : 53	4	Weather Condition	: Clear

Discipline : Chemica	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	21.6	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Kalinha

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Langs P thru Xia Technical Ace report. The results shown in the Test Report refer or relates only to the jobianalysis done by the Laboratory only. The information stated on the Test Report reflects the fandings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any ununtrivised alteration & falsefication of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaines regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is a 24hours format. Abbreviation used N/A (Nos Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PUT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4769	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4239 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.11.2023 to 15.11.2023 : 24.11.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sample Drawn By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) :21	2	Barometric Pressure (mm	Hg) : 734	
3	Relative Humidity (%) ; 53	4	Weather Condition	: Clear	

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

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page I of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formst. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report caused be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unumberized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retuined for 30days from the Date of Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24bours format. Abbreviation used N/A (Not Applicable); BiDL (Below Detection Limit); LDL (Lower Detection Limit)



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

NGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4770	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	MLS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4240 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 14.11.2023 to 15.11.2023 : 24.11.2023 : Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 24.11,2023 to 09.12.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:21	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	:53	4	Weather Condition	; Clear

Discipline : Chemica	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	29	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	5.1	80 (24hrs)	
Nitrogen Di-Oxide (NO _z)	μg/m³	IS 5182 (Part-6): 2006; RA2022	16.7	80 (24hrs)	
Ozone (O ₃)	<u>дд/m³</u>	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha

Phy D Environmental Engg

Page 1 of 1

The Document stated as Test Report, is squee by the Laboratory under General Terms and Conditions; only or Chingin's letter head in pre-approved format. The results shown in the Test Report refer or (elater only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, adventise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Fest Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30slays from the Date of pelacological of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/asseed. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BM, (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4770	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4240 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Pakhar Bauxite Mine : 14.11.2023 to 15.11.2023 : 24.11.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M)	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%) : 53		Weather Condition	: Clear

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

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



****End of Report****

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

Page 1 of 1

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



ENVIRONMENTAL LABORAT

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2023/4771	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	! Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4241 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar Bauxite Mine : 14.11.2023 to 15.11.2023 : 24.11.2023	
Mines Status	_ Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	; 24.11.2023 to 09.12.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION	V		
1	Average Temperature (°C) : 21	2	Barometric Pressure (mm	Hg) : 734
3	Relative Humidity (%) : 53	4	Weather Condition	: Clear

Discipline : Chemica	l .	Group: A	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	61	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	24	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6): 2006; RA2022	17.2	80 (24hrs)			
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)			
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)			
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)			
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m ⁵	ELES/AIR/SOP/01	<2.0	06 (Annual)			

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D Environmental Engli

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4771	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4241 : Near Utkarmit Rajkiya Prathmik	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Vidyalaya Dumrapart Village Pakhar Bauxite Mine ; 14.11.2023 to 15.11.2023	
		Sample Received Date Type of Sample	: 24.11.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
Period of Analysis	: 24.11.2023 to 09.12.2023	Sample Drawn By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION	-			
1	Average Temperature (°C)	: 21	2	Barometric Pressure (mm	Hg) :: 734	
3	Relative Humidity (%)	: 53	4	Weather Condition	: Clear	

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

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 1 of 1

The Document stated as Test Report, is asseed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analyses done by the Laboratory only. The information stated on the Test Report reflects the flodings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been socured from the Management of the Laboratory. Attention is drawn to the familiation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlessful and offenders may be prosecuted to big fullest extent of the law. All the samples are retained for Rédays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Roports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (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/RAN/2023/3123	Report Release Date	: 21.12.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RAN/2023/DW/3010 : 09.11.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample	: 24.11.2023 : Drinking Water	
		Source/Location of Sample Sampling Procedure	: Pakhar-115.13(Bauxite Mine) : ELES/DOC/SMPL/01	
Mines Status	: Operational	Sample Collected By	: ELES Pvt. Ltd.	
Period of Analysis	: 24.11.2023 to 08.12.2023	Sample Condition	: Sealed & Preserved	

Discipline : Chem	ical	Group : Water	r		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.8°C)	4	APHA 23 rd Ed.2017, 4500-H ⁺	6,68	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23rd Ed.2017, 2130 B	0.59	1.0	5.0
Taste	7 × 4	APHA 23 rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour	, A	IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agrecable
Colour	Hazen	APHA 23 ^{ed} Ed.2017, 2120B&D	2.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B,C&D	162	500	2000
Chloride (as Cl)	mg/L	APHA 23rd Ed.2017, 4500 C1 B	16.8	250	1000
Fluoride (as F)	mg/L	APHA 23 rd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2320 B	50.8	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 23 ^H Ed.2017, 2340 C	76.8	200	600
Sulphate (as SO ₄)	mg/L	APHA 23 rd Ed.2017, 4500 SO ₄ -2-E	6.84	200	400
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	BDL (DL: 0.5)	45	No Relaxation
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43):1992;RA2019	BDL (DL: 0.0005)	0.001	0.002

Page 1 of 4

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



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

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

TEST REPORT

 Test Report No.
 : ELES/RAN/2023/3123
 Report Release Date
 : 21.12.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipl	ine : Che	mical Group: V	Vater		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Cyanide (as CN)	mg/L	APHA 23 rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1.0
Calcium (as Ca)	mg/L	APHA 23 rd Ed.2017, 3500 Ca B	24.6	75	200
Discipl	ine: Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025(Part-57); 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017, 3111B	0.181	1.0	1.0
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.01)	10.0	No Relaxation
Manganese (as Mn)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48); 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	1S 3025 (Part-56): 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation
Zinc (as Zn)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.1)	5	15

Remarks: 1. pH & RFC done at Lab.

Page 2 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results allown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 limbility, compensation and jurisdiction issues. Any unauthorized alteration & fullification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 3(Mays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abhreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

 Test Report No.
 : ELES/RAN/2023/3123
 Report Release Date
 : 21.12.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipline: Che	mical		Group: Water		
Parameter	Unit	Test Protocol	Result	Regulatory Limi as per IS 10500:201	
Pesticides					
Alachlor*	μg/L	АРНА	BDL (DL: 1.0)	20	
Atrazine*	µg/L АРНА		BDL (DL: 1.0)	2	
Aldrin/Dieldrin* µg/L APHA		BDL (DL: 0.01)	0.03		
Alpha HCH*	μg/L	АРНА	BDL (DL: 0.001)	0.01	
Beta HCH*	μg/L	АРНА	BDL (DL: 0.01)	0.04	
Butachlor*	μg/L APHA		BDL (DL: 10)	125	
Chlorpyriphos*	μg/L.	АРНА	BDL (DL: 10)	30	
Delta HCH*	μg/L	АРНА	BDL (DL: 0.01)	0.04	
2,4 dichlorophenoxyacetic acid*	μg/L	APHA	BDL (DL: 10)	30	
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	μg/L	APHA	BDL (DL: 0.5)	1	
Endosulfan (alpha, beta, and sulphate)*	μg/L	АРНА	BDL (DL: 0.1)	0.4	
Ethion*	μg/L	APHA	BDL (DL: 0.5)	3	
Gamma HCH (Lindane)*	μg/L	APHA	BDL (DL: 0.5)	2	
Isoproturon*	μg/L	APHA	BDL (DL: 0.5)	9	

Page 3 of 4

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

 Test Report No.
 : ELES/RAN/2023/3123
 Report Release Date
 : 21.12.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipline : Bi	iological	Group: 1	Water	The second secon	ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not be detecte	
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021	Not Detected		
Discipline : Chemical		Group: Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	BDL (DL: 0.1)	0.2	1.0
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	BDL (DL: 0.1)	1.0	No relaxation
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 rd Edition	BDL (DL: 0.0001)	0.0001	No relaxation
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23 rd Edition	BDL (DL: 0.0005)	0.0005	No relaxation

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

Reviewed by

****End of Report****

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

Page 4 of 4

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/3135	Report Release Date	: 21.12.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2023/EF/3022	
	7	Sampling Date	: 11.11.2023	
		Sample Received Date	: 24.11.2023	
	Laboritor Healthand 925202	Type of Sample	: Effluent Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample	: Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
		Sampling Procedure	: ELES/DOC/SMPL/01	
Mines Status	: Operational	Sample Collected By	: ELES Pvt. Ltd.	
Period of Analysis	; 24.11.2023 to 02.12.2023	Sample Condition	: Sealed & Preserved	

Discipline: Chemical				Discharge Lim EPR, 1986 Sc	
Parameter Unit Dissolved Oxygen (as DO) mg/L Fluoride (as F) mg/L Sulphide (as S) mg/L		Test Protocol	Result	Inland Surface Water	Land for Irrigation
Dissolved Oxygen (as DO)	mg/L	IS 3025 (Part-38):1989; RA2019	5.4	H H	-
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.362	2.0	-
Sulphide (as S)	mg/L	1S 3025 (Part-29) :1986; RA2019	0.38	2.0	- 000
Discipline: Chem	ical	Group: Re	sidues in Wate	r	
Lead (as Pb)	mg/L	APHA 23rd Ed.2017; 3111 B	BDL (DL: 0.01)	0.1	-
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017; 3111 B	0.344	2.0	100
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	10.0	37 %
Nickel (as Ni)	mg/L	APHA 23rd Ed.2017; 3111 B	BDL (DL: 0.01)	3.0	-



****End of Report****

Dr. Deeperid a Kumar Sinha Ph. D Environmental Engg. ¿LES Pvt. Ltd. Technical Manager

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0227	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	- 21.04.2023

ULR No. : TC883924000000210F

Reviewed by

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4887 : Near Mine Block-B, Quarry No.: Pakhar Bauxite Mine (115,13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.12.2023 to 23.12.2023 ; 30.12.2023	
W. a		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION				
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmł	lg) : 734	
3	Relative Humidity (%)	±48	4	Weather Condition	: Clear	

Discipline : Chemica	at	Group : A	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	67	100 (24hrs)
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	- 44	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	9.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	23.1	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Page 1 of 1

Authorised Signatory
Dr. Deependra Kumar Sinna
Ph. D'Environmental Engg.

ELES Pvt. Ltd. Technical Manager

The Document stated as Test Again and the Laboratory ander General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the joblanalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report earnot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unautherized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/insue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Advers ation used, N/A (Nox Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit)

inen Kasermanni, Juse Hidur



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0227	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4887 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.12.2023 to 23.12.2023 : 30.12.2023	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	; Operational	Sampling Done By	: ELES Pvl. Ltd.	
Period of Analysis	: 30.12,2023 to 13,01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	µg/m³	IS 5182 (Part-11)2006;RA2017	<1,0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	< 0.5	01(Annual)	

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



**** End of Report****

Authorised Signatory

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report is assed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved famour. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of chent's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions sinless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the immation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawfull and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for 30days from the Date of release/assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule measured in Test Report is in 24hours format, Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 65T NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0228	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000211F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4888 : Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvl. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 19	2	Barometric Pressure (mml	Hg) : 734
3	Relative Humidity (%) : 48	4	Weather Condition	: Clear

Discipline : Chemica	at	Group: A	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	9.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.3	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	T00 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6,0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Blutherised Signatory

Ph. D Environmental Engg.

Page 1 of 1

The Document stated at the Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, wishout 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, competication and jurisdiction issues. Any timathorized alteration & falsification of the function of the Test Report is unlawful and diffusions may be prosecuted to the fullest extent of the law. All the samples are retained for Didays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit): LDL (Lower Detection Limit)

Sacr. Residoament, Save Future



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0228	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4888 : Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.12.2023 to 23.12.2023 : 30.12.2023
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

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

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



****End of Report***

Authorised Signatory

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

Page 1 of 1

The Document stated as Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jobianalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions utiless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of fability, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the content or appearance of the Test Report is unlawful and effenders may be prosecuted to the fullent extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

GINTERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0229	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000212F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4889 : Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.12.2023 to 23.12.2023 : 30.12.2023
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1.	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg	g) : 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemica	al .	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	58	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	7.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	24.3	80 (24hrs)	
Ozone (O ₅)),tg/m ^a	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	
Antres & En	11				

****End of Report****

Reviewed by

Dr. Beersed Signetonian Sinna

Ph. D Environmental Engg.

FLES Put 11d Technical Ma

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter load in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's extructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in fail 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 lumination of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0229	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/4889	
		Location	: Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115.13 ha)	
		Sampling Date	: 22.12.2023 to 23.12.2023	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 30.12.2023	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	; 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	1S 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorised Signatory
Dr. Deependra Kurnar Sinna
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of chent's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 20days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDE (Below Detection Limit); LDE (Lower Detection Limit).



FLOT 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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0230	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023
ULR No.	: TC883924000000213F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4890 : Near Mine Block-B, Quarry No.7 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.12.2023 to 23.12.2023 : 30.12.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 30.12,2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	734
3	Relative Humidity (%)	: 48	4	Weather Condition	Clear

Discipline : Chemica	d .	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2022	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	21.2	80 (24hrs)	
Ozone (O ₃)	μg/m ^a	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

****End of Report****

Reviewed by

Ph. D Environmental Engg.

ELEC Dut 1 tot Tooksing Manager

Page 1 of 1

The Document stated as Text Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jobiannlysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limbs of client's instructions. The Laboratory is responsible for all the information of data provided on the report, except the information which is provided by the client. The Report emisso be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unsufficient distribution of falsification of falsification of the content or appearance of the Test Report is inflavful and offenders may be prosecuted to the fullest extent of the law. All the samples are related for 30days from the Date of rulease issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule manifold in Test Report in in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lewer Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Phone no.: 0551-2290103 Website: www.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/0230	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	.: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4890 : Near Mine Block-B, Quarry No.7 Pakhar Bauxite Mine (115.13 ha)	
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	; 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORM	IATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

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

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



****End of Report****

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

Page 1 of 1

The Document stated as Test Report, is usued by the Laboratory under General Terms and Conditions, only on Company lester head in pre-approved format. The results shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of centest, 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 limitity, compensation and jurisdiction issues. Any unauthorized alternation & fairification of the centent or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be relained as specified. Any type of Observations or Complaints regarding the Report shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

NGINEERING SERVICES PVT. LTD.

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0239	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

ULR No. : TC883924000000222F

Reviewed by

CUSTOMER DET/	AILS	SAMPLE DETAILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4899 : Near Bunglapart Village Pakhar Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air		
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 30.12,2023 to 13,01.2024	Sample Condition	: Sealed & Preserved		

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline: Chemica	d)	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2022.	56	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6): 2006; RA2022	19.2	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m¹	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

**** End of Report****

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

ELES PVI. Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Condinents, only on Company letter based in pre-approved format. The results shown in the Test Report reflect or relates only in the jubranchysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report in not taken out of context, without print written approval of the Laboratory. The Report in field 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 jurisdreton issues. Any unquiring alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the falsification for line in All the samples are retained for 30days from the Date of release/issued of the Test Report. The samples from Regulatory bodies are to be remained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24bears format. Abbreviation used: N/A (Not Applicable), BOL (Below Detection Limit), LDL (Lower Detection Limit).

Save Environment, have Tunor



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0239	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4899 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	μg/m³	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jobarualysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full prin 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 unusualized afteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report refereed/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limits), LDL (Lower Detection Limits).



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

ENGINEERING SERVICES PUT. LTD.

Emoil: info@elespl.co.in , eles.ronchi@gmail.com

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0240	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000223F		

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4900 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline: Chemica	al	Group: /	tmospherie :	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	23.3	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (NI)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

gies & En

Reviewed by

Authorised Signatory

Dr. Deependra Kumar Simia

Ph. D Environmental Enou.

Page 1 of 1 ELES PVI, Ltd. Technical Manager

The Document stated as To Shout, to exited by the Laboratory under General Terms and Conditions, only un Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written 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 secored from the Management of the Laboratory. Attention is drawn to the limitation of Fublishey, compensation and jurisdiction issues. Any unsuphorate alteration & fabrication of the resembles are related in the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time puriod stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).

basic Environment, Save Finner



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0240	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4900 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 22.12.2023 to 23.12.2023 : 30.12.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

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

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



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinna Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Mana

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of effect a manuscious. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cautors be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal across unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized afteration & falsification of the content or appearance of the Test Report is unitareful and offenders may be prosecuted to the foliast extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule measured in Test Report as in 24beurs format. Abbreviation used N/A (Not Applicable), BDL (Below Detection Limit), LDI. (Lower Detection Limit).



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

GINEERING SERVICES PVI. LID.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0241	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	21,04.2023	
ULR No.	: TC883924000000224F			

CUSTOMER DETA	MLS	SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/4901 Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Pakhar Bauxite Mine : 22.12.2023 to 23.12.2023 : 30.12.2023	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C')	3 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemica	d	Group: A	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m¹	15 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

****End of Report****

iles & Engl

Reviewed by

Juthorised Signatory Silling

Page 1 of 1

Page 1 of 1 ELES Pvt. Ltd. Technical Mana. The results Laboratory under General Terms and Conditions, only on Company tetter head in Technical Mana. The results The Document stated is Test Report, is issued could be polymentally and the results shown in the Test Report of the results shown in the Test Report reflects the findings done by the Laboratory at the time of intermediate on the Test Report reflects the findings done by the Laboratory at the time of intermediate on the results of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Agention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlowful and offenders may be prosecuted to the foliest extent of the law. All the samples are returned for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

VGINEERING SERVICES PVT. LYD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0241	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4901 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

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

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



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Siruu Ph D Environmental Engg. ELES Pvt. Ltd. Technical Mans

Page 1 of 1

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



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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0242	Report Release Date	: 15.01.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000225F		

CUSTOMER DET	MLS	SAMPLE DETAILS		
Customer Name	:: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/4902 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Wittes Status	. Operanonai	the second secon	The state of the s	
Period of Analysis	: 30.12.2023 to 13.01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)) 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemica	al	Group : 7	Group: Atmospheric Pollution		
Parameter Unit		Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	58	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	15 5182 (Part-2): 2001; RA2022	7.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.1	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m ¹	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

****End of Report****

Reviewed by un

Authorised Signatory nar Slans

Page 1 of I ELES Pvt. Ltd. Technical Mana to the Laboratory under General Terms and Conditions, only on Company tester head in pre-approved formal. The results The Document state Test Report of shown in the Test Report out of Alberta only to the soblanelysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in pair 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 periodiction issues. Any unauthorized afteration & fullsification of the content or appearance of the Test Report is unlimited and offenders may be prosecuted to the follow extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory hodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mensioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0242	Report Release Date	: 15.01.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/4902 Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 22.12.2023 to 23.12.2023 : 30.12.2023 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 30.12,2023 to 13,01.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	148	4	Weather Condition	: Clear

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

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



****End of Report****

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

ELES Pvt. Ltd. Technical Manage

Page 1 of 1

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D1Z#

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0555	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000000526F			

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0598 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01.2024 to 27.01.2024 : 31.01.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 31.01.2024 to 06.02,2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	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): 2006; RA2022	71	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): 2001; RA2022	10.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	25.6	80 (24hrs)
Ozone (O ₃)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019.	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	1S 5182 (Part-22): 2004; RA2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m³	IS.5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinna

Ph. D Environmental Engg.

Page 1 of 1

The Document stated as Test Report, is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory in the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report. except the information which is provided by the client. The Report carnot be reproduced except in full and any part of the report is not taken out of context, without prior wroten approval of the Laboratory. The Report in full or in part shall not be published, adventise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fulsification of the content or appearance of the Test Report is uniqueful and offenders may be prosecuted to the liftiest extent of the law. All the samples are retained for Kidays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within 15days from the Date of Test Report released/assued. After the time period stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in Dihours farmer. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

NGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0555	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0598 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01.2024 to 27.01.2024 : 31.01.2024	
Mines Status	; Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)		

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



****End of Report****

Dr. Authorised Signatory Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of I

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST 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-8839

TEST REPORT

Test Report No.	; ELES/RNC/2024/0556	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023
ULR No.	: TC883924000000527F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0599 : Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 26.01.2024 to 27.01.2024 : 31.01.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 ; ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	; Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION	-	The second second	- Aug
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline: Chemica	ıl	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	67	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	10.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	24.5	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonía (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

****End of Report****

Reviewed by

Dr. Deependra Kumar Sining

Ph. D Environmental Engg

Page 1 of 1

The Document stated as Test Report in issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects only to the johranalysis done by the Laboratory only. The information stated on the Test Report reflects the flusings done by the Laboratory at the tame of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report emission be reproduced except in full and any part of the report is not taken out of context, without provide any interpretation. 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 ununiforized alteration & falsification of the content or apparament of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue in the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compilaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).

Sarrie Emvironment, Save Portuer



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0556	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0599 : Near Mine Block-B, Quarry No.4 Pakhar Bauxite Mine (115.13 ha)	
Address	t Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01,2024 to 27.01.2024 : 31.01,2024	
Mines Status	Occurtional	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
and the second second	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	; 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinna

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manar

Page I of I

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analyses done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 10days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be date within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24boars format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARIKHAND) GST NO:-20A4ECE9713D124

ENGINEERING SERVICES PST. LTD.

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

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



TEST REPORT

Test Report No.	; ELES/RNC/2024/0557	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023	
ULR No.	: TC883924000000528F			

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0600 : Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115.13 ha)
Address	- Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01.2024 to 27.01.2024 : 31.01.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	\$19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	:45	4	Weather Condition	: Clear

Discipline: Chemics	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m [‡]	IS 5182 (Part-6): 2006; RA2022	27.1	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.007	I (24hrs)	
Nickel (Ni)	ng/m)	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinna

Ph D Environmental Engg.

Page 1 of 1

ELES PVt Ltd. Technical Manag

The Document stated as Fest Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refler or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory as the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any logal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the lumination of liability, compensation and jurisdiction issues. Any ununthrized altertation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are returned for 30days from the Date of release/assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).

Save Environment, Save Finance



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

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/0557	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0600 : Near Mine Block B, Quarry No. 6 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 26.01.2024 to 27.01.2024 : 31.01.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 31.01,2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	±734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline: Chem	ical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report***

Authorised Signatory
Dr. Deapendra Kumar Sinho
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Maner

Page | of |

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



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

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0558	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000529F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/0601
	C.C. Charles Co. Co. Co.	Location	: Near Mine Block-B, Quarry No.7
			Pakhar Bauxite Mine (115.13 ha)
		Sampling Date	: 26.01.2024 to 27.01.2024
Address	Lohardaga, Jharkhand-835302	Sample Received Date	: 31.01.2024
2399999	A THE PART OF THE	Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
Mines Status	Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 06.02:2024	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFORMAT	TION		
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%) =45	4	Weather Condition	: Clear

Discipline : Chemica	ıt	Group : A	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	8.8	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6); 2006; RA2022	23.5	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sin La

Ph D Environmental Engg.

Page 1 of 1

s stated as Test Report, it assed by the Laboratory under General Yerns and Conditions, only on Compute letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/aralysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of elient's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written appeaval of the Laboratory. The Report in full or in part shall not be published, advertisse, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of fiability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is untrivided and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bedies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule insentioned in Test Report to in 24hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit); LDI. (Lower Detection Limit).



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

GINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0558	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0601 : Near Mine Block-B, Quarry No.7 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01.2024 to 27.01.2024 : 31.01.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvl. Ltd.	
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	:45	4	Weather Condition	:: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)		

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

THE IN EN Reviewed by

****End of Report****

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

ELES Put Ltd. Technical Manar

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD

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

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



TC-8839

TEST REPORT

Test Report No.	: ELES/RNC/2024/0559	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000530F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/0602 Near Bunglapart Village Pakhar Bauxite Mine
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 26.01.2024 to 27.01.2024 : 31.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	ELES Pvt. Ltd.
Period of Analysis	= 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chemica	d	Group : A	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	31	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part-2): 2001; RA2022	9.3	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	21.4	80 (24hrs)		
Ozone (O ₃)	µg/m¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	f (24hrs)		
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

Reviewed by

****End of Report***

Dr. Deependra Kumar Sirana

Ph. D Environmental Engg.

STATE OF THE PERSON WAS

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's assurations. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in fall and any part of the report is not taken out of context, without provident approval of the Laboratory. The Report in fall or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amendion is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & this flection of the content or appearance of the Test Report is unlawful and offerders may be presecuted to the fallest extent of the law. All the samples are retained for 30days from the Date of released issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentanted in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BOL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/0559	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/0602 Near Bunglapart Village Pakhar Bauxite Mine 25 04 2024 a 27 01 2024
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 26.01.2024 to 27.01.2024 : 31.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chem	ical	Group:	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Benzene (C ₆ H ₆)*	μg/m ¹	(S 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)			
Benzo-(a)-Pyrene®	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)			

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

Reviewed by

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinna
Ph. D Environmental Engg
eLES Pvt. Ltd. Technical Management

Page 1 of 1

The Document stated as Test Report is assued by the Laboratory under General Terms and Conditions, only on Company lotter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken 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 unauthorized alternation & flatification of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the follows extent of the law. All the samples are retained for 30days from the Data of release/assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15-laws from the Data of Test Report release/assued. After the time period stated before, no complaints will be accepted. The entire Time achedule reasonated in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit)



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

GENEERING SERVICES PUT. 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/2024/0560	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000531F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0603 : Yatri Shed (Near K-10) Pakhar Bauxite Mine
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01.2024 to 27.01.2024 : 31.01.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION		Jan Talan	
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chemica	it	Group : /	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23); 2006; RA2022	67	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	8.2	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	25.5	80 (24hrs)			
Ozone (O ₃)	µg/m¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)			
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)			
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)			
Nickel (Ni)	ng/m³	1S 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)			

Reviewed by

****End of Report****

Dr. Deepenoised Signatory in the Ph. D Environmental Engg

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/0560	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0603 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 26.01,2024 to 27.01,2024 ; 31.01,2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)*	µg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinitu
Ph. D Environmental Engg.
ELES Pvt. Ltd. Technical Management

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jobianalysis done by the Laboratory only. The information stated on the Test Report reflects the flodings done by the Laboratory at the time of involvement only and within the lamits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for 3/Mays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours formar. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

GINEERING SERVICES PVT. LTD.

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

TC-8839

TEST REPORT

Test Report No.	: ELES/RNC/2024/0561	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000532F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0604 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	; 26,01.2024 to 27.01.2024 ; 31.01.2024 ; Ambient Air ; ELES/DOC/SMPL/02	
Mines Status	† Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%) : 45	4	Weather Condition	: Clear

Discipline : Chemica	al	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)	
Nickel (Ni)	ng/m²	15 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2,0	06 (Annual)	

****End of Report****

Reviewed by

Dr. Deepengra Signature

Page 1 of 1

The Document stated as Test Report, to issued by the Laboratory under General Terms and Conditions, only on Complant letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of chent's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the convent or appearance of the Test Report is unlessful and offenders may be prosecuted to the fallest extent of the law. All the samples are returned for 30days from the Date of release/assue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations or Complaints regarding the Reports shall be done within 13days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDE (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/0561	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0604 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 26.01.2024 to 27.01.2024 : 31.01.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 31,01,2024 to 06,02,2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 19	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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

Reviewed by

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Simila Ph D Environmental Engg.

ELES Pvt. Ltd. Technical Manar

Page 1 of 1

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



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

VOINEERING 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/2024/0562	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000533F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/0605
	Cartin Aller Street	Location	: Near Utkarmit Rajkiya Prathmik
			Vidyalaya Dumrapart Village
			Pakhar Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 26.01,2024 to 27.01.2024
	P. C. Company of the	Sample Received Date	: 31.01.2024
		Type of Sample:	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvi. Ltd.
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION	1,010		
Average Temperature (°C) : 19	2	Barometric Pressure (mmHg)	: 734
3 Relative Humidity (%) : 45	-4	Weather Condition	: Clear

Discipline : Chemica	d	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO ₃)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part-6): 2006; RA2022	21.5	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS-5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

NESS &

****End of Report****

Dr. Deependia Signatory

Page 1 of 1

The Document stated in Test Report 5, solved by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved forms. The results shown in the Test Report color or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 flability, compensation and parisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for 30days from the Date of release/assise of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Althoresisting used. N/A (Not Applicable), IBDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D124

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/2024/0562	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/0605 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 26.01.2024 to 27.01.2024 : 31.01.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 06.02.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	:19	2	Barometric Pressure (mmH	g) : 734
	Relative Humidity (%)	: 45	4	Weather Condition	; Clear

Discipline : Chem	ical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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



****End of Report****

Authorised Signatory
Dr. Deependra Kamar Siniu
Ph. D Environmental Engg.
SLES Pvt. Ltd. Technical Mann

Page 1 of 1

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



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

ENGINEERING SERVICES PUT, LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0593	Report Release Date	: 06.02.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883924000000564F			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/SW/0628 : 27.01.2024 : 31.01.2024
Address	Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	: Surface Water : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)
Mines Status	Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/01 ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 05.02.2024	Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group	Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.5°C)		IS 3025 (Part 11): 2022	6.58	6.5-8.5
Temperature	°C	IS 3025 (Part 9):1984; RA2017	24.8	
Chemical Oxygen Demand (COD)	-	IS 3025 (Part-58) :2006; RA2017	8.0	8
Biochemical Oxygen Demand (BOD) (@ 20°C for 5 days)	mg/L	APHA 23rd Ed,2017; 5210B	1.4	3.0
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	128	1500
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	11.8	H1
Oil & Grease	mg/L	IS 3025 (Part-39): 2021	BDL (DL: 0.1)	0.1
Calcium (as Ca)	mg/L	IS 3025 (Part-40) :1991, RA2019	3.1	144
Discipline : Cher	nical	Group:	Residues in W	Vater
Aluminium (AI)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03
Iron (as Fe)	mg/L	APHA23 rd Ed 2017; 3111B	0.098	50

Remarks: 1. pH done at Lab.

Reviewed by

****End of Report****

Dr. Deependra Kumar Sin

Page | of | Page | of |

The Document stated as Tear Report, is around by the Laboratory under General Tenns and Conditions, only on Company letter thead in pre accordance to the results shown in the Test Report refer or reflects the findings done by the Laboratory at the fine of anyolic energia only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price written appeared of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fulsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of release/issue of the Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/0609	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883924000000580F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/SL/0644 : 27.01.2024 : 31.01.2024
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Mine Block-B, Quarry No.7 Pakhar-115.13 (Bauxite Mine)
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/05 : ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 05.02.2024	Sample Condition	: Sealed

Discipline: Chemical		Group: Pollution & Environment		
Parameter	Unit	Test Protocol	Result	
pH (1:2) at 24.6 °C	0	IS 2720 (Part 26):1987; RA2021	3.97	
Conductivity (1:2) at 24.6 ℃	μS/cm	IS 14767: 2000; RA2021	105.5	
Total Organic Carbon (TOC)	%	Soil Testing in India: 2011 (Walkley & Black Method)	0.25	
Available Phosphorus (as P) (1:10)	kg/ha	Soil Testing in India; 2011	2.16	
Potassium (as K)	mg/kg	IS 9497:1980; RA 2020	1500	
Available Nitrogen	%	Soil Testing in India: 2011	1.96	
Chloride (1:2)	%	ELES/SOIL/SOP/01	0.127	
Lead (ns Pb)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)	
Cadmium (as Cd)	mg/kg	US EPA 3050 A&B: 1996	BDL (DL: 0.1)	
Mercury (as Hg)	mg/kg	US EPA 7473 : 2007	BDL (DL: 0.01)	
Magnesium (as Mg)	mg/kg	Soil Testing in India: 2011	245	

Remarks: 1. pH done at Lab.

Reviewed by

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Simila

Ph. Li environmental

Page | of |

The Document stated as Fest-Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-depleted sormat. The results shown in the Test Report reflects only to the job/malysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 unanthorized alteration & flatsfication of the coaten or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of release/issue of release/issue of the Test Report is an appearance of the Test Report is part of the samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compilaints regarding the Reports shall be done within 15days from the Date of Test Report isleased/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hinurs format. Abbreviation used N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST 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/2024/0609	Report Release Date	: 06.02.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/SL/0644 : 27.01.2024 : 31.01.2024
Address	: Lohardaga, Jharkhand-835302	Type of Sample Location of Sample	: Soil : Near Mine Block-B, Quarry No.7 Pakhar-115.13 (Bauxite Mine)
Mines Status	; Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/05 : ELES Pvt. Ltd.
Period of Analysis	: 31.01.2024 to 05.02.2024	Sample Condition	: Sealed

Discipline: Chemical		Group: Pollution & Environment		
Parameter	Unit	Test Protocol	Result BDL (DL: 0.005)	
Arsenic (as As)	mg/kg	IS 3025 (Part 37): 2022		
Selenium (as Se)	mg/kg	IS 3025 (Part-56) :2003; RA 2019	BDL (DL: 0.01)	

Reviewed by

rius 3.6

****End of Report****

Authorised Signatory
Dr. Disependia Kumar Silma
Ph. DiEnvironmental Engg.
ELES Pvt. Ltd. Technical Manar

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & flabsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released issued. After the time period stated before, no complaints will be accepted. The entire United Schools and the Content of the



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

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1288	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1331 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.02.2024 to 21.02.2024 : 26.02.2024
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	; ELES Pvt. Ltd.
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 50	4	Weather Condition	: Clear

Discipline	: Chemical	Group : Atmosp	heric Polluti	on
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	68	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): 2001; RA2022	9.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₇)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	22.8	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	ng/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.010	1 (24hrs)
Niekel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed hy

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1 Ph. D Environmental Engg.

The Document select Separation of the Laboratory to the Laboratory under General Terms and Conditions, only on Cisability Path and Processes as a little shown in the Test Report refer to telegraphy to the job/annitries done by the Laboratory only. The information stated on the Test Report reflects the Intelligible by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price written approved 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 Lability, compensation and jurisdation issues. Any unauthorized alternative & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained to Middays from the Date of released from the But of released from the Date of Test Report in Regulatory bodies are to be retained as specified. Any type of Observations or Complants regarding the Reports shall be done within 15 days from the Date of Test Report released/revised. After the time period stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in 24hours forms. Attended to the full Relow Description Limit, LDL (Liniver Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1288	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1331 : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.02.2024 to 21.02,2024 : 26.02.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	150	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	µg/m³	1S 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12); 2004; RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report****

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

Page | of |

The Document stated as Lest Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pro-approved format. The results shown in the Test Report reflect only to the jubianalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided by the client. The Report cannot be reproduced except in fall and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published; advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the centers or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest event of the samples are retained for 80deys from the Date of released/assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The same Time schedule mentioned in Test Report in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1289	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04,2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2024/AA/1332	
		Location	: Near Mine Block-B, Quarry No4	
			Pakhar Bauxite Mine (115.13 ha)	
		Sampling Date	: 20.02.2024 to 21.02,2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 26.02.2024	
		Type of Sample	Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvi. Ltd.	
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	; Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 50	4	Weather Condition	: Clear

Discipline	: Chemical	Group : Atmosp	heric Pollutio	on
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	71	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	39	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ^I	IS 5182 (Part-2): 2001; RA2022	12.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ¹	IS 5182 (Part-6): 2006; RA2022	21.2	80 (24hrs)
Ozone (O ₁)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	I (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Dr. Deependra Kumar Sinha

Ph. D Environmental Enga

Page 1 of 1 ELES Pyt. Ltd. Technical Manager

The Document stated by Lest Report is exceed by the Laboratory under General Terms and Conditions, only on Company letter bead in pre-approved format. The results shown in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in fall or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of libeliny, compensation and persolution issues. Any unauthorized alteration & faisification of the content or appearance of the Test Report is unlessful and offenders may be prosecuted to the failiset extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report is unlessful and offenders are in be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24bours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit).

Save Environment Save Enters



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1289	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2024/AA/1332	
		Location	: Near Mine Block-B, Quarry No4	
			Pakhar Bauxite Mine (115.13 ha)	
		Sampling Date	20,02,2024 to 21,02,2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	26.02.2024	
	0.000	Type of Sample	Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	ELES Pvt. Ltd.	
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	; 734
3	Relative Humidity (%)	: 50	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C,H ₆)4	μg/m ²	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	1S 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)		

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



****End of Report****

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

Page 1 of 1

The Document stated at Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in presupproved format. The results shown in the Test Report refer or relates only to the jobianalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's assumptions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, wethout prior sortien approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of building, compensation and jurisdiction visious. Any untiatherized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the falliest extent of the law. All the samples are retained for 30days from the Date of release issue of the Test Report. The samples from Regulatory bedies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days, from the Date of Test Report released/issued. After the time persod stated before, no compliants will be accepted. The shifter Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Devection Limit). LDL (Lower Detection Limit)



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

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

TEST REPORT

Test Report No.	; ELES/RAN/2024/1290	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RAN/2024/AA/1333 Near Mine Block B, Quarry No6 Pakhar Bauxite Mine (115.13 ha)
Address	- Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 20.02,2024 to 21.02,2024 : 26.02,2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	= 26.02.2024 to 05.03.2024	Sample Condition	Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	; Clear

Discipline	: Chemical	Group : Atmosp	heric Pollutio	n
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³·	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	23.7	80 (24hrs)
Ozone (O ₁)	μg/m³	1S 5182 (Part-9): 1974; RA2019	<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): 1999; RA2019	<1,0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	< 0.002	(24hrs)
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	'ng/m'	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Reviewed by

Authorised Signatory
Dr. Deependra Kumar Sinha

Ph. D Environmental Enga

Page | of |

ELES Pvt. Ltd. Technical Manager

The Document stated as 16st export in socied by the Laboratory under General Terms and Conditions, only on Company letter bead in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written appearant 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. Apention is drawn to fee limitation of limiting, compensation and jurisdiction issues. Any unauthorized afterstom & Tabification of the coment or appearance of the Test Report is unlowful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of releases from Regulatory badies 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 released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit), LDL (Lewer Detection Limit).



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

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

TEST REPORT

Test Report No.	; ELES/RAN/2024/1290	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	C. T. C. T. T. C. C. L. L. C.
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2024/AA/1333
		Location	: Near Mine Block B, Quarry No6 Pakhar Bauxite Mine (115.13 ha)
		Sampling Date	: 20.02,2024 to 21,02,2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	; 26.02,2024
	1	Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	; Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	:48	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12): 2004; RA2019	< 0.5	01(Annual)	

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

Reviewed by

ories & E

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page I of I

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect in the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and writin the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of fability, compensation and jurisdiction issues. Any unauthorized alternation & following time to the fability of release/issue of the Test Report is unlawful and offenders may be prosecuted to the fablest extent of the law. All the samples are returned for Midays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be cerained as specified. Any type of Observations or Complaints regarding the Report shall be done within 1 Stays from the Date of Test Report reflects and N/A (Not Applicable). Bibl. (Below Detection Limit), LDL (Lower Detection Limit).

Save Edvernment, Subir Eutern



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

EERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RAN/2024/1291	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1334 : Near Mine Block-B, Quarry No7 Pakhar Bauxite Mine (115.13 ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20,02,2024 to 21.02,2024 : 26.02,2024
Mines Status	; Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pyt. Ltd.
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION

	THOROLOGICAL IN ORDER TON				
	Average Temperature (°C) : 22	2	Barometric Pressure (mmH	g) : 734	
3	Relative Humidity (%) : 48	4	Weather Condition	: Clear	

Discipline	: Chemical	Group : Atmosp	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	66	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	10.3	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	25.1	80 (24hrs)			
Ozone (O ₃)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)			
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (Shrs)			
Lead (Pb)	µg/m²	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)			
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)			

Reviewed by

WES & E

**** End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1291	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2024/AA/1334	
		Location	: Near Mine Block-B, Quarry No7 Pakhar Bauxite Mine (115.13 ha)	
		Sampling Date	: 20.02.2024 to 21.02.2024	
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 26.02.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt, Ltd.	
Period of Analysis	; 26.02,2024 to 05.03,2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C _c H _s)*	μg/m³	1S 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12); 2004; RA2019	< 0.5	01(Annual)	

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

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of I

The Decement stated at Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 particulation issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fillibest extent of the law. All the samples are retained for 30days from the Date of Telegory The samples from Regulatory bodies are to be retained as specified. Any type of Observations of Complaints regarding the Reports shall be done within 15thyn from the Date of Test Report released/assaed. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Nos Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit), LDL (Lower Detection Limit).



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

GINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1294	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1334 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.02,2024 to 21.02,2024 : 26.02,2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	; Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFOR	MATION			
4	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 48	.4	Weather Condition	:: Clear

Discipline	; Chemical	Group : Atmosp	heric Pollutio	on
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2022	8.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.4	80 (24hrs)
Ozone (O ₅)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m²	IS 5182 (Part-22): 2004; RA2019	< 0.002	I (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D Environmental Enco

Page 1 of 1 The Document stated is 153 Mayor a Constitute of the Laboratory under General Terms and Conditions, only to ES Part Life Teachingcal planta general. The results shown in the Test Report order of relainst the to the joh/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report. except the information which is provided by the client. The Report cannot be reproduced except in full and any port of the report is not taken out of context, willout prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & Intelligence of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI. (Below Detection Limit). LDI. (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1294	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21,04,2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1334 : Near Bunglapart Village Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 20.02,2024 to 21.02,2024 : 26.02,2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvl. Ltd.	
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Scaled & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mmH	g) : 734
3	Relative Humidity (%)	: 48	- 4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₈ H ₅)*	µg/m³	1S 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	1S 5182 (Part-12); 2004; RA2019	<0.5	01(Annual)		

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

Reviewed by

****End of Report***

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

Page 1 of 1

The Document stated as Test Report, is escored by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the Endings done by the Laboratory at the time of involvement only and within the limits of client's descrictions. The Laboratory is responsible for all the information or data provided in the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, wellows prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offeriders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within Uslays from the Date of Test Report released/issued. After the time period stated before, no compliants will be accepted. The entire Time schedule incurrence in Test Report is in 24boars format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

GINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RAN/2024/1292	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETA	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1335 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.02.2024 to 21.02.2024 : 26.02.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	t 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

Reviewed b

1	Average Temperature (°C) : 22	2	Barometric Pressure (mml	(g) : 734	
3	Relative Humidity (%) :48		Weather Condition	: Clear	

Discipline	: Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	71	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): 2001; RA2022	9.5	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	23.8	80 (24hrs)		
Ozone (O ₄)	μg/m ¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	0.012	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

II. D Environmental Eriet

Page 1 of 1 The Deciment stated the Repute is issued by the Laboratory under General Terms and Conditions, only Eccess Protected and Protected Manual Fine results shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of contest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for filldays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations of Complaints regarding the Reports shall be about within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The instite Time schedule mentioned in Test Report is in 24hours formus. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST 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/RAN/2024/1292	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1335 : Yatri Shed (Near K-10) Pakhar Bauxite Mine	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 20.02.2024 to 21.02.2024 : 26.02.2024	
N.C Property	6	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION					
	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg)	: 734	
3	Relative Humidity (%)	: 48	4	Weather Condition	: Clear	

Discipline : Chemical		Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C _t H _t)*	μg/m³	[S.5182 (Part-11): 2006; RA2022	<1.0	05(Annual)		
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12); 2004; RA2019	<0.5	01(Annual)		

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



****End of Report****

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

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Corogany letter bead in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's enstructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written appeared of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of limbility, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and of limitation suggested to the follows extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations in Complaints regarding the Report shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used. N.'A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Desection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1293	Report Release Date	: 11.03.2024		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		
CUSTOMER DET	AILS	SAMPLE DETAILS			
Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: ELES/RAN/2024/AA/1336 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine : 20.02.2024 to 21.02.2024 : 26.02.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.		
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved		

METEOROLOGICAL INFORMATION						
1.	Average Temperature (°C)	: 22	2	Barometric Pressure (mmHg	: 734	
3	Relative Humidity (%)	-48	4	Weather Condition	: Clear	

Discipline	: Chemical	Group : Atmosp	heric Pollutio	on
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	20.5	80 (24hrs)
Ozone (O ₃)	hh/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m²	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)

****End of Report****

Page I of I

Reviewed by

Dr. Deependra Kumar Sinha

Ph. O Environmental Enga

The Document stated as Text Report in secret by the Laboratory under General Terms and Conditions, maly or Company and the Puries Laboratory and the Irest Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of cherit's instructions. The Laboratory is responsible for all the information or data provided on the report except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is 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 purished on tissues. Any unauthorized alteration & fabrification of the content or appearance of the Test Report is unlessful and offenders may be prosecuted to the failest extent of the law. All the samples are retained for 30 days from the Date of test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15thny. From the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The order Time schedule mentioned in Test Report is in 24hours formal. Abbreviation used. N/A (Not Applicable), BDL (Relow Detection Limit). LDL (Lower Detection Limit)



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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1293	Report Release Date	: 11.03.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETA	IILS	SAMPLE DETAILS	The state of the state of the
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1336 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 20.02,2024 to 21,02,2024 : 26.02,2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORM	IATION			
1	Average Temperature (°C)	22	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	48	4	Weather Condition	: Clear

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	μg/m³	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m²	IS 5182 (Part-12): 2004; RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the joh/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Aftention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 10 days from the Date of released/assued. Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 1 Sdays from the Date of Test Report released/assued. After the time period stated before, no complaints of the accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used, N.A. (Not Applicable), BDI. (Below Descent Limit).



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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1295	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RAN/2024/AA/1337 : Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 20.02.2024 to 21.02.2024 : 26.02.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 26.02,2024 to 05.03,2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 22	2	Barometric Pressure (mml-	(g) : 734
3	Relative Humidity (%)	; 48	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): 2006; RA2022	67	100 (24hrs)	
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	35	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2006; RA2022	19.3	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	μg/m [‡]	15 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	< 6.0	20 (Annual)	
Arsenic (As)	ng/m1	ELES/AIR/SOP/01	<2.0	06 (Annual)	

****End of Report****

Reviewed by

Dr. Deependra Kumar Sinha

Page I of 1

The Document stated at Test Report persons by the Laboratory under General Terms and Conditions, only Geography and the East Report reflects the findings done by the Laboratory of the information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of elicin's instructions. The Laboratory is responsible for all the information or data provided on the report except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior version appearance 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 immunion of hability, compensation and jurisdiction issues. Any ununiforzized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodges are prosecuted to the fullest extent of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule memoratored in Test Report is in 24 hours formul. Abbreviation used, N.A. (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit), LDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1295	Report Release Date	: 11.03.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RAN/2024/AA/1337 Near Utkarmit Rajkiya Prathmik Vidyalaya Dumrapart Village Pakhar Bauxite Mine
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 20.02;2024 to 21.02;2024 : 26.02;2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	; Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 26.02.2024 to 05.03.2024	Sample Condition	: Sealed & Preserved

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	μg/m [*]	IS 5182 (Part-11): 2006; RA2022	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m³	IS 5182 (Part-12); 2004; RA2019	< 0.5	O1(Annual)	

Weather Condition

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

Reviewed by

: 48

Relative Humidity (%)

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

: Clear

Page I of I

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1321	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RAN/2024/DW/1358	
		Sampling Date	± 20.02.2024 ± 26.02.2024	
454	1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1	Sample Received Date	The Association of the Control of th	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Pakhar-115.13(Bauxite Mine)	
		Sampling Procedure	:: ELES/DOC/SMPL/01	
Mines Status	: Operational	Sample Collected By	: ELES Pvt. Ltd.	
Period of Analysis	: 26.02.2024 to 07.03.2024	Sample Condition	Sealed & Preserved	

Discipline : Chemical		Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible Limit
pH (at 24.5 °C)	74	APHA 23 rd Ed.2017, 4500-H	6.60	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23 rd Ed.2017, 2130 B	0.68	1.0	5.0
Taste	3-	APHA 23 rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour	4	1S 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 23 rd Ed.2017, 2120B&D	2.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23rd Ed.2017, 2540B,C&D	282	500	2000
Chloride (as Ct)	mg/L	APHA 23rd Ed.2017, 4500 CI B	38.6	250	1000
Fluoride (as F)	mg/L	APHA 23 rd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2320 B	98.6	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2340 C	124	200	600
Sulphate (as SO ₄)	mg/L	APHA 23 rd Ed.2017, 4500 SO ₄ ⁻² -E	16.8	200	400
Nitrate (as NO ₃)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₅ -B	2,40	45	No Relaxation
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43):1992;RA2019	BDL (DL: 0.001)	0.001	0.002

Page 1 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 timathorized afteration & falsification of the content or appearance of the Test Report is unlaraful and offenders may be prosecuted to the fullest extent of the line. All the samples are retained for Midges from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit), LDI. (Lower Detection Limit).



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

ENGINEERING SERVICES PVY. LTD.

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

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

TEST REPORT

 Test Report No.
 : ELES/RAN/2024/1321
 Report Release Date
 : 11.03.2024

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipline : Chemical Group : Water					Regulatory Limit as per IS10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Cyanide (as CN)	mg/t.	APHA 23 rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation	
Residual Free Chlorine (RFC)	mg/L	IS 3025 (Part-26):2021	BDL (DL: 0.1)	0.02	1.0	
Calcium (as Ca)	mg/L	APHA 23 rd Ed.2017, 3500 Ca B	33.2	75	200	
Discipl	ine : Che	mical Group	: Residues in	Water		
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003; RA2019	BDL (DL: 0.02)	0.03	0.2	
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation	
Boron (as B)	ing/L	IS 3025(Part-57): 2005; RA2021	BDL (DL: 0.2)	0.5	1.0	
Cadmium (as Cd)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation	
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation	
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5	
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017 , 3111B	0.216	1.0	1.0	
Lend (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation	
Manganese (as Mn)	mg/L	APHA 23 rd Ed.2017, 3111B	BDL (DL: 0.05)	0.1	0.3	
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 1994; RA2019	BDL (DL: 0.001)	0.001	No Relaxation	
Selenium (as Se)	mg/L	IS 3025 (Part-\$6); 2003; RA2019	BDL (DL: 0.01)	0.01	No Relaxation	
Zinc (as Zn)	mg/L	APHA 23 rd Ed.2017 . 3111B	BDL (DL: 0.1)	5	15	

Page 2 of 4

The Document stated as 7 cst Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used N/A (Not Applicable): BDJ. (Betow Detection Limit): LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

 Test Report No.
 : ELES/RAN/2024/1321
 Report Release Date
 : 11.03.2024

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

Discipline : Cl	nemical	Group:	Water		tory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Pesticides					
Alachlor*	μg/L	APHA 23 rd Edition 6630 B&C	BDL (DL: 1.0)	20	No Relaxation
Atrazine*	µg/L	APHA 23 rd Edition 6630 B&C	BDL (DL: 1.0)	2.0	No Relaxation
Aldrin/Dieldrin*	µg/L	APHA 23 rd Edition 6630 B&C	BDL (DL: 0.01)	0.03	No Relaxation
Alpha HCH*	μg/L	USEPA 508:1985	BDL (DL: 0.001)	0.01	No Relaxation
Beta HCH*	μg/L	USEPA 508:1985	BDL (DL: 0.01)	0.04	No Relaxation
Butachlor*	μ <u>ε</u> /L	APHA 23rd Edition 6630 B&C	BDL (DL: 10)	125	No Relaxation
Chlorpyriphos*	µg/L	USEPA 8141 A	BDL (DL: 10)	30	No Relaxation
Delta HCH*	μg/L	USEPA 508:1985	BDL (DL: 0.01)	0.04	No Relaxation
2,4 dichlorophenoxyacetic acid*	µg/L	APHA 23rd Edition 6640 B	BDL (DL: 10)	30	No Relaxation
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	μg/L	APHA 23 rd Edition 6630 B&C	BDL, (DL: 0.5)	T.0	No Relaxation
Endosulfan (alpha, beta, and sulphate)*	11g/L	APHA 23 st Edition 6630 B&C	BDL (DL: 0.1)	0.4	No Relaxation
Ethion*	µg/L	USEPA 1657 A	BDL (DL: 0.5)	3.0	No Relaxation
Gamma HCH (Lindane)*	μg/L	USEPA 508:1985	BDL (DL: 0.5)	2.0	No Relaxation
Isoproturon*	μg/L	USEPA 532:2000	BDL (DL: 0.5)	9.0	No Relaxation

Page 3 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 lamitation of liability, compensation and partialization issues. Any unauthorized alteration & fabilitation of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Relow Detection Limit), LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1321	Report Release Date	: 11.03.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Di Lu D	at at at	Common N	Ungan	Regulate	ory Limit	
Discipline : Bi	iological	Group: V	vater	as per 15	10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Total Coliform	Per 100 ml.	IS 15185:2016; RA 2021	Not Detected	Shall not be detected		
Escherichia Coli (E. Coli)	Per 100 mL	IS 15185:2016; RA 2021			lot be detected	
66-1-6		B. C. C.		Regulate	ory Limit	
Discipline :	Chemical	Group : \	Water	as per IS	10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 (Part- 68) : 2019 (RA2023)	BDL (DL: 0.1)	0.2	1.0	
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23rd Edition: 6440 B	BDL (DL: 0.0001)	0.0001	No Relaxation	
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23 rd Edition: 6431B	BDL (DL: 0.0005)	0.0005	No Relaxation	

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

Reviewed by

****End of Report****

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

Page 4 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in 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 lumitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 13days from the Date of Test Report released/issued. After the time period stated before, no compliants will be entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1331	Report Release Date	: 11,03,2024	
Work Order No.	: M&M/23-24/01	Work Order Date	: 31.03.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RAN/2024/EF/1362 : 20.02.2024 : 26.02.2024	
Address	: Lollardaga, Jharkhand-835302	Type of Sample Source of Sample	: Effluent Water : Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (115.13 ha)	
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 26.02.2024 to 02.03.2024	Sample Condition	: Sealed & Preserved	

Discipline: Chemical		Group: Pollution & Er	Environment Discharge Limits - C EPR, 1986 Schedul		
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Dissolved Oxygen (as DO)	mg/L	IS 3025 (Part-38):1989; RA2019	5.0		-
Fluoride (as F)	mg/L	IS 3025 (Part-60) ;2008; RA2019	0.586	2.0	
Sulphide (as S)	mg/L	IS 3025 (Part-29) :1986; RA2019	0.56	2.0	~
Discipline: Chemical Group: Residues in Water				r	
Lead (as Pb)	mg/L	APHA 23rd Ed.2017; 3111 B	BDI. (DL: 0.01)	0.1	Ð
Manganese (as Mn)	mg/L	APHA 23 rd Ed.2017; 3111 B	BDL (DL: 0.05)	2.0	~
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	0.01	and the
Nickel (as Ni)	mg/L	APHA 23 rd Ed,2017; 3111 B	BDL (DL: 0.01)	3.0	144



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

Same Employment Sales Francisco



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RAN/2024/1339	Report Release Date	: 11.03.2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sampling Done By	: 20.02.2024 to 21.02.2024 : 26.02.2024 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt, Ltd.	
Mines Status	: Operational	Period of Analysis	: 26.02.2024 to 02.03.2024	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 23	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	; 50	4	Weather Condition	: Clear

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
			Time	Leq	
Pakhar Bauxite Mine (115.13 ha) dB(A)		IS 9989:1981. RA 2020	Day Time	67	75 dB(A) Day Time &
Sample ID: ELES/RAN/2024/AN/1282			Night Time	48	70 dB(A) Night Time



****End of Report****

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

Page I of 1

The Document stated as Test Report is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken 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 unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the follest extent of the law. All the samples are retained for 10 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15 days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The unite Time schedule mentioned in Test Report is in 24 hours format. Abbreviation used. N/A (Not Applicable), BDI. (Below Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No.	: ELES/RAN/2024/1353	Report Release Date	: 11.03.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sampling Date Sampling Received Date Type of Sample	: 20.02.2024 : 26.02,2024 : Workzone Noise	
Address	: Lohardaga, Jharkhand-835302	Sampling procedure Sampling Done By	: ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 26.02.2024 to 02.03.2024	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) :	: 23 2	Barometric Pressure (mmHg)	: 734	
3	Relative Humidity (%)	50 4	Weather Condition	: Clear	

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)
Quarry No.7 -			Time	L_{eq}	
Pakhar Bauxite Mine (115,13 ha)	dB(A)	IS 4758:1968; RA 2017	es and	72	90 dB (A)
Sample ID: ELES/RAN/2024/WN/1287		Da)	Day Time		



****End of Report****

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

Page 1 of 1

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





TEST REPORT					
Test Report No.	: ELES/RNC/2024/1505	Report Release Date	: 10.04.2024		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		
CUSTOMER DET	MLS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/1586		
		Location	: Near Mine Block-B, Quarry No.3 Pakhar Bauxite Mine (1)5.13 ha)		
	I'de a service and	Sampling Date	: 18.03.2024 to 19.03.2024		
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 22.03.2024		
	7	Type of Sample	: Ambient Air		
		Sampling Procedure	: ELES/DOC/SMPL/02		
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.		
Period of Analysis	: 22.03.2024 to 28.03.2024	Sample Condition	: Sealed & Preserved		

METEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 26	2	Barometric Pressure (mn	iHg) = 734
3.	Relative Humidity (%) 45	4	Weather Condition	: Clear

Discipline:	Chemical	Group: At	mospheric Pol	llution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	41	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	21.5	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m [†]	1S 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m²	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	< 0.5	Ot(Annual)

Reviewed by :

****End of Report****

ROCH

Jharkhand 826001

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)





Late: MIS, R-3 Housing Colony, Dhantsad, Pm - 826001, State - Harterand \$ 9830067044 / \$ 9304513737

TEST REPORT

Test Report No.	: ELES/RNC/2024/1506	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/1587 : Near Mine Block-B, Quarry No4 Pakhar Bauxite Mine (115/13 ha)
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 18.03.2024 to 19.03.2024 : 22.03.2024

Type of Sample

		Sampling Procedure	: EEES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	t ELES Pyt. Ltd.	
Period of Analysis	: 22.03.2024 to 28.03.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	45	4	Weather Condition	: Clear

Discipline: Chemical		Group: At	mospheric Pol	lution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	65	100 (24brs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part-2): 2001; RA2022	9,3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part-6): 2006; RA2022	23.7	80 (24hrs)
Ozone (O)	μg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part-26):2020	< 6.0	20 (Annual)
Arsenie (As)	ng/m*	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	pg/m)	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	<0.5	01(Annual)

Reviewed by z

7900

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

> Jharkhand 826001

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

: Ambient Air

(Bapan Das, Dy. Technical Manager)

Page I of I



Test Report No.	: ELES/RNC/2024/1507	Report Release Date	: 10.04,2024	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/1588	
		Location	: Near Mine Block B, Quarry No6 Pakhar Bauxite Mine (115.13 ha)	
		Sampling Date	: 18.03.2024 to 19.03.2024	
Address	Lohardaga, Jharkhand-835302	Sample Received Date	: 22.03.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	ELES Pvt. Ltd.	
Period of Analysis	; 22.03,2024 to 28.03,2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mml-	lg) : 734
3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline:	Chemical	Group: At	mospheric Po	lution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)
Nitrogen Di-Oxide (NOz)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.5	80 (24hrs)
Ozone (O ₃)	µg/m²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1,0	2 (8hrs)
Lead (Pb)	µg/m³	1S 5182 (Part-22): 2004; RA2019	0.010	1 (24hrs)
Nickel (Ni)	ng/m1	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ¹	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by :

The state of

****End of Report****

SVIROC

Jharkhand

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory :

(Bapan Das, Dy. Technical Manager)





	IESI	REPORT	
Test Report No.	: ELES/RNC/2024/1508	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	; 21.04.2023
CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2024/AA/1589 : Near Mine Block-B, Quarry No7 Pakhar Bauxite Mine (115.13 ha) : 18.03.2024 to 19.03.2024 : 22.03.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status Period of Analysis	: Operational : 22.03.2024 to 28.03.2024	Sampling Done By Sample Condition	: ELES Pvt, Ltd. : Sealed & Preserved

Mi	ETEOROLOGICAL INFORMATION			300	
1	Average Temperature (°C) : 26	2	Barometric Pressure (mml	ly) : 734	
3	Relative Humidity (%) :45	4	Weather Condition	: Clear	

Discipline:	Chemical	Group: At	mospheric Po	llution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	63	100 (24hrs)
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part-6): 2006; RA2022	22.6	80 (24hrs)
Ozone (O ₁)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NUs)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m'	1S 5182 (Part-10); 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004; RA2019	0.017	1 (24hrs)
Nickel (Ni)	ng/m)	IS 5182 (Part-26);2020	<6.0	20 (Annual)
Arsenic (As)	ng/m)	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ¹	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05	<0.5	01(Annual)

Reviewed by :

THE .

****End of Report****

VIROCHA

Jharkhand 826001

Chaine Color

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1.





TEST DEPODE

2 ELES/RNC/2024/1517	Report Release Date	: 10.04.2024
: 13612310218	Work Order Date	; 21,04.2023
AILS	SAMPLE DETAILS	
: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/AA/1598 : Near Bunglapart Village Pukhar Bauxite Mine : 18.03.2024 to 19.03.2024 : 22.03.2024 : Ambient Air
: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvi. Ltd. : Sealed & Preserved
	: 13612310218 ILS : Hindalco Industries Limited : Lohardaga, Jharkhand-835302	: 13612310218 Work Order Date SAMPLE DETAILS : Hindalco Industries Limited Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By

1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
8 3	Relative Humidity (%)	: 45	4	Weather Condition	: Clear

Discipline:	Chemical	Group: At	mospheric Po	llution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	52	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	18 5182 (Part-6): 2006; RA2022	17.9	80 (24hrs)
Ozone (O ₅)	µg/m¹	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ²	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05	<0.5	01(Annual)

Reviewed by :

mari

****End of Report****

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

NEW AND AND AND

(Bapan Das. Dy. Technical Manager)

Page 1 of 1

Jharkhand 826001





	1 8071	REPORT	
Test Report No.	: ELES/RNC/2024/1518	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Address Mines Status	: Lohardaga, Jharkhand-\$35302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	ELES/RNC/2024/AA/1599 : Yatri Shed (Near K-10) Pakhar Bauxite Mine : 18.03.2024 to 19.03.2024 : 22.03.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 22.03.2024 to 28.03.2024	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 26	2	Barometric I	ressure (mmHg)	1734
3	Relative Humidity (%)	: 45	4	Weather Cor	ndition	: Clear
	Discipline: O	Chemical		Grou	p: Atmospheric P	'ollation
	Parameter	Unit	Test P	rotocol	Result	Regulatory Limit
Pa	rticulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA20	22 64	100 (24hrs)
Pa	rticulate Matter (PM2.5)	μg/m³	18 5182 (Pa	rt-24): 2019	33	60 (24hrs)
Su	lphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA202	22 8.4	80 (24hrs)

1 as ameres	Chit	rest rentocol	resuit	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2022	.64	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	18 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	8.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2006; RA2022	21.5	80 (24hrs)
Ozone (O ₁)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m ⁷	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₀)	μg/m³	ELES/GC/SOP/06	<2,5	05(Annual)
Benzo-(a)-Pyrene	ng/m	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by :

1900

****End of Report****

VIROCA

Jharkhand 826001

(Saswatti Burman Roy, Dy. Quality Manager) /

Authorised Signatory:

The same

(Bapun Das, Dy. Technical Manager)





Test Report No.	: ELES/RNC/2024/1519	Report Release Date	: 10.04.2024
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No Location	: ELFS/RNC/2024/AA/1600 : Near Utkarmit Rajkiya Prathmik Vidyalaya Bunglapart Village Pakhar Bauxite Mine
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 18.03,2024 to 19.03,2024 : 22,03,2024 : Ambient Air : ELES/DOC/SMPL/02
Wines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis:	: 22.03.2024 to 28.03.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 26	2	Barometric Pressure (mmf	Hg) : 734	
3	Relative Humidity (%) : 45	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): 2006; RA2022	55	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2); 2001; RA2022	7.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	15 5182 (Part-6): 2006; RA2022	23.1	80 (24hrs)
Dzone (O ₁) μg/m ³		IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO) mg/m ³		IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb) µg/m ⁴		IS 5182 (Part-22): 2004; RA2019	0.007	J (24hrs)
Nickel (Ni) ng/m ¹		1S 5182 (Part-26);2020	<6.0	20 (Annual)
Arsenic (As) ng/m ³		ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m²	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by :

Com

****End of Report****

(Saswata Burman Roy, Dy. Quality Manager)

IROC. Jharkhand 826001 Gior Color

Authorised Signatory :

(Bapan Das, Dy. Technical Manager)





Test Report No.	2 ELES/RNC/2024/1520	Report Release Date : 10.04,2024			
Work Order No. : 13612310218		Work Order Date : 21.04.2023			
CUSTOMER DETA	AILS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/1601 : Near Utkarmit Rajkiya Prathmik Vidyalaya Domrapart Village Pakhar Bauxite Mine		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 18.03.2024 to 19.03.2024 : 22.03.2024 : Ambient Air : ELES/DOC/SMPL/02		
Mines Status	Operational	Sampling Done By	: ELES Pvt. Ltd.		
Period of Analysis	: 22.03,2024 to 28,03,2024	Sample Condition	: Sealed & Preserved		

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) 734	
3	Relative Humidity (%) : 45	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); 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2006; RA2022	23.6	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH:)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m ^λ	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01	<2.0	06 (Annual)
Benzene (C ₅ H ₆)	μg/m	ELES/GC/SOP/06	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ⁷	ELES/GC/SOP/05	< 0.5	01(Annual)

Reviewed by :

1300

****End of Report***

Jharkhand 826001

Ope Colons

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

-

(Bapan Das, Dy. Technical Manager)

Page I of I



Annexure 3

Date - 20.05.2024

Office Order

Environmental Cell has been re-constituted at Pakhar Bauxite Mine (Area 115.13 ha) comprising below mentioned team members. The team will ensure compliance of Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

- 1. Mr. S P Jha (Coordinator)
- 2. Mr. Bisawjeet Deogharia- Geologist
- 3. Ms. Abhilasha Singh– Environment Engineer
- 4. Mr. Anand Prakash Tiwari- Environment Engineer

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

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)

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

The composite cost during the year 2023-24 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Bagru (75.41 ha), Hisri New (14.55 ha), Bhusar (65.31 ha), Pakhar (115.13 ha), Pakhar (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 2023-24	Actual (in Rupees) FY 2023-24 (From Oct'23 to Mar'24)
1	Pollution Control & Environment monitoring	1,57,41,102.00	73,14,906.01
2	Reclamation/ Back filing & Rehabilitation**	1,36,62,095.00	6,53,29,973.21
3	Green belt, Plantation & Water sprinkling arrangement	67,45,898.00	32,08,288.90
4	Rural Development	6,19,33,534.00	2,08,14,673.36

^{**}Part of OB removed cost.

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)



ENVIRONMENT POLICY

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

To achieve this, we shall:

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

This policy shall be made available to all employees, suppliers, customers, community and other stakeholders, as appropriate. The implementation of this policy is the responsibility of respective heads of units with the monitoring and tracking done by the Apex Sustainability Committee under the guidance of the Managing Director.

Satish Pai

MD. Hindalco Industries Limited

Date: 9th August, 2022