

HIL/LHD/ENV/MoEF/980

Date: 20.11.2024

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 Hisri New (14.55 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Lohardaga District of Jharkhand for the period April'24 to September'24.

Ref: Environmental Clearance letter no J-11015/531/2007-IA II (M) dated 17th June 2011

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Hisri New (14.55 ha)** Bauxite Mining project of **M/s Hindalco Industries Limited**, located in Lohardaga District of Jharkhand for the period April'24 to September'24.

The lease detail is a Lease area (ha)	Production Capacity (MT)	Lease Period	
14.55	100000	19.07.1981 to 31.03.2030	

Hope you will find the same in order.

Thanking You

Yours Sincerely FOR M/s Hindalco Industries Limited,

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

Enclosure: - As Above

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

Corporate ID No.: L27020MH1958PLC011238

Name of the Project : Hisri New Bauxite Mine (14.55 ha)

M/s Hindalco Industries Ltd

Environment Clearance No & date : J-11015/531/2007-IA II (M), dated 17.06.2011

Period of compliance Report : From 1st April'2024 to 30th September'2024

Specific Conditions: -

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

Reply: - Consent to establish and consent to operate have been obtained prior to start of Mining. Existing consent to operate (CTO) is valid till 31.12.2025. All the stipulated conditions of the CTE/CTO are being implemented effectively.

Condition ii: -The environmental clearance is subject to forestry clearance.

Reply: - Forest clearance is obtained.

Condition iii: -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: - Noted. Entire land has been acquired for mining purposes as per applicable laws.

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

Reply: - Shallow depth mining is being done and does not intersect the ground water. Working zones will be restricted to above ground water table in future also. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

Condition v: -The Project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations. The first order streams and the seasonal nallahs originating from the mining lease area shall be protected.

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

Reply: - Topsoil is being stacked temporally properly with proper slope as and when required. Concurrent

backfilling and reclamation of mined out area are being exercised for which topsoil is being spread on backfilled area for reclamation. No OB dump is present in mines. The mining is being carried out as per the approved mining plan. Monitoring and management of rehabilitated areas is being done through effective supervision.



Reclaimed area

Condition vii: -The solid waste generated during the mining operation shall be backfilled and there shall be no external overburden dump left at the end of the mine life. The entire excavated area of 12.19 ha. shall be backfilled and reclaimed by plantation. The backfilling should be carried out in such a manner that it is restored to the normal ground level. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest on six-month basis.

Reply: - Backfilling and reclamation are being done concurrently by overburden. There is no Overburden dump as of now in the mine lease area. Data pertaining to backfilling is enclosed as **Annexure-4.** Backfilling is a continuous process and is being done in commensurate with the progress of mining. Monitoring and management of rehabilitated areas is continued through supervision.

Condition viii: -Catch drains and siltation ponds of appropriate size should be constructed around the working pit, sub-grade dump, soil and mineral dumps to arrest flow of silt and sediment directly into the agricultural fields, the Kisco Nadi, the Sukri Nadi, the Chungahat nallah, the Barki nallah 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 monsoon and maintained properly.

Garland drain, settling tanks and check dams of appropriate size, gradient and length shall be constructed for both around the mine pit and sub grade dump to prevent run off of water and flow sediments directly into the agricultural fields, the Kisco Nadi, the Sukri Nadi, the Chungahat nallah, the Barki 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 setting 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 a 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. Sump of adequate capacity is being provided and maintained as required.



Garland drain

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

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

Condition x: -Plantation shall be raised in an area of 12.7 ha including a 7.5 m. wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body, roads etc. in consultation with the local DFO / Agriculture Department. At least 1500 trees per year shall be planted with a tree density of 1000 trees 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 is being carried out with progress of mining in and around Mine lease area. Total 1350 saplings have been planted in the period from April'24 to September'24 within this mining lease. Cumulative 6.039 ha areas have been planted till date. In addition to this, agricultural activity is going on in reclaimed land as per the consent from landowners. Green belt development program is in progress with progress of mining activities.



Plantation at mines

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

Reply: - Effective safeguard measures, such as regular water sprinkling, are being implemented in all 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**.



Dust suppression through water tanker.

Condition xii: - 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 (Bagru Plateau) in consultation with Central Ground Water Board.

Condition xiii: - Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The 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 Bhubaneshwar, The Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the ground water 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 xiv: - Monitoring to the springs shall be carried out for the quality and quantity of water regularly so as to ensure that there is no adverse impact on the same due to the project. Records in this regard shall be maintained.

Reply: - Water Monitoring of Spring is being conducted regularly and Analysis report is attached as **Annexure 2**.

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

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

Condition xvi: - The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) required for the project.

Reply: Rainwater is collected into the rainwater harvesting pond and being used for sprinkling on haul roads, mining activities, and raising plantation. No groundwater or water from natural surface water bodies is being used for mining purposes. However, we have already obtained NOC for extraction of ground water from CGWA/ CGWB for drinking purpose only. The copy of same is attached below.



NOC for groundwater

Condition xvii: - Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.

Reply: - Suitable rainwater harvesting measures on long term basis have been implemented via creation of rainwater harvesting pond in consultation with Central Ground Water Board.

Condition xviii:- Appropriate mitigative measures shall be taken to prevent pollution of the Kisco Nadi, the Sukri Nadi and other rivers in the buffer zone of the mine, in consultation with the State Pollution Control Board.

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

Reply:- Minimum vehicles are being used for transport and all vehicles are covered with tarpaulin. Regular maintenance of vehicles is being done to minimize vehicular emission. Bauxite is also being transported by ropeway from mines to Lohardaga siding.





Tarpaulin covered truck.

Ropeway transportation- eco-friendly

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

Reply: - Blasting time is fixed during Lunch Time i.e. 1.00 PM - 2.00 PM. Controlled blasting method is in practice. Ground vibration study has been conducted periodically. All efforts and mitigative measures are being implemented to minimize the impact of blasting.

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

Reply: - Wet drilling is in practice.



Wet Drilling

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

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



Water sprinkling through tanker.

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

Reply: - Sewage water for the working population is treated in a Sewage Treatment Plant (STP), and the treated water is utilized for plantation and gardening purposes only.

There is no industrial wastewater generation from mining operation. We are not discharging any wastewater outside the mine lease area. However, negligible amount of wastewater is generated in workshop from washing of vehicles and Effluent treatment plant (ETP) has been installed for this effluent. The treated water is in close circuit and being reused for washing of vehicles in the workshop.

Furthermore, the quality of treated water is being monitored regularly and all water parameters are within permissible limits. The monitoring report is attached herewith as **Annexure-2**. Photograph of Effluent treatment plant (ETP) is attached below.



Effluent treatment plant (ETP)

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

Reply:- Being getting done through medical camp.

Condition xxiv: - 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 xxv: - 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 the temporary structures to be removed after the completion of the project.

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

Condition xxvi: - The critical parameters such as RSPM (Particulate matter with size less than 10 μm (i.e. $PM_{10}, PM_{2.5)}$ and NO_x in the ambient air within the impact zone, peak particle velocity at 300 m. distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharge 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-20012/1/2006-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.** Half-yearly EC compliance along with Environmental monitoring reports is being uploaded on company website regularly.

A Display board is already installed in front of mine gate office. We have also installed an online PM10 analyzer at mine site.

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

Reply: - Noted. Progressive Mine Closure Plan duly approved by Indian Bureau of Mines is with us. FMCP (part) is approved by IBM. FMCP for entire lease will be prepared in due time as per

applicable guidelines and timelines mentioned in MCDR/IBM guidelines who are competent authority to approve the same. Based on the present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions:

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

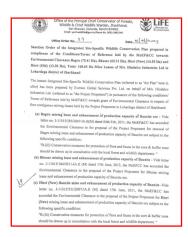
Reply:- Noted.

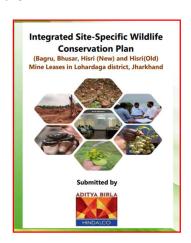
Condition ii: - No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.

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

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

Reply: Conservation measures for protection of flora and fauna in core & buffer zone has been drawn up in consultation with local forest and wildlife department. Also, we prepared Integrated Site-specific Wildlife Conservation Plan (WLCP) and obtained approval from by PCCF, Wildlife, Ranchi vide Office Order No.29 dated 01.06.2023.





Condition iv: - Four ambient air quality-monitoring station should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 μm (i.e. $PM_{10},\,PM_{2.5})$ & NO_X monitoring. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

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

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

Reply: - The monitoring of Ambient Air Quality is conducted by an NABL-accredited Laboratory, and reports are regularly submitted to the MoEF&CC and JSPCB, Ranchi. The monitoring report is attached herewith as **Annexure 2.** Now, Regional office of MoEF&CC is in Ranchi.

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

Reply:- Water spraying arrangements on haul roads, loading and unloading and at transfer points have been provided and properly maintained.

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

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

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

Reply:- There is no industrial wastewater generation from mining operation. We are not discharging any wastewater outside the mine lease area. However, negligible amount of wastewater is generated in workshop from washing of vehicles and Effluent treatment plant (ETP) has been installed for this effluent. The treated water is in close circuit and being reused for washing of vehicles in the workshop.

Furthermore, the quality of this treated water is being monitored regularly and all water parameters are within permissible limits. The monitoring report is attached herewith as **Annexure-2**. Photograph of Effluent treatment plant (ETP) is attached below.



Effluent treatment plant (ETP)

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

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

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

Reply: - A separate environmental management cell with suitable qualified personnel has been set up under the control of a Senior Executive, who is reporting directly to the Head of the Organization. The same is being attached herewith as **Annexure 3**.

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

Reply: - Every year budget is earmarked for environmental protection measures being prepared for purpose 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 xii: - The project authorities should inform to the Regional Office located at Bhubaneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

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

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

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

Condition xiv: - The project proponent shall submit six monthly report on the status of the compliance of the stipulated environmental Clearance conditions including results of monitoring data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Officer, Bhubaneshwar, the respective Zonal office of Central Pollution Control Board 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, Bhubaneshwar, the respective Zonal Office of Central Pollution Control Board and State Pollution Control Board.

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

Condition xv: - A copy of clearance letter shall be sent by the proponent to concerned Panchyat, 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 submitted and uploaded on website of the Company.

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

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

Condition xvii:- The environmental statement for each financial year ending 31^{st} March in Form – V as is mandated to be submitted by the project proponent to the concerned Stated 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 the compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bhubneshwar by e-mail.

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

Condition xviii:- 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 with environmental issues and ensuring compliance with Environment Clearance conditions and (iii) System of reporting of non compliance / violation of environmental norms to the Board of Directors of the Company and / or stakeholders or shareholders.

Reply: - Policies towards Corporate Environment Responsibility is already in place. The latest corporate environment policy enumerating corporate responsibilities is attached as **Annexure 6.** Company has implemented a system in line with the above policies which addresses following points. (i) Standard operating process/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 noncompliance.

Condition xix:- The project authorities should advertise at least in two local newspapers widely circulated, one of which locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of

the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubneshwar.

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 MoEFCC. Now, the Regional office of MoEF&CC is in Ranchi.

Annexure 1						
Piezometer Reading - Hisri New						
S No	Month	Depth (meter)				
1	Apr-24	35.6				
2	May-24	35.3				
3	Jun-24	35.1				
4	Jul-24	34.8				
5	Aug-24	34.5				
6	Sep-24	34.4				

ENVIROCHECK

Lab: MIG, R-3 Housing Colony, Dhanbad, Pin-826001, State- Jharkhand.

Hisri (New) Bauxite Mine-Environmental Monitoring Report

April 2024



Late: MNa. R-3 Housing Colone: Ohanbad, Pin - 626001, State - Hurkfrand (9830067044 / (9304511737



TEST REPORT

Test Report No.	; ENVJK/1147/APR/TR(W)24-25	Report Release Date	: 18.04.2024	
Work Order No.	: 13612312113	Work Order Date	± 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1672 : Near Water Pump; Hisri (New Bauxite Mine (14.55ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.04.2024 to 10.04.2024 : 12.04.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.04.2024 to 18.04.2024	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 32	2	Barometric Pressure (mmH	g) : 734
3	Relative Humidity (%) : 61	4	Weather Condition	; Clear

	Discipline:	ChemicalGroup: Atmospheric Pollutio	in	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006.	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part 2): 2001	11.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part 6): 2006	20.7	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m ¹	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m ²	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

Jharkhand 82,8001

Authorised Signatory:

Ton.

(Bapan Das, Dy. Technical Manager)

Page 1 of 1





Lab : MIG, R-3 Housing Colony, Dhanbad, Pin - 826003, Sayer-Thurthand (9830067044 / (9304513717

TEST REPORT

Test Report No.	: ENVJK/1148/APR/TR(W)24-25	Report Release Date	: 18.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	:Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1673	
		Location	: Near Old Rest Shelter, Hisri	
			(New) Bauxite Mine (14.55ha)	
	I to the second	Sampling Date	: 09.04.2024 to 10.04.2024	
Address	Lohardaga, Jharkhand-835302	Sample Received Date	: 12.04.2024	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	:: 12.04.2024 to 18.04.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 32	2	Barometric Pressure (mml	lg) : 734	
3	Relative Humidity (%) : 61	4	Weather Condition	: Clear	

	Discipline	: ChemicalGroup: Atmospheric Pollutio	n	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006	69	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part 2): 2001	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6): 2006	27.5	80 (24hrs)
Ozone (O ₂)	µg/m¹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m¹	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m	1S 5182 (Part- 26): 2020	< 6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ⁷	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by:

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1

Rit. Heav





Lab : MFG, R-3 Housing Colony, Dhanbud, Pm - 826001, State - Jourkhand I. 9830067044 / I. 9304513737

TEST REPORT

Test Report No.	± ENVJK/1149/APR/TR(W)24-25	Report Release Date	: 18.04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1674 : Near Old Plantation (North WestCorner)Hisri (New) Bauxite Mine(14.55ha)
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	: 09.04.2024 to 10.04.2024 : 12.04.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 12,04,2024 to 18,04,2024	Sample Condition	: Sealed & Preserved

3 Relative Humidity (%)	: 59	4 Weather Condition	- 1	Clear
	Disciplin	e: ChemicalGroup: Atmospheric Pollut	ion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part 23): 2006	69	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	30	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part 2): 2001	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part 6): 2006	27,5	80 (24hrs)
Ozone (O ₃)	μg/m ³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.014	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆) μg/m ¹		USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	< 0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

(Bapan Das, Dy. Technical Manager)

Page 1 of 1





Lab : MIG. R-3 Housing Colony, Dhumbad, Pin - 836001, State - Darkhand (9830067044 / (9504913737

TEST REPORT

Test Report No.	: ENVJK/1150/APR/TR(W)24-25	Report Release Date	: 18.04.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	:Hindalco Industries Limited	Sample Ref. No.	: ENVJK/2024/AA/1675
	200000000000000000000000000000000000000	Location	: Hisri New (Southern Area)
			Hisri (New) Bauxite Mine(14.55ha)
		Sampling Date	: 09.04.2024 to 10.04.2024
Address	: Lohardaga, Jharkhand-835302	Sample Received Date	: 12.04.2024
	The state of the s	Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 12.04,2024 to 18.04.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) (31	2	Barometric Pressure (mmH	g) : 734.
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

	Disciplin	e: ChemicalGroup: Atmospheric Pollu	tion	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006	69	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	39	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part 2); 2001	8.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part 6): 2006	24.3	80 (24hrs)
Ozone (O1)	µg/m²	IS 5182 (Part- 9): 2019	<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): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m ¹	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method - TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

House

Authorised Signatory:

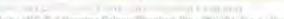
(Bapan Das, Dy. Technical Manager)

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: Non Operational

: 16.04.2024 to 22.04.2024







TEST REPORT

: ENVJK/1131/APR/TR(W)24-25	Report Release Date	: 22.04,2024	
: 13612312113	Work Order Date	± 28.03.2024	
AILS	SAMPLE DETAILS		
:Hindalco Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1656 : Near Daldaliya Village Bagru Baunte Mine (75,41ha)	
: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.04.2024 to 12.04.2024 : 16.04.2024 : Ambient Air : ELES/DOC/SMPC/02	
	: 13612312113 AILS 1:Hindalco Industries Limited	AILS SAMPLE DETAILS :Hindalco Industries Limited Sample Ref. No. Location Sampling Date : Lohnringa, Thurkhand-835302 Sample Received Date	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 33	2	Barometric Pressure (mmH	g) : 736
à.	Relative Humidity (%) : 57.	1.4	Weather Condition	Clear

Sampling Done By

Sample Condition

	Discipline	: ChemicalGroup; Atmospheric Pollutio	n	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006	66	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	32	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part 2): 2001	12.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	μg/m ³	IS 5182 (Part 6): 2006	27.4	80 (24hrs)
Ozone (O ₅)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m ²	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method - IO-3.5 (ICP-MS Method)	<2,0	06 (Annual)
Benzene (C ₆ H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	< 0.5	01(Annual)

Reviewed by 2

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Mines Status

Period of Analysis

(Saswata Burman Roy, Dy. Quality Manager).

Authorised Signatory:

t ELES Pvt. Ltd.

: Sealed & Preserved

(Bapan Das, Dy, Fechnical Manager)

Page | of |

Jharkhand 826001

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TEST REPORT

Test Report No.	: ENVJK/1132/APR/TR(W)24-25	Report Release Date	: 23,04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DETAILS		SAMPLE DETAILS	
Costomer Name	:Hindalog Industries Limited	Sample Ref. No. Location	: ENVJK/2024/AA/1657 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)
Alldress	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12,04,2024 to 13,04,2024 : 17,04,2024 - Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/02 ELES Pvt. Ltd.
Period of Analysis	: 17.04,2024 to 23.04,2024	Sample Condition	Sealed & Preserved

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	; 32	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 57	4	Weather Condition	: Clear

	Discipline	: ChemicalGroup: Atmospheric Pollutio	m	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	IS 5182 (Part 23): 2006	62	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	45	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	1S 5182 (Part 2): 2001	11.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6): 2006	24.6	80 (24hrs)
Ozone (O ₃)	μg/m ³	15 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C _i H ₆)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswma Burman Roy, Dy. Quality Manager)

Authorised Signmory:

(Bapan Das, Dy. Technical Manager)

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TEST REPORT

Test Report No.	ENVJK/1133/APR/TR(W)24-25	Report Release Date	±24.04.Z024
Work Order No.	: 13612312113	Work Order Date	; 28.03,2024
CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	:Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ENVJK/2024/AA/1658 : Ropeway Unloading Station Bagro Bauxite Mine (75.41hn) : 13.04.2024 to 14.04.2024
Address	: Liohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 18.04.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	ELES Pvt. Ltd.
Period of Analysis	: TR.04.2024 to 24.04.2024	Sample Condition	: Senied & Preserved

A.

Weather Condition

	Discipline	: ChemicalGroup: Atmospheric Pollutio	m	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	ug/m³	IS 5182 (Part 23): 2006	71	100 (24hrs)
Particulate Matter (PM2,5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	34	60 (24firs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part 2): 2001	9.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part 6): 2006	22.8	80 (24ins)
Ozone (O _J)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part- 22); 2019	0,009	1 (24hrs)
Nickel (Ni)	ng/m²	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	USEPA Method - IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (CeHs)	μg/m³	USEPA Method – TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	Ol(Annual)

Reviewed by :

Relative Humidity (%)

(Saswata Burman Roy, Dy. Quality Manager).

Authorised Signatory :

(Bepen Das, Dy. Technical Manager)

: Clear

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Jharkhand

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TEST REPORT

Test Report No.	: ENVJK/I134/APR/TR(W)24-25	Report Release Date	: 25.04.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	:Hindalco Industries Limited	Sample Ref. No:	: ENVJK/2024/AA/1659 : Ropeway Angle Station Bagnt Bauxite Mine (75,41bit)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 14.04.2024 to 15.04.2024 : 19.04:2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	: ELES PVI. Ltd.
Period of Analysis	= 19.04.2024 to 25.04.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATIO	N		
1	Average Temperature (°C) : 33	2	Barometric Pressure (mml-	lg) ±736
3	Relative Humidity (%) : 57	4	Weather Condition	: Clear

	Discipline	: ChemicalGroup: Atmospheric Pollution	n	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part 23): 2006	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	USEPA 1997a,40 CFR Part 50, Appendix L: 2006	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part 2): 2001	10.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m ³	IS 5182 (Part 6); 2006	24,3	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	μg/m³	15 5182 (Part- 25): 2018	<10.6	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁵	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	ug/m³	IS 5182 (Part- 22): 2019	0.012	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Amual)
Arsenic (As)	ng/m³	USEPA Method – IO-3.5 (ICP-MS Method)	<2.0	06 (Annual)
Benzene (C ₆ H ₆)	µg/m³	USEPA Method - TO-3 (GC-MS Method)	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	USEPA Method – TO-3A (GC-MS Method)	<0.5	01(Annual)

Reviewed by :

(Saswata Burman Roy, Dy. Quality Manager)

Authorised Signatory:

JEK-

(Bapan Das, Dy. Fechnical Manager)

Page | of !

****End of

CONTENT

	Hindalco Industries :Hisri (New) Bauxite MineEnvironmental Monitoring May202- Hisri (New) Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station
	Drinking Water



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

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

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



TEST REPORT

Test Report No.	; ELES/RNC/2024/2661	Report Release Date	: 18.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
*** ** **	THE REPORT WAS A COUNTY			

ULR No.	: TC135872400000630F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m ⁶	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	

Reviewed by JMA Quality Managur ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinhu Ph D Environmental Engg. ELES Pvt. Ltd. Technical Memo

Page 2 of 2

The Document stand as Test Report, is issued by the Liaberatory 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 Ruport cannot be reproduced except in full and any part of the report is not taken out of context, without prior writen 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 unsulforized 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 in release oscie of the Test Report. The samples from Regulatory budies 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 (JHARRHAND) GST NO:- 20AAECE9713D124



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/2024/2662	Report Release Date	: 18.05,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000631F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2953 : Near Old Rest Shelter; Hisri (New) Bauxite Mine (14.55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.05.2024 to 10.05.2024 : 13.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 32	2	Barometric Pressure (mmH	g) = 742	
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear	

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	62	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- II/Sec- 1): 2023	11.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ⁵	IS 5182 (Part- 6): 2022	22.2	80 (24hrs).	
Ozone (O ₃)	μg/m ²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m ²	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)	
Nickel (Ni)	ng/m ¹	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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Sans Environment, Sans Factors



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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2662	Report Release Date	: 18.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000631F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m [±]	ELES/GC/SOP/05; 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Managur ELES PVT. LTD.

****End of Report****

Authorised Signatory

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

Page 2 of 2

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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2663	Report Release Date	: 18.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000632F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2954 : Near Old Plantation (North West Corner) Hisri (New)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 09.05.2024 to 10.05,2024 : 13.05.2024
	1	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvi. Ltd.
Period of Analysis	: 13.05,2024 to 18,05.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
-1	Average Temperature (°C) : 32	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	62	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	29	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	9.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	27.6	80 (24hrs)	
Ozone (O ₃)	μg/m³	(S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Ph)	µg/m³	1S 5182 (Part- 22): 2019	0.004	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 70AAECE97130124



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TEST REPORT

Test Report No.	: ELES/RNC/2024/2663	Report Release Date	: 18.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000632F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)	
Вепго-(а)-Рутепе	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Managar ELES PVT. LTD.

****End of Report****

Authorised Signatory

Ph. Deependra Kurrar Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manner

Page 2 of 2

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

GST NO-20AAECE9713D124

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2664	Report Release Date	: 18.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000633F			

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2955 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.05.2024 to 10.05.2024 : 13.05.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvi. Ltd.
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	÷ 59	4	Weather Condition	Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	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-II/Sec-1); 2023	7.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	28.5	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m ^F	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	15 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2664	Report Release Date	: 18.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
III D No	· TC135872400000633F			

Discipline; Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Manager ELES PVT. LTD.

End of Report****

Authorised Signatory

Dr. Deegendra Kumar Sinha Ph. D Environmental Frigg. ELES Pvt. Ltd. Technical Man/a

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATTA, RANGHI-834003 (JHARKHAND) 65T NO:- 20A46069713D124



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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2591	Report Release Date	1 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
LLR No.	: TC135872400000560F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2908 : Near Dalduliya Village Bagru Basxite Mine (75,41ia)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 07.05.2024 to 08.05.2024 : 10.05.2024 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvl. Ltd.	
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	: Sealed & Preserved	

М	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	=30	2	Barometric Pressure (mmHg)	5742.
3	Relative Humidity (%)	58	4	Weather Condition	: Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	ng/m1	IS 5182 (Part- 23): 2022	51	100 (24hrs)	
Particulate Matter (PMZ,5)	pg/m ³	15 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec-1): 2023	8.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.2	.80 (24hrs)	
Ozone (O ₃)	μg/ni ³	15 5182 (Part- 9): 2019	<20.0	100 (8hm)	
Ammonia (NH _i)	MR/W,	15 5182 (Part- 25): 2018	<10.0	400 (20lics)	
Carbon Monoxide (CO)	mg/m²	15 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	hā/m²	18 5182 (Part- 22): 2019	0.007	J (Salirs)	
Nickel (Ni)	nu/m³	15 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m/	ELES/AIR/SOP/01: 2021	<2.0	(Annual)	

Page 1 of 2

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PLOT NO-30, MANSARDVAR ENCLAVE, TURUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO.- ZOAAECESTISDIZA



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TEST REPORT

Discipline: Chemical		Group; Atmospheric Poliution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₄ H ₆)	pg/m²	ELES/GC/SOP/06, 2023	<2.5	05(Armuni)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	Ol(Annual)	

AKASH KUNAR Quality Managur ELES PVT LTD.

****End of Report

Authorised Signatory

Dr. Deependra Kurnar Sinhal Ph. D Environmental Enga ELES Pvt. Ltd. Technical Mana

Page 2 of 2

The Dovernor House, as Test Report to imped by the Labrationy under Oceania Terms and Constraint, only on Company Journ Iwal in providing forms. The termination is the Test Report reflects the findings down by the Labration and the Test Report reflects the findings down by the Labration and the time of months and within the funds of client's native cases. The Labration is responsible for all the information or date provided on the report except the information which is provided by the client. The Report extends to be positived except in full and any good of the report is not taken out of confest, without prior written approved of the Labration. The Report in full to in good and not be positived, advertise, used for any legal actions unless prior permission but been accorded from the Management of the Labration. Alternation of deposition of the labration of the Labration of the Indian and the Report in unlessful and officializes may be presented to the follows from the labration of the labration of the labration are remained in the follow from the labration of Complained from Regulators within an Complained of the Report The samples from Regulators within the labration of the labration of Complained The state of the samples are Complained The state of the samples are the labration of the labration of the samples of the s



FLOT NO-JO, MANSAROVAR ENCLAVE, TURUDANA HATIA, RANCHI-834009 (JHARKHAND) GST NO:- 204AECE9713D124



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TEST REPORT

Test Report No.	: ELES/RNC/2024/2592	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC 135872400000561F		

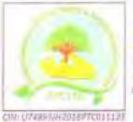
CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2909 : Aditya School Gangupura Bagru Bauxite Mine (75,47ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07.05.2024 to 08.05.2024 : 10.05.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	ELES Pvt. Ltd.	
Period of Analysis	10.05.2024 to 15.05.2024	Sample Condition	Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 30	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 58	4	Weather Condition	: Clear

Discipline: Chemical		Group; Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part- 23): 2022	73	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ¹	1S 5182 (Part- 24): 2019	42	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	ug/m	IS 5182 (Part-11/Sec- 1): 2023	12.8	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	Frill/III)	IS 5182 (Part- 6): 2022	21.3	80 (24ftrs)		
Ozone (O ₃)	pg/m³	1S 5182 (Part- 9): 2019	<20.0	(e3d8) 001		
Ammonia (NH ₃)	FeB/m2	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m [†]	IS 5182 (Part-10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m	IS 5182 (Parts 22): 2019	0.008	1 (24hrs)		
Nickel (Ni)	пш/т"	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m1	ELES/AIR/SOP/01: 2021	<1.0	06 (Annual)		

Page 1 of 2

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PLOT NO-30. MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARRHAND) GSTNO:- JOAAECE9713D124



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TEST REPORT

Test Report No. : ELES/RNC/2024/2592 Report Release Date : 15.05.2024 Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000561F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocul	Result	Regulatory Limit	
Benzene (C _i H ₆)	hh/m ₃	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by
AKASH KUMAR
Quality Managur
ELES PVT LTD

****End of Report***

Authorised Signatory

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

Page 2 of 2

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



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12 (100)

TEST REPORT

Test Report No.	: ELES/RNC/2024/2593	Report Release Date	: 15.05.2024
Work Order No.	1.13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000562F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 07.05.2024 to 08.05,2024 : 10.05.2024 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 10.05,2024 to 15.05.2024	Sample Condition	: Scaled & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 30	2	Barometric Pressure (mml	Ig) -742
3	Relative Humidity (%) 58	4	Weather Condition	Clear

Discipline: (Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	18 5182 (Part- 23): 2022	67	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	15 5182 (Part- 24): 2019	39	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Pari- II/Sec- 1): 2023	11.2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₃)	μg/m ¹	IS 5182 (Part-6): 2022	25.5	50 (24hrs)		
Ozone (O ₃)	µg/m³	15 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₄)	pu/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24trs)		
Carbon Monoside (CO)	mg/m ^T	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (Blies).		
Lead (Pb)	рв/ш	IS 5182 (Party 22): 2019	0.005	1 (24hrs)		
Nickel (Ni)	ng/m	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)		
Arsonic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page 1 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHANKHAND) GET NO-20AAECE9713D124



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TEST REPORT

Test Report No.	: ELES/RNC/2024/2593	Report Release Date	15.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400000562F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₀ H ₄)	µg/m³	FLES/GC/SOP/06: 2023	<2.5	05(Anoual)	
Benzo-(n)-Pyrene	ng/m*	ELES/GC/SOP/05: 2023	<0,5	01(Annual)	

AKASH WEMAR Quality Managur ELES PVT. LTD.

****End of Report****

Dr. Deependra Kumar Sinha Ph. Dervironmental Engg.

ELES Pvt. Ltd. Technical Managht

Page I of 3

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TEST REPORT

Test Report No.	: ELES/RNC/2024/2594	Report Release Date	: 15.05.2024
Work Order No.	: 13612312113	Work Order Date	± 28.03.2024
ULR No.	: TC135872400000563F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindaleo Industries Limited	Sample Ref. No. Location	Ropeway Angle Station Bagru Bauxite Mine (75.41ha)
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 07,05,2024 to 08,05,2024 10,05,2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Non Operational	Sampling Done By	: ELES PVL Ltd.
Period of Analysis	: 10.05.2024 to 15.05.2024	Sample Condition	1 Sented & Preserved

ME	TEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 30	2	Barometric Pressure (mmffg)	742
3	Relative Humidity (%) : 58	4	Weather Condition	: Clour

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	1S 5182 (Part- 23): 2022	59	100 (24her)	
Particulate Matter (PM2.5)	μg/m ²	IS 5182 (Part 24): 2019	33	60 (24htu)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-11/Sec-1): 2023	7.9	80 (24hm)	
Nitrogen Di-Oxide (NO ₂)	µg/m²	IS 5182 (Part- 6): 2022	26.5	80 (24hrs)	
Ozone (O ₁)	ug/m²	15 5182 (Part- 9): 2019	<20.0	100 (8hm)	
Ammonia (NH ₃)	pg/m³	(S 5182 (Part- 25): 2018	< {0.03>	400 (24hrs)	
Carbon Monnaide (CO)	min/m ₃	15 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8fm)	
Lead (Pb)	μg/m ³	15-5182 (Part-22); 2019	0.007	(Ollin):	
Nickel (Ni)	ng/m²	15 5182 (Pari- 26): 2020	<6.0	20 (Annual)	
Arsenic (Aa)	tig/m ³	ELES/AIR/80P/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2024/2594 Report Release Date : 15.05.2024 Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000563F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₄ H ₆)	ng/m*	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	OI(Annual)	

AKASHIKUMAR Quality Managar

ELES PVT LTD.

End of Report

Dr. Deependra Kumar Sinisa

Ph. D Environments Engg.

ELES Pvt. Ltd. Technical iden

Page 2 of 2

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/2888	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400000848F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	ELES/RNC/2024/DW/2975 ±10.05.2024 ±13.05.2024	
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Hisri (New) Bauxite Mines (14.55 ha)	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 13.05.2024 to 20.05.2024	Sample Condition	: Sealed & Preserved	

Discipline : Chemical	Discipline : Chemical Group :				ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 25.3 °C)	-	APHA 24th Ed.2023, 4500-H	6,55	6.5+8.5	No. Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.04	1.0	5.0
Taste	-8	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agreeable
Odour	-	1S 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	398	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 CI B	8.6	250	1000
Fluoride (as F)	mg/L	APHA 24th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1,0	1,5
Total Alkalinity (as CaCO ₁)	mg/L	APHA 24th Ed.2023, 2320 B	195	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	190	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₄ t-E	BDL (DL: 1.0)	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	BDL (DL: 0.5)	45	No Relaxation

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



TC-12557

TEST REPORT

Test Report No. : ELES/RNC/2024/2888 Report Release Date : 28.05.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000848F

Discipline : Chemic	al	Grou	ip: Water		ory Limit 0500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₂ OH)	mg/L	1S 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	1S 3025 (Part-26): 2021	BDL (DL: 0.1)	0.2	1.0
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	50	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemie	cal	Gre	oup : Residues i	n Water	
Aluminum (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	1S 3025 (Part-37): 2022	BDL (DL: 0.005)	10,0	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57) : 2021	BDL (DL: 0.2)	0.5	2.4
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium(as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24 th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.081	1.0	1.0
Lead (as Pb)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0,001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL; 0.01)	0.01	No Relaxation

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TE-YESST

TEST REPORT

Test Report No. : ELES/RNC/2024/2888 Report Release Date : 28.05.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400000848F

Discipline : Chemical Group : Residues in Water				Regulatory Limit as per 1S10500:201	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Zinc (as Zn)	mg/L	APHA 24 ^{to} Ed.2023; 3111B	BDL (DL: 0,1)	5	15
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation
Polychlorinated biphenyls (PCB)	µg/L	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation
Pesticides				Li	mit
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	20
Atrazine	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	0.0
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	125	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	30	
Ethion	pg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3	3.0
Malathion	pg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	90
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0	.30
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		1.0
Phorate	μg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)		2.0
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.01)	(.03
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	(10,0

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TE-11987

TEST REPORT

Test Report No.	: ELES/RNC/2024/2888	Report Release Date	: 28.05.2024
Work Order No.	: 13612312113	Work Order Date	; 28.03.2024
ULR No.	: TC135872400000848F		

Pesticides				
Parameter	Unit	Test Protocol	Result	Limit
Delta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0.04
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	2.0
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40
DDT(o,p and p,p-isomers of DDT,DDEand DDD)	μg/L.	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0
Discipline : Biological		Group	: Water	
Total Coliform (Qualitative)	Per 100 mL	1S 15185: 2021	Not Detected	Shall not be detected
Escherichia coli (Qualitative)	Per 100 mL	1S 15185: 2021	Not Detected	Shall not be detected

Remarks: 1. pH and RFC done at Lab

Reviewed by AKASH KUMAR Quality Managur ELES PVT LTD.

****End of Report****

Authorised Signatory

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

Page 4 of 4

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

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Website: www.elespl.co.in

TEST REPORT

Test Report No.	; ELES/RNC/2024/2888	Report Release Date	: 28.05.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2024/DW/2975 : 10.05.2024 : 13.05.2024	
Address	Lohardaga, Jharkhand-835302	Type of Sample Source/Location of Sample	: Drinking Water : Hisri (New) Bauxite Mines (14.55 ha)	
Mines Status	Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.	
Period of Analysis	: 13.05.2024 to 20.05.2024	Sample Condition	: Sealed & Preserved	

Discipline : Chemical Group : Water		r	Regulatory Limit as per 1S 10500:2012		
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	BDL (DL: 0.1)	1.0	No Relaxation

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

AKASH KUMAR Quality Manager

ELES PVT. LTD.

****End of Report****

Dr. Deependra Ruffer Sinha
Ph. D Environmental Engg
ELES Pvt. Ltd. Technical Menager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD

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

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/2661	Report Release Date	: 18.05.2024
Work Order No.	: 13612312113	Work Order Date	; 28.03.2024
ULR No.	: TC135872400000630F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/2952 : Near Water Pump; Hisri (New) Bauxite Mine (14.55ba)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.05.2024 to 10.05.2024 : 13.05.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 13.05.2024 to 18.05.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 32	2	Barometric Pressure (mml	fg) : 742
3	Relative Humidity (%) : 59	4	Weather Condition	; Clear

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	60	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- II/Sec- 1): 2023	8.2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	23.5	80 (24hrs)	
Ozone (O ₃)	µg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	15 5182 (Part- 22): 2019	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: 2021	<2.0	06 (Annual)	

Page 1 of 2

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CONTENT

-	Hindalco Industries : Hisri (New) Bauxite Mine Environmental Monitoring June2024
	Hisri (New) Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station







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

GST NO: 204AECE9713D1Z4

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Test Report No.	· FI FE/DAG ANA	EST REPORT	
	11/24/3238	Report Release Date	1 - Walter 1971
Work Order No.	: 13612312113		: 19.06.2024
ULR No.	: TC135872400001210F	Work Order Date	: 28.03.2024

CUSTOMER DE	TAILS			
Customer Name	: Hindalco Industries Limited	SAMPLE DETAILS		
	Tourstries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3617 : Near Water Pump; Hisri (New)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12.06.2024 to 13.06.2024 : 15.06.2024	
Mines Status	: Operational	Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 15.06.2024 to 19.06.2024	Sampling Done By	: ELES Pvt. Ltd.	
METEOROLOGIC	CAL INFORMATION	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION

Average Temperature (%C) 36	
Relative Description (%) 30	7 Rupopustic D.
Relative Humidity (%) ±60	2 Barometric Pressure (mmHg) : 742
	4 Weather Condition : Clear
Discipline: Chemical	

Discipline	: Chemical			Cical	
Parameter	Unit	Group: Atmospheric Pollution			
articulate Matter (PM10)		Test Protocol	Result	Regulatory Limi	
rticulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 23): 2022	67		
lphur Di-Oxide (SO ₂)	μg/m³	IS-5182 (Part- 24); 2019		100 (24hrs)	
	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	32	60 (24hrs)	
trogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	13.5	80 (24hrs)	
one (O ₃)	μg/m³		26.1	80 (24hrs)	
imonia (NH _y)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
bon Monoxide (CO)		IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
d (Pb)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	c10		
	μg/m³	IS 5182 (Part- 22): 2019	<1.0	2 (8hrs)	
el (Ni)	ng/m³		0.007	1 (24hrs)	
nic (As)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
		ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

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TEST REPORT

Test Report No. : ELES/RNC/2024/3258 Work Order No.

: 13612312113

Report Release Date

: 19.06.2024

Work Order Date

: 28.03.2024

ULR No. : TC135872400001210F

Discipline: Chemical

Group: Atmospheric Pollution

Parameter	Unit	Group: At	mospheric Pollution	
Benzene (C _s H _k)		Test Protocol	Contract of the Contract of th	Regulatory Limit
Benzo-(a)-Pyrene	μg/m	ELES/GC/SOP/06: 2023		
	ng/m³		<2.5	05(Annual)
		ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Quality Manager ELES PVT LTD

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engo.

ELES Pvt. Ltd. Technical Manager

ent stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company toner head in pre-approved format. The testable Test Report and the Laboratory date has the Laboratory seek. Two information stated my the Test Report reflects the findings date by the insent sated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved forms. The results of the Test Report refer or relates only to the judicinally-sis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the enformation which is provided by the cliem. The Report cannot be reproduced except in full and any part of the report is not taken on data provided on the report, genues 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 a appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest exacts of the test Report. The samples from Regulatory begins are to be retained as specified. Any type of Observations or Complaints regarding the Report is not released/issued. After the time period stoked before, no complaints will be accepted. The enter Time subsedule in Test Report is in 34hours format. Abbreviation used. N/A (Not Applicable), BDJ. (Below Detection Limit), LDJ. (Lower Detection Limit).



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CW 1/10995/H2018F7C017125

TEST REPORT

Test Report No.	: ELES/RNC/2024/3259	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001211F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/3618	
		Location	: Near Old Rest Shelter; Hisri (New) Bauxite Mine (14.55ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.06.2024 to 13.06.2024 : 15.06.2024	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 15.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION			
Average Temperature (°C) 36	2	Barometric Pressure (mmHg)	: 742
Relative Humidity (%) : 60		Weather Condition	: Clear

Discipline:	Chemical	Group: Atm	Group: Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	15 5182 (Part- 23): 2022	71	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	14.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	26.6	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.008	I (24hrs)
Nickel (Ni)	ng/m ²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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

Unit

uu/m3

ng/m3

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

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



TEST REPORT

Work Order Date

Test Report No. : ELES/RNC/2024/3259 Report Release Date : 19.06.2024 Work Order No.

ULR No. : TC135872400001211F

Parameter

Benzene (C₈H₆)

Benzo-(a)-Pyrene

: 13612312113

Discipline: Chemical

Group: Atmospheric Pollution				
Test Protocol	Result	Regulatory Limit		
ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
ELES/GC/SOP/05: 2023	<0.5	01(Annual)		

: 28.03.2024

AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

Dr. Dawberitta Willes Sinha Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-20AAECE9723D124

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3260	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001212F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3619 : Near Old Plantation (North West Corner) Hisri (New)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.06.2024 to 13.06.2024 : 15.06.2024
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 15.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 36	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 60	-	Weather Condition	: Clear

Discipline: Chemical		Group: Atm	Group: Atmospheric Pollution	
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	70	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ²	IS 5182 (Part-11/Sec-1): 2023	12.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22,4	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Ph)	µg/m³	IS 5182 (Part- 22); 2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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

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TC-1155

TEST REPORT

Test Report No.	: ELES/RNC/2024/3260	Report Release Date	: 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
414 45 55	Tarked to Lice to Secure			

ULR No. : TC135872400001212F

Discipline	:: Chemical	Group: Att	nospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m ²	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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ENVIRONIMENTAL LABORATO)

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

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705-150ET

TEST REPORT

Test Report No.	: ELES/RNC/2024/3261	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001213F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3620 : Hisri New (Southern Area)	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure Sampling Done By	Hisri (New) Bauxite Mine(14.55ha) : 12.06.2024 to 13.06.2024 : 15.06.2024 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 15.06.2024 to 19.06.2024	Sample Condition	; Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 36	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 60		Weather Condition	: Clear

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2022	73	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	44	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- II/Sec- 1): 2023	11.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	1S-5182 (Part- 9); 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m¹	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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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

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TEST REPORT

Test Report No. : ELES/RNC/2024/3261 Report Release Date : 19.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001213F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₈)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

Authorised Signatory

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDAWA HATIA, RANCHI-834003 [HARKHAND] GST NO-20AA2CE97130124



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TC-CHAR

TEST REPORT

Test Report No.	: ELES/RNC/2024/3244	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001196F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3581 Near Daldaliya Village Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.06.2024 to 11.06.2024 : 13.06.2024 : Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 13.06.2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 37	12	Barometric Pressure (mmHs	2) : 742
3	Relative Humidity (%) : 59		Weather Condition	: Clear

Discipline:	Chemical	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	66	J00 (24hrs)
Particulate Matter (PM2.5)	μ <u>ε</u> /m ³	IS 5182 (Parts 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m¹	IS 5182 (Part- II/Sec- 1): 2023	12.2	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	μg/m ¹	(S 5182 (Part- 6): 2022	25.7	80 (24hrs)
Özone (O ₂)	pg/m³	IS 5182 (Part- 9): 2019	<2(),()	100 (Shrs)
Ammonia (NH _i)	µg/m²	IS:5182 (Part-25): 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m¹	IS 5182 (Part- 10); 2019 (NDIR Method)	<i.0< td=""><td>2 (8hrs)</td></i.0<>	2 (8hrs)
Load (Pb)	μg/m³	1S 5182 (Part- 22): 2019	0.010	1 (24hrs)
Nickel (Ni)	ng/m1	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01, 2021	<2.0	06 (Annual)

Page I of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3244	Report Release Date	7 19.06.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC135872400001196F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C _s H _t)	µg/m*	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manager ELES PVT LTD.

****End of Report***

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

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

The Discussion stated as Test Report, is issued by the Laboratory under General Terms and Consistence, only on Company actor head in pre-approved format. The remote shows in the Test Report refer or relates only to the subramilysis done by the Laboratory only. The millematers much up that Report refereds the findings done by the Laboratory is the time of sixulveness 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 count he reproduced except in full and any part of the report is not taken out of context, without price werean approved of the Laboratory. The Report in Hall or in part shall not be published, advertise, ward for any legal actions unless prior permusion has been secured from the Management of the Laboratory. Attention is degree to the limitation of fashility, compensation and jurisdiction issues. Any assumbolised alteration of fashification of the summers or apparature of the Test Report is unlawful and offenders may be presented as the failest extent of the law. All the samples are related for Johnys from the Date of release/usus of the Test-Report. The assembles from Hagulatory bodies are to be estaured as spontful. Any type of Desarvations or Complaints regarding the Reports shall se done sethin 15days from the Date of Fear Report released/result. After the time period stated before, on completes will be subspiced. The entire Time schedules assument or Ton Report is in Minnes forms. Abbreviation used. N/A (No. Applicable), BER, (Below Gefection Lord), 123. (Lower Detection Lord).



PLUT NO-30, MANISAROVAR ENCLAVE, TUPUDANA MATIA, NANCHI-834009 (PHARKHAND) 437 NO-304 (SCSF7) (1902)



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TEST REPORT

Test Report No.	: ELES/RNC/2024/3245	Report Release Date	: 19.06.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001197F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/3582 Aditya School Gangupara Bagru Bauxite Mine (75.41ha	
Address	. Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	10.06.2024 to 11.06.2024 = 13.06.2024 = Ambient Air	
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 13.06,2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) = 37	2	Barometric Pressure (mmHg	: 742
3	Relative Humidity (%) 59		Weather Condition	: Clear

Discipline:	Chemical	Group: Atm	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m ¹	IS 5182 (Part- 23): 2022	-65	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	38	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- II/Sec- 1): 2023	9.2	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	µg/m³	15 5182 (Part- 6): 2022	25.6	80 (24hrs)			
Ozong (O ₂)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)			
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)			
Lead (Pb)	μg/m²	IS 5182 (Part- 22): 2019	0.013	1 (24hrs)			
Nickel (NI)	ng/m³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m	ELES/AJR/SOP/01: 2021	<2.0	96 (Annual)			

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2024/3245 Report Release Date : 19.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001197F

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₅ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyréne	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)		

Reviewed by AKASH KUMAR Quality Manager ELES PVT. LTD.

****End of Report****

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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PLOT NO-30, MANSARGVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) EST NO-2014FCESF280324



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TEST REPORT

Test Report No.	: ELES/RNC/2024/3246	Report Release Date	: 19,06.2024
Work Order No.	: 13612312113	Work Order Date	2 28.03.2024
ULR No.	: TC135872400001198F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/3583	
		Location	: Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
		Sampling Date	: 10.06.2024 to 11.06.2024	
Address	Lobardaga, Harkhand-835302	Sample Received Date	: 13,06,2024	
		Type of Sample	: Ambient Air	
day to the		Sampling Procedure	: ELES/DOC/SMPL/02	
Mines Status	2 Non Operational	Sampling Done By	: ELES PVI Ltd.	
Period of Analysis	: 13.06:2024 to 19.06.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 37	2	Barometric Pressure (mmH	g) : 742	
3	Relative Humidity (%) 59	4	Weather Condition	: Clear	

Discipline:	Chemical	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	ng/m³	IS 5182 (Part-23): 2022	74	100 (24hrs)		
Particulate Matter (PM2,5)	μg/m [‡]	IS 5182 (Part- 24): 2019	43	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m ³	18 5182 (Part- II/Sec- 1): 2023	12.7	80 (24hrs)		
Nitrogen Di-Oxide (NO ₁)	µg/m¹	IS 5182 (Part- 6): 2022	20.2	80 (24hrs)		
Ozone (O ₁)	μg/m³	IS 5182 (Part- 9): 2019	<20,0	100 (8hrs)		
Ammonia (NH ₁)	µg/m²	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	8.011	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	< 5,0	20 (Annual)		
Arsenic (As)	ng/m/	ELES/AIR/SOP/01: 2021	<2.0	06 (Ammal)		

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2024/3246 Report Release Date : 19.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001198F

Discipline: Chemical		Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene (C ₀ H ₀)	µg/m ³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)		

AKASH KUMAR Quality Manager ELES PVT, LTD.

****End of Report****

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

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3247	Report Release Date	: 19.06.2824
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001199F		

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/3584 : Ropeway Angle Station Bagru Bauxite Mine (75.41hn)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.06.2024 to 11.06.2024 : 13.06.2024 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	ELES/DOC/SMPL/02 ELES Pvi. Ltd.
Period of Analysis	: 13.06.2024 to 19.06,2024	Sample Condition	; Scaled & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 37	2	Barometric Pressure (mmHs	742
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

Discipline:	Chemical	Group: Atm	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)			
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	39	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	11.2	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	23.7	80 (24hrs)			
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)			
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m ^T	(S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)			
Lend (Pb)	µg/m³	1S.5182 (Pari- 22): 2019	0.012	1 (24hrs)			
Nickel (Nt)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m²	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)			

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2024/3247 Report Release Date : 19.06.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001199F

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol Result		Regulatory Limit
Henzene (C ₆ H ₆)	μ <u>e</u> /m³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)
Henzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05; 2023	< 0.5	01(Annual)

AKASH KUMAR Quality Managar FLES PVT LTD

****End of Report****

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

Page 2 of 2

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CONTENT

-	Hindalco Industries : Hisri (New) Bauxite Mine Environmental Monitoring July2024
	Hisri (New) Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station



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.slespl.co.in



TEST REPORT

Test Report No.	: ELES/RNC/2024/4060	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
TILD No.	. TC136922400001006E			

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4655 : Near Water Pump; Hisri (New) Bauxite Mine (14.55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11,07,2024 to 12,07,2024 : 15,07,2024 : Ambient Air
Mines Status	; Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 15.07,2024 to 22,07,2024	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) :31	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atm	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	12.1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	22.6	80 (24hrs)	
Ozone (O ₃)	μg/m³	1S 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m³	IS 5182 (Part- 25); 2018	<10,0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m ⁵	IS 5182 (Part- 22): 2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m³	1S 5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

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TEST REPORT

Test Report No. : ELES/RNC/2024/4060 Report Release Date : 22.07.2024

Work Order No. : 13612312113 Work Order Date : 28.03,2024

ULR No. : TC135872400001995F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (CsHs)	µg/m¹	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASHIKUMAR Quality Manager

FLES PVT LTD.

****End of Report****

Authorised Signatory

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

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4061	Report Release Date	: 22,07,2024
Work Order No.	; 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001996F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4656 : Near Old Rest Shelter; Hisri (New) Bauxite Mine (14,55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.07,2024 to 12.07.2024 : 15.07.2024 : Ambient Air
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	: 15.07.2024 to 22.07.2024	Sample Condition	: Scaled & Preserved

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 31	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline:	Chemical	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol Result		Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	63	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec-1): 2023	12.5	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	21.8	80 (24hrs)
Ozone (O ₂)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)
Ammonia (NH ₅)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

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TEST REPORT

Test Report No. : ELES/RNC/2024/4061 Report Release Date : 22.07.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400001996F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06; 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKAS MANAR Quality Manager ELES PVT. LTD.

****End of Report****

Authorised Signatory

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

Page 2 of 2

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/4062	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001997F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4657 : Near Old Plantation (North West Corner) Hisri (New)	
Address	: Lohardaga, Jharkhund-835302	Sampling Date Sample Received Date	: 11.07.2024 to 12.07.2024 : 15.07.2024	
Mines Status	: Operational	Type of Sample Sampling Procedure Sampling Done By	: Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 15.07.2024 to 22,07.2024	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) (3)	2	Barometric Pressure (mmHg)	: 740	
3	Relative Humidity (%) : 65	.4	Weather Condition	: Partly Cloudy	

Discipline: (Chemical	Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part- 23): 2022	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-11/Sec- 1): 2023	9,4	80 (24hrs)
Nitrogen Di-Oxide (NO ₁)	μg/m ³	IS 5182 (Part- 6): 2022	20.1	80 (24hrs)
Ozone (O ₃)	μg/m ¹	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	15 5182 (Part- 22): 2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m³	15 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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TC-1286

TEST REPORT

Test Report No.	: ELES/RNC/2024/4062	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
III R No.	· TC135872400001997E			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C _s H _g)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by AKASH KUMAR Quality Managur

ELES PVT LTD.

**** End of Report****

Dr. Deependra Kumar Sinha
Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

ULR No.	: TC135872400001998F	1,35,53,53,53,74,5,53,5	3.50,000,000
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
Test Report No.	: ELES/RNC/2024/4063	Report Release Date	: 22.07.2024

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4658 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 11.07.2024 to 12.07.2024 : 15.07.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 15.07.2024 to 22.07.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature ("C) : 31	2	Barometric Pressure (mmHg	: 740
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline:	Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	65	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	40	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-II/Sec- 1): 2023	9.3	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	20.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m"	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

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10-6386

TEST REPORT

Test Report No.	: ELES/RNC/2024/4063	Report Release Date	: 22.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400001998F			

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₄ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	-01(Annual)

Quality Manager ELES PVT. LTD.

****End of Report****

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

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3974	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC135872400001910F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location	ELES/RNC/2024/AA/4584 : Near Daldaliya Village Bagru Bauxite Mine (75.41 ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	31	2	Barometric Pressure (mmHg)	±742
3	Relative Humidity (%)	: 64	4	Weather Condition	Partly Cloudy

Discipline: 0	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	15 5182 (Part- 23): 2022	61	100 (24hra)	
Particulate Matter (PM2.5)	µg/m³	1S 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	11.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	14g/in ³	IS 5182 (Part- 6): 2022	23.9	80 (24hrs)	
Ozone (O ₃)	ug/m²	IS 5182 (Part- 9): 2019	<20.0	(00 (8hrs)	
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24firs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hm)	
Lead (Pb)	mg/m ³	IS 5182 (Part- 22), 2019	0.007	1 (24hrs)	
Nickel (NI)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	:ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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ENGINEERING SERVICES PVF. LTD.

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

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



TEST REPORT

Test Report No.	1 ELES/RNC/2024/3974	Report Release Date	: 18.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

ULR No. : TC135872400001910F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Henzene (C ₄ H ₆)	μg/m ²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Manager ELES PVT, LTD.

****End of Report****

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

Page 2 of 2

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/3975	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001911F		

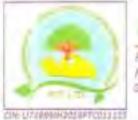
CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	(Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4585 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	ELES Pet. Ltd.	
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 31	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ¹	IS 5182 (Part- 24): 2019	33	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	15 5182 (Part-11/Sec-1): 2023	12.8	80 (24hrs)	
Nltrogen Di-Oxide (NO ₂)	µg/m	IS 5182 (Part- 6); 2022	23.3	80 (24hrs)	
Ozone (O ₃)	ug/m ³	IS 5182 (Part- 9); 2019	<20.0	100 (Shrs)	
Ammonia (NH ₁)	µg/m ¹	IS 5182 (Part- 25): 2011	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	15 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	pg/m	15 5182 (Part- 22): 2019	0.009	1 (24fas)	
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Amusi)	
Arsenic (As)	ng/m	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page | of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3975	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	28.03.2024

ULR No. : TC135872400001911F

Discipline	e: Chemical	Group: Atr	nospherie Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrenc	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)

AKASH KUMAR Quality Managur ELES PVT, LTD

****End of Report****

Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3976	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	: TC135872400001912F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Nume	Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4586 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)	
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.07.2024 to 10.07.2024 : 12.07.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) = 31	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) 64	4	Weather Condition	: Partly Cloudy

Discipline:	Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	68	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part- fl/Sec- 1): 2023	10.3	80 (24hrs)		
Nitrogen Di-Oxide (NO ₁)	μg/m ^T	IS 5182 (Part- 6): 2022	18.7	80 (24hrs)		
Ozone (O _i)	ив/m²	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₁)	µg/m³	IS 5182 (Part-25); 2018	<10,0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	µg/m²	IS 5182 (Part-22); 2019	0.009	1 (24hrs)		
Nickel (Ni)	ng/m1	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Attenic (As)	hg/m*	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		

Page | of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2024/3976	Report Release Date	: 18.07.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	1 TC135872400001912F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (CéHa)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	reg/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Manag-1 ELES PVT. LTD.

****End of Report****

Authorised Signatory

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

Page 2 of 2

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TEST REPORT

Test Report No.	: ELES/RNC/2014/3977	Report Release Date	: 18.07.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400001913F		

CUSTOMER DETA	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/4587 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha)		
Address	:: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 09.07,2024 to 10.07,2024 : 12.07,2024 : Ambient Air : FLES/DOC/SMPL/02		
Mines Status	:: Non Operational	Sampling Done By	: ELES Pvt. Ltd.		
Period of Analysis	: 12.07.2024 to 18.07.2024	Sample Condition	: Sealed & Preserved		

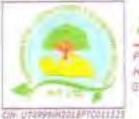
M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) = 31	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) 64	4.	Weather Condition	: Partly Cloudy

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	61	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	32	50 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	8.5	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	µg/m³	IS 5182 (Part- 6): 2022	22.5	80 (24hrs)	
Ozone (O ₁)	μg/m"	15 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₁)	µg/m"	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ⁸	IS:5182 (Part-22); 2019	0.008	1 (24hrs)	
Nickel (NI)	ng/m*	IS 5182 (Part- 26): 2020	<0,0	20 (Annual)	
Arsenic (Ás)	rig/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Armail)	

Page 1 of 2

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Website : www.elespi.co.in



TEST REPORT

With the Wall				
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
Test Report No.	: ELES/RNC/2024/3977	Report Release Date	: 18.07.2024	

E/LEC 180.	1 1 C 1358 / 2400001913F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₈)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASHIKUMAR Quality Manager ELES PVT LTD.

****End of Report***

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

Page 2 of 2

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CONTENT

	Hindalco Industries : Hisri (New) Bauxite Mine Environmental Monitoring August 202
	Hisri (New) Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station
	Drinking Water





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TEST REPORT

Test Report No.	: ELES/RNC/2024/4708	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002628F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5398 : Near Water Pump; Hisri (New) Bauxite Mine (14.55ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.08.2024 to 11.08.2024 : 12.08.2024 : Ambient Air	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Cloudy

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	56	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	25	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- II/Sec- 1): 2023	10.8	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	20.2	80 (24hrs)	
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m®	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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TEST REPORT

Test Report No. : ELES/RNC/2024/4708 Report Release Date : 20.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002628F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m ^λ	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

Reviewed by
AKASH KUMAR
Quality Managar
ELES PVT LTD

****End of Report****

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

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2024/4709	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002629F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5399 : Near Old Rest Shelter; Hisri (New) Bauxite Mine (14.55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 10.08.2024 to 11.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 28	2	Barometric Pressure (mml-	lg) : 740
3	Relative Humidity (%) : 67	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	57	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	8.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	19.3	80 (24hrs)
Ozone (O ₃)	µg/m¹	IS 5182 (Part- 9): 2019	<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): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.004	1 (24hrs)
Nickel (Ni)	ng/m³	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

Page 1 of 2

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Work Order No.

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO - 2GAAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Work Order Date

Report Release Date : 20.08.2024 Test Report No. : ELES/RNC/2024/4709 : 28.03.2024

: TC135872400002629F ULR No.

: 13612312113

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₄ H ₄)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m¹	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

AKASH KUMAR Quality Manager ELES PVT. LTD.

*End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D Environmental Engg.

ELES Pvt. Ltd. Technical Manager

Page 2 of 2

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

ENGINEERING SERVICES PUT. LED

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TC-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/4710	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002630F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5400 : Near Old Plantation (North West Corner) Hisri (New)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 10.08.2024 to 11.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	RMATION	-		
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	ospheric Pollu	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	52	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-11/Sec- 1): 2023	8.1	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	17.6	80 (24hrs)
Ozone (O _x)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH _x)	μg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)

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

ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

Test Report No. : ELES/RNC/2024/4710 Report Release Date : 20.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002630F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05; 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Managar ELES PVT. LTD

****End of Report****

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

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

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TEST REPORT

 Test Report No.
 : ELES/RNC/2024/4711
 Report Release Date
 : 20,08,2024

 Work Order No.
 : 13612312113
 Work Order Date
 : 28.03,2024

ULR No. : TC135872400002631F

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5401 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 10.08.2024 to 11.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Operational	Sampling Procedure Sampling Done By	: ELES Pvi. Ltd.	
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

П	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 740
	Relative Humidity (%)	: 67	4	Weather Condition	: Cloudy

Discipline: 0	Chemical	Group: Atm	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	57	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	36	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-11/Sec- 1): 2023	7.2	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	17,5	80 (24hrs)		
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μμ/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)		
Nickel (Ni)	ng/m	1S 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)		

Page 1 of 2

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

ENGINEERING SERVICES PUT. LTD.

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TEST REPORT

Test Report No. : ELES/RNC/2024/4711 Report Release Date : 20.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002631F

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)	

AKASH KUMAR Quality Managar FLES PVT, LTD

****End of Report****

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST-NOI-104456857830124

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4697	Report Release Date	: 20.08.2024
Work Order No.	13612312113	Work Order Date	: 28.03.2024
ULR No.	± TC135872400002617F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	t ELES/RNC/2024/AA/5387 t Near Daldaliya Village Bagru Bauxite Mine (75.41ha)	
Address	:: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 27	2	Barometric Pressure (mm	Hg) : 742	
3	Relative Humidity (%) : 69	4	Weather Condition	: Cloudy	

Discipline: (Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	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- II/Sec- 1): 2023	9,2	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	21.4	80 (24hrs)	
Ozone (Q ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Curbon Monoxide (CO)	mg/m	IS 5182 (Part- 10): 2019 (NDIR Method)	<1,0	2 (8hrs)	
Lend (Pb)	hg/m'	IS 5182 (Part- 22): 2019	0.013	1 (24 hrs)	
Mickel (Ni)	ng/m ¹	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Donament issued as Last Report, in country is the Laboratory indices and Conditions, only on Company letter lieut in pre-approved foreign. The results shown in the Ton Report refer is related only in the job/sensity 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 upper, 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 legis actions unless prior permission has been secured from the Management of the Laboratory. Advention is drawn in the improved of the Laboratory Advention is drawn in the interport of the Laboratory advention of the fill and offenders may be prosecuted to the filliest extent of the Law. All the samplest are retained for its filliest value of the Test Report is unlikeful and offenders must be retained as openful. Am type of Observations or Compliance required the Report ability and the Test Report of the Test Report of the Interport of the Interport of the Test Report of the Interport of the Interport



PLOT NO-35, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D174

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4697	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002617F		

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Manager FLES PVT LTD.

****End of Report***

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834003 (JHARIMAND) GST NO:-201485CES7130124



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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4698	Report Release Date	: 20.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002618F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5388 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02
Mines Status	Non Operational	Sampling Done By	: ELES PVL Ltd.
Period of Analysis	: 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved

Mi	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 69	4	Weather Condition	; Cloudy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	55	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- II/Sec- 1): 2023	10.4	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part- 6): 2022	21.8	80 (24hrs)	
Ozone (O ₃)	μg/m ⁾	IS 5182 (Part-9): 2019	<20,0	100 (Shrs)	
Ammonia (NH ₁)	μg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 2019 (NDIR Method)	<1.0	2 (Shrs)	
Lead (Pb)	μg/m ³	IS 5182 (Part- 22): 2019	0.010	1 (24hrs)	
Nickel (Ni)	ng/m)	IS 5182 (Part- 26): 2020	<6.f)	20 (Annual)	
Arsenic (As)	ng/m	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

The Deciment stated as Tex, Report, a small by the Laboratory under General Terms and Conditions, only on Company letter hand of pie-approved from a Tex teachs above to the Text Report refer or relates only in the job/analysis done by the Laboratory at the time of involvement only and widning the limits of client's instructions. The Laboratory is responsible for all the information or data provided by the Laboratory at the information which is provided by the client. The Report causes be reproduced except in full and any part of the report is not above out of context, without providing approval of the Laboratory. The Report is full or in part shall not be published, advertise, used for any legis actions unless prior permission has been accorded from the Management of the Laboratory Atlenting as drawn to the limitation of liability, compensation and jurisdiction issues. Any unsuitainteed alteration & falsification of the office of the Text Report is suitavital and officed in many be managed in the fulless extend on the law. All the samples are retained for Date of relating inside of the Text Report. The samples from Regulatory holdes are to be retained as speculate. Any type of Observations or Complaints requiring the Report as shall be done within 15 days from the Text Report. The nature Time advelocity from the 15 days from the Text Report. The samples from Regulatory holdes are to be treated as speculate. Any type of Observations or Complaints requiring the Report as fully before, no complaints required. The nature Time advelocity from the Text Report is a 1800 of the control of the formation of the provided and the provided shall be applicable. The nature Time advelocity from the Time advelocity from the Time advelocity from the Time advelocity from the Time advelocity.



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 2044ECE9713D1Z4

ENGINEERING SERVICES FYT. ATU.

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4698	Report Release Date	: 20.08,2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400002618F			

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₄ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)	
Benzo-(a)-l'yrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)	

AKASH KUMAR Quality Managor ELES PVT LTD.

****End of Report****

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

Page 2 of 2

The Donument stated as Text Report, as esseed by the Laboratory under General Terms and Conditions, only on Company letter lieud in pre-approved forms. The results shown in the Text Report raths at relates easy to the job/analysis done by the Laboratory and the information stated on the Text Report reflects doe fendings 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 enformation which is provided by the client. The Report cannot be reproduced except in full and arry 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 other Text Report is unlawful and offinidens may be prosecuted in the fullest extent of the law. All the samples are retained for Johns 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 15 days from the Party of Text Report. The entire Time wheather terminated in Text Report is the Context used. Note that time period situate before, in complaints will be accepted. The entire Time wheather terminated in Text Report in the Party of the Applicable), BDL (Bellow Detection I min). I Th. (Lower Detection Limit).



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

WILLIAMS SERVICES PVT. 150

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4699	Report Release Date	: 20.08.2024
Work Order No.	. 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002619F		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5389 : Ropeway Unloading Station Bagru Bauxite Mine (75,41ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Sampling Procedure	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air : ELES/DOC/SMPL/02	
Mines Status	: Non Operational	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	+ 12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%) : 69	4	Weather Condition	: Cloudy

Discipline: Chemical		Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23); 2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24); 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS \$182 (Part- II/Sec- 1): 2023	8.9	80 (24hrs)	
Nitrogen Di-Oxide (NO ₁)	μg/m³	JS 5182 (Part- 6): 2022	22.2	80 (24hrs)	
Ozone (O ₂)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH _t)	µg/m	18 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)	
Lead (Pb)	μg/m³	IS 5182 (Pari- 22): 2019	0.013	(24hrs)	
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m1	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)	

Page 1 of 2

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

ENGINEERING SERVICES PYT. ATO.

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4699	Report Release Date	: 20,08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002619F		

Discipline: Chemical		Group: Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₆ H ₆)	µg/m²	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)

Reviewed by AKASH KUMAR Quality Manager ELES PVT LTD

****End of Report***

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARNHAND). GST NO:- 20A465E87130124 ENGINEERING TERMINESS FUT. L'YO

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TEST REPORT

Test Report No.	: ELES/RNC/2024/4700	Report Release Date	: 20,08,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002620F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Hindatco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/5390 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 08.08.2024 to 09.08.2024 : 12.08.2024 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure Sampling Done By	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd.
Period of Analysis	12.08.2024 to 19.08.2024	Sample Condition	: Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION			
1	Average Temperature (°C) :27	2	Barometric Pressure (mmHg	: 742
3	Relative Humidity (%) : 69	4	Weather Condition	: Cloudy

Discipline:	Chemical	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	58	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	.27	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- II/Sec- 1): 2023	9,1	80 (24hrs)	
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	20.3	80 (24hrs)	
Ozone (O ₁)	µg/m ¹	TS 5182 (Part- 9): 2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m²	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8lus)	
Lead (Ph)	µg/m*	1S 5182 (Part- 22): 2019	0.010	1 (24hrs)	
Nickel (Ni)	ng/m³	IS:5182 (Part- 26); 2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.6	06 (Annual)	

Page | of 2

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

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Emall: Infa@elespl.ca.in , eles,ranchl@amail.com

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



TEST REPORT

Test Report No. : ELES/RNC/2024/4700 Report Release Date : 20.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002620F

Discipline	: Chemical	Group: At	mospheric Polle	ition
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene (C ₅ H ₆)	μg/m ^T	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

AKASH KUMAR Quality Managor ELES PVT, LTD.

****End of Report****

Authorised Signatory

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

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/4749	Report Release Date	: 22.08.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400002668F		

CUSTOMER DET	TAILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2024/DW/5405 : 11.08.2024 : 12.08.2024 : Drinking Water	
Address	: Lohardaga, Jharkhand-835302	Source of Sample Location of Sample	: Tap Water : Hisri New Mines (Hisri (New) Bauxite Mines)	
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01	
Period of Analysis	: 12,08.2024 to 21.08.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

Discipline : Chemical		Group:	Water	Regulatory Limit as per IS 10500:201	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 24.7°C)	R	APHA 24th Ed.2023, 4500-H	6.68	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 24th Ed.2023, 2130 B	0.50	1.0	5.0
Taste	(Se)	APHA 24th Ed.2023, 2160 C	Agreeable	Agreeable	Agrecable
Odour	-	1S 3025 (Part-5) ;2018	Agreeable	Agrecable	Agreeable
Colour	Hazen	APHA 24th Ed.2023, 2120B&D	2.0	5.0	15
Total Dissolved Solids (TDS)	mg/L	APHA 24th Ed.2023, 2540B,C&D	386	500	2000
Chloride (as Cl)	mg/L	APHA 24th Ed.2023, 4500 Cl B	14.1	250	1000
Fluoride (as F)	mg/L	APHA 24 th Ed.2023, 4500 F-D	BDL (DL: 0.1)	1,0.	1.5
Total Alkalinity (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2320 B	186	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 24th Ed.2023, 2340 C	180	200	600
Sulphate (as SO ₄)	mg/L	APHA 24th Ed.2023, 4500 SO ₆ 2-E	2.88	200	400
Nitrate (as NO ₃)	mg/L	APHA 24 th Ed.2023, 4500 NO ₃ -B	1.40	45	No Relaxation

Page 1 of 4

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

ENGINEERING SERVICES PVT, LTD.

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TC-13587

TEST REPORT

 Test Report No.
 : ELES/RNC/2024/4749
 Report Release Date
 : 22.08.2024

 Work Order No.
 : 13612312113
 Work Order Date
 : 28.03.2024

ULR No. : TC135872400002668F

Discipline : Chemic	Discipline : Chemical Group : Water		Regulatory Limit as per IS10500:201		
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Phenolic Compound (as C ₆ H ₅ OH)	mg/L	1S 3025 (Part 43/Sec1): 2022	BDL (DL: 0.001)	0.001	0.002
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	0.27	0.2(Min)	1,0(Min)
Calcium (as Ca)	mg/L	APHA 24th Ed.2023, 3500 Ca B	45.8	75	200
Anionic Surfactants (as MBAS)	mg/L	APHA 24th Ed.2023, 5540-C	BDL (DL: 0.025)	0.2	1.0
Discipline : Chemic	cal	Gre	oup : Residues i	n Water	
Aluminum (as Al)	mg/L	1S 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part-37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05	1.5
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05	No Relaxation
fron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.070	1.0	No Relaxation
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.05)	0.1	0.3
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2019	BDL (DL: 0.001)	0.001	No Relaxation
Selenium (as Se)	mg/L	IS 3025 (Part-56): 2019	BDL (DL: 0.01)	0.01	No Relaxation

Page 2 of 4

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

ENGINEERING SERVICES PVT. LTD

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TEST REPORT

 Test Report No.
 : ELES/RNC/2024/4749
 Report Release Date
 : 22.08.2024

 Work Order No.
 : 13612312113
 Work Order Date
 : 28.03.2024

ULR No. : TC135872400002668F

Discipline : Chemical		Group: Resid	ues in Water		ory Limit 0500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit	
Zinc (as Zn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.1)	5.0	15	
Polynuclear Aromatic Hydrocarbons (PAH)	µg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	0.1	No Relaxation	
Polychlorinated biphenyls (PCB)	μg/L	ELES/GC/SOP/03: 2023	BDL (DL: 0.1)	0.5	No Relaxation	
Pesticides				Li	mit	
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)		0	
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	.0	
Butachlor	μg/1	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	25	
Chlorpyriphos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	30	
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	3.0		
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	j	90	
Methyl parathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	0.	30	
Monocrotophos	μg/L.	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	1	.0	
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	2	2,0	
Phorate Sulphone	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-		
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	0.03		
Alpha HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	0	.01	
Beta HCH	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	0	.04	

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

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TEST REPORT

Test Report No. : ELES/RNC/2024/4749 Report Release Date : 22.08.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400002668F

Pesticides				
Parameter	Unit	Test Protocol	Result	Limit
Delta HCH	μg/L	ELES/GC/SOP/02; 2023	BDL (DL: 0.02)	0,04
Gamma HCH (Lindane)	μg/L	ELES/GC/SOP/02; 2023	BDL (DL: 0.02)	2.0
Endosulfan (alpha, beta and sulphate)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	0.40
DDT(o,p and p,p-isomers of DDT) (o,p DDE and p,p DDD)	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	1.0
Discipline : Biological		Group	: Water	
Total Coliform (Qualitative)	Per 100 mL	IS 15185: 2021	Not Detected	Challength, January I
Escherichia coli (Qualitative)	Per 100 mL	IS 15185; 2021	Not Detected	Shall not be detected

Remarks: 1. pH and RFC done at Lab.

AKASH KUMAR Quality Manager ELES PVT. LTD

****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D Environmental Engl.
ELES Pvt. Ltd. Technical Material

Page 4 of 4

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Website: www.elespl.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2024/4749	Report Release Date	: 22.08.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/DW/5405 : 11.08.2024 : 12.08.2024 : Drinking Water : Tap Water : Hisri New Mines	
Mines Status	; Operational	Sampling Procedure	(Hisri (New) Bauxite Mines) ; ELES/DOC/SMPL/01	
Period of Analysis	: 12,08,2024 to 22.08,2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved	

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

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

Reviewed by AKASH KUMAR Quality Manager ELES PVT, LTD.

****End of Report****

Dr. Deependra Rumar Sinna Ph. D Environmental Engg. ELES Pvt. Ltd. Technical Menager

Page I of I

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Limit I may schedule mentioned in Test Report is in 24 hours formal. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).

CONTENT

-	Hindalco Industries : Hisri (New) Bauxite Mine Environmental Monitoring September 2024
	Hisri (New) Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station
	AMBIENT NOISE
	WORKZONE NOISE
	Spring Water
1	Daldaliya Village





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

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TEST REPORT

Test Report No.	: ELES/RNC/2024/5279	Report Release Date	: 19.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003192F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6033 : Near Water Pump; Hisri (New) Bauxite Mine (14.55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 10.09.2024 to 11.09.2024 : 12.09.2024
Mines Status	; Operational	Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 12.09.2024 to 19.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

METEOROLOGICAL INFORMATION						
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy	

Discipline: Chemic	al	Group:	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit			
Particulate Matter (PM10)	µg/m³	IS 5182 (Part- 23): 2022	48	100 (24hrs)			
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	21	60 (24hrs)			
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1); 2023	5.4	80 (24hrs)			
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	16.7	80 (24hrs)			
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)			
Ammonia (NH ₃)	µg/m [†]	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)			
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)			
Lead (Pb)	μg/m ¹	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)			
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)			
Arsenic (As)	ng/m ^s	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)			
Benzene (C ₆ H ₆)	µg/m [∆]	ELES/GC/SOP/06: 2023	<2.5	05(Annual)			
Benzo-(a)-Pyrene	ng/m ³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)			
			-	1			

Reviewed by Akash Kumar

Quality Manager

****End of Report****

Dr. Deependra Kumar Sinha Ph. D. Environmental Engo

Page 1 of 1

Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2024/5280	Report Release Date	: 19.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003193F		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/6034	
		Location	: Near Old Rest Shelter; Hisri (New)	
		1000	Bauxite Mine (14.55ha)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 10.09.2024 to 11.09.2024	
T TOTAL WORLD	The state of the s	Sample Received Date	: 12.09.2024	
		Type of Sample	: Ambient Air	
Mines Status	Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
	The second section of the	Sampling Done By	: ELES Pvt. Ltd.	
Period of Analysis	: 12.09.2024 to 19.09.2024	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy

Discipline : Chemic	al	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	47	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part- 2/Sec1): 2023	5.8	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part- 6): 2022	16.1	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	μg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m ³	IS 5182 (Part- 22): 2019	0.004	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (C ₄ H ₆)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by

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

Authorised Signatory Dr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1

Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2024/5281	Report Release Date	: 19.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003194F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/6035
		Location	: Near Old Plantation
			(North West Corner) Hisri (New
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 10.09,2024 to 11.09,2024
		Sample Received Date	: 12.09.2024
		Type of Sample	: Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
was a series		Sampling Done By	: ELES Pvt. Ltd.
Period of Analysis	: 12.09.2024 to 19.09.2024	Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy

Discipline : Chemic	cal	Group:	Atmospheric l	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part- 23): 2022	45	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	(S 5182 (Part- 2/Sec1): 2023	5.9	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	18.1	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part- 22): 2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (CoHa)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by Quality Manager

****End of Report****

Dr. Deeperdra Rumal Sinha Ph. D. Environmental Engg.

Page I of 1

Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2024/5282	Report Release Date	: 19.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003195F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2024/AA/6036
	1	Location	: Hisri New (Southern Area)
			Hisri (New) Bauxite Mine(14,55ha)
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 10.09.2024 to 11.09.2024
		Sample Received Date	: 12.09.2024
		Type of Sample	3 Ambient Air
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	: 12.09.2024 to 19.09.2024	Sampling Done By	ELES Pvt. Ltd.
renou or Analysis	- 12.09.2024 to 19.09.2024	Sample Condition	: Sealed & Preserved

MI	METEOROLOGICAL INFORMATION					
	Average Temperature (°C) : 26	2	Barometric Pressure (mmH	g) : 742		
3	Relative Humidity (%) : 69	4	Weather Condition	: Cloudy		

Discipline : Chemie	cal	Group:	Group: Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	51	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m ^T	IS 5182 (Part- 24): 2019	25	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	6.4	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part- 6): 2022	15.8	80 (24hrs)		
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	<0.002	1 (24hrs)		
Nickel (Ni)	ng/m [®]	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	HR/m ₃	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)		

Reviewed by Akash Kumar Quality Manager.

****End of Report****

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

Technical Manager Page 1 of 1

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VEST REPORT

Test Report No.	: ELES/RNC/2024/5275	Report Release Date	: 19.09.2024
Work Order No.	. 13612312113	Work Order Date	; 28.03.2024
ULR No.	: TC135973400003188F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6029 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha)
Address	c Lohurdaga, Jharkhann-835302	Sampling Date Sample Received Date Type of Sample	: 09:09:2024 to 10:09:2024 : 12:09:2024 Ambient Air
Mines Status	: Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02
Period of Analysis	:: 12.09,2024 to 19.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

[VI]	ETEOROLOGICAL INFOR	MATION				
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	5742	
3	Relative Humidity (%)	:71	4	Weather Condition	: Cloudy	

Discipline : Chemic	cal	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	51	100 (24hrs)
Particulate Matter (PM2.5)	μg/m ³	15 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO ₃)	μg/m³	1S 5182 (Part- 2/Sec1); 2023	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part- 6): 2022	17.7	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)
Ammonia (NH ₂)	µg/m ⁷	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0,008	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part- 26); 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)
Benzene (CaHa)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)

Reviewed by *kash Kumer regensity Manager

****End of Report****

Dr. Deetherites Kinnst Sinha Ph. D. Environmental Engg.

Technical Manager

Page 1 of 1

The December stand or Test Report of the Laboratory under Contract Terms and Conditions, only on Company letter head on pre-approved format. The resolut above in the Report of the Contract the findings done by the Laboratory at the time of an electric that the large of the laboratory at the time of an electric that the large of the laboratory at the time of an electric that the large of the laboratory at the time of an electric that the large of the laboratory at the large of the laboratory at the large of the laboratory is the large of the laboratory. The Report is full or in part of the report of the laboratory. The Report is full or in part of the report of the laboratory. The Report is full or in part of the laboratory. advantary used for my legal actions anisot price premission has been exceed from the Management of the Labourry. Amendo in drawn to the locations of Rabiley, compensation and paradic management of the Labourry. many signature and offermion in the content of the content of appearance of the Ten Report is parameter and offentions may be prompted to the definite expect of the law Alf the complete on removal by Notice that Does of release and of the Ten Report The complete on the plantatory to the content is a specified. Any type of Object at time of the Ten Report The complete or period and the following the content of the Police of Ten Report of the Content of support in the State of the sta



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TEST REPORT

Test Report No.	: ELES/RNC/2024/5276	Report Release Date	: 19.09.2024
Work Order No.	: 13612312113	Work Order Date	: 28.03,2024
ULR No.	± TC135872400003189F		

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6030 : Aditya School Gangupara Bagru Bauxite Mine (75,41ha)
Address	: Lunardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.09.2024 to 10.09.2024 : 12.09.2024 Ambient Air
Mines Status	: Non Operational	Sampling Procedure	ELES/DOC/SMPL/02
Period of Analysis	: 12.09.2024 to 19.09.2024	Sampling Done By Sample Condition	ELES Pvt. Ltd.

Mi	ETEOROLOGICAL INFO	MATION			
1	Average Temperature (°C')	: 26	1.2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	:71	4	Weather Condition	.: Cloudy

Discipline: Chemi-	cul	Group:	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	μg/m³	IS 5182 (Part- 23): 2022	59	100 (24hrs)
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part- 2/Sec1): 2023	7.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	μg/m³	IS 5182 (Part- 6): 2022	19.8	80 (24hrs)
Ozone (O ₃)	μg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (8hrs)
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10): 2019 (NDIR Method)	1.05	2 (8hrs)
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26): 2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01; 2021	<2.0	06 (Annual)
Benzene (C _s H _s)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	<0.5	01(Annual)

Reviewed by
Akash Kumur
Quanty Manages

****End of Report****

Dr. Beepenela kullar Sinha Ph. D. Environmental Engg.

Page 1 of 1 Fechnical Manager

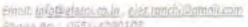
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TEST REPORT

Test Report No.	: ELES/RNC/2024/5277	Report Release Date	: 19.09.2024	
Work Order No.	: 13612312113	Work Order Date	; 28.03,2024	
ULR No.	± TC135872400003190F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6031 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha)
Address	: Enhandaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.09.2024 to 10.09.2024 : 12.09.2024 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure	ELES/DOC/SMPL/03
Period of Analysis	: 12.09.2024 to 19.09.2024	Sampling Done By Sample Condition	Sealed & Preserved

MJ	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	; 742.
.3	Relative Humidity (%)	±71	4	Weather Condition	: Cloudy

Discipline: Chemi-	cal	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	μg/m³	15 5182 (Part- 23); 2022	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/Sec1): 2023	7.1	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	19,3	80 (24hrs)		
Ozone (O ₁)	µg/m³	IS 5182 (Part- 9): 2019	<20.0	100 (Shrs)		
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part- 10); 2019 (NDIR Method)	<1.0	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.007	1 (24hrs)		
Nickel (Ni)	ng/m³	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C _s H _s)	μg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Benzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	Ol(Annual)		

Reviewed by Amen Kurner Quality Magazor

****End of Report****

Authorised Signator

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

Page 1 of 1 Technical Manager

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TEST REPORT

Test Report No.	: ELES/RNC/2024/5278	Report Release Date	: 19.09.2024	
Work Order No.	± 13612312113	Work Order Date	: 28.03,2024	
ULR No.	TC135872400003191F			

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2024/AA/6032 : Ropewey Angle Station Bagru Bankite Mine (75.41ha)
Address	; Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 09.09.2024 to 10.09.2024 : 12.09.3024 : Ambient Air
Mines Status	: Non Operational	Sampling Procedure	ELES/DOC/SMPL/02
Period of Analysis	: 2.09.2024 to 19.09.2024	Sampling Done By Sample Condition	Sealed & Preserved

MI	ETEOROLOGICAL INFORMATION				
1	Average Temperature (°C) 26	12	Barometric Pressure (mmf	ig) :.742	
3	Relative Humidity (%) 271	- 4	Weather Condition	; Cloudy	

Discipline: Chemic	:al	Group: Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m²	IS 5182 (Part- 23): 2022	61	100 (24hrs)		
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	30	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part- 2/Sec1); 2023	11.4	80 (24hrs)		
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part- 6): 2022	22.8	80 (24hrs)		
Ozone (O ₃)	µg/m²	IS 5182 (Part- 9); 2019	<20.0	100 (8hrs)		
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part- 10): 2019 (NDIR Method)	1.08	2 (8hrs)		
Lead (Pb)	μg/m³	IS 5182 (Part- 22): 2019	0.006	1 (24hrs)		
Nickel (Ni)	ng/m²	IS 5182 (Part- 26): 2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m³	ELES/AIR/SOP/01: 2021	<2.0	06 (Annual)		
Benzene (C ₆ H ₆)	µg/m³	ELES/GC/SOP/06: 2023	<2.5	05(Annual)		
Henzo-(a)-Pyrene	ng/m³	ELES/GC/SOP/05: 2023	< 0.5	01(Annual)		

Reviewed by

****End of Report****

Dr. Deepellura Kulikar Sinha Ph. D. Environmental Engg.

Technical Manager

Page 1 of 1

The Designed would be Too Report to except by the Laboratory code. Occupied Jaron and Conditions, only in Company were treat in pre-approved format. The results down in the Year Report reflects in findings after by the Laboratory of the Laboratory only. The information is designed upon the information of the important in the East Report reflects in findings after by the Laboratory of the Laboratory of the important in the information of the important in the information of the important in the Malay manual of the Laboratory. Advances in favor to the important in the important in



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

ENGINEERING SERVICES PVT. LTD.

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

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TC-1358

TEST REPORT

Test Report No.	: ELES/RNC/2024/5288	Report Release Date	: 19.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003201F			

Sampling Date Sampling Received Date	: 10.09.2024 to 11.09.2024
Type of Sample Sampling procedure	: 12,09,2024 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.
Period of Analysis	: 12.09.2024 to 19.09.2024
	Sampling Done By

M	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	-2	Barometric Pressure (mmHg)	= 742
3	Relative Humidity (%)	: 69	4	Weather Condition	: Cloudy

Discipline : Chemical				Pollution
Unit	Test Protocol	Rest	ilt	Regulatory Limit (Industrial Zone)
		Time	Les	
dB(A)	A) IS 9989: 2020	Day Time	62	75 dB(A) Day Time
		Night Time	45	70 dB(A) Night Time
			Unit Test Protocol Rest Time Day Time Day Time	Time L _{eq} Day Time 62 Day Time 62

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****End of Report****

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

Page 1 of 1

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



TEST REPORT

Test Report No.	: ELES/RNC/2024/5292	Report Release Date	; 19.09,2024
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024
ULR No.	: TC135872400003205F		

CUSTOMER DE	TAILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By	: 10.09.2024 : 12.09.2024 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.
Mines Status	: Operational	Period of Analysis	: 12.09.2024 to 19.09.2024

M	ETEOROLOGICAL INFORMAT	ION		
1	Average Temperature (°C) : 27	2	Barometric Pressure (mmF	lg) : 742
3	Relative Humidity (%) : 68	4	Weather Condition	: Cloudy

Location	Unit	Test Protocol	Res	ult	Regulatory Limit (Industrial Zone)
South Area -			Time	L_{eq}	
Hisri (New) Bauxite Mine (14.55ha)	dB(A)	IS 4758: 2017		20	90 dB (A)
Sample ID: ELES/RNC/2024/WN/6046			Day Time	69	



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Technical Manager

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TC-13587

TEST REPORT

Test Report No. : ELES/RNC/2024/5323 Report Release Date : 23.09.2024

Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003236F

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6048 : 10.09,2024 : 12.09,2024 : Surface Water : Spring Water : Daldaliya Village, Hisri (New)
Mines Status	: Operational	Sampling Procedure	Bauxite Mine (14.55ha) : ELES/DOC/SMPL/01
Period of Analysis	: 12.09.2024 to 23.09.2024	Sampling Done By Sample Condition	: ELES Pvt Ltd. : Scaled & Preserved

Discipline : Chemical		G	roup: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 24.7 °C)	2	IS 3025 (Part-11): 2022	6.78	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) ; 2021	6.0	300
Odour	1.	15 3025 (Part-5) : 2018	Unobjectionable	- 4
Turbidity	NTU	IS 3025 (Part-10): 2023	10.3	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16): 2023	194	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23): 2023	48.8	-
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21): 2019	84.3	-
Sulphate (as SO ₄)	mg/L	1S 3025 (Part-24/Sec1): 2022	25.8	400
Chloride (as CI)	mg/L	IS 3025 (Part-32): 2019	14.3	600
Fluoride (as F)	mg/L	IS 3025 (Part-60): 2019	0.176	1,5
Nitrate (as NO ₃)	mg/L	APHA 24th Ed.2023, 4500 NO ₃ -B	3.45	50

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CIN: U74999/H2018PTC011125

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TC-1386

TEST REPORT

Test Report No. : ELES/RNC/2024/5323 Report Release Date : 23.09.2024
Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003236F

Discipline : Chemical		Group : Wa	iter	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26): 2021	BDL (DL: 0.1)	-
Phenols Compounds (as C _b H ₅ OH)	mg/L	1S 3025 (Part-43/Sec1); 2022	BDL (DL: 0.001)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 2019	22.5	-
Discipline : Cher	nical	Gr	oup : Residues	in Water
Aluminum (as Al)	mg/L	IS 3025 (Part-55): 2003;RA2019	BDL (DL: 0.02)	+
Arsenic (as As)	mg/L	IS 3025 (Part 37):2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57): 2021	BDL (DL: 0.2)	-
Cadmium (as Cd)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.03)	0.05
Copper (as Cu)	mg/L.	APHA 24 th Ed.2023; 3111B	BDL (DL: 0.03)	1,5
Iron (as Fe)	mg/L	APHA 24th Ed.2023; 3111B	0.451	50
Lead (as Pb)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.05)	~ ~
Mercury (as Hg)	mg/L	IS 3025(Part-48): 1994; RA2019	BDL (DL: 0.001)	-
Selenium (as Se)	mg/L	IS 3025(Part-56): 2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 24th Ed.2023; 3111B	BDL (DL: 0.1)	15

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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/2024/5323 Report Release Date : 23.09.2024
Work Order No. : 13612312113 Work Order Date : 28.03.2024

ULR No. : TC135872400003236F

W	Work Order Date		: 28.03	.2024
(Froup:	Residues in V	Vater	Tolerance Limits

Discipline : Che	mical	Group: Res	idues in Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Cyanide (as CN)	mg/L	APHA 24th Ed.2023, 4500 CN-E	BDL (DL: 0.012)	0.05
Polynuclear Aromatic Hydrocarbons (PAH)	μg/L	ELES/GC/SOP/04: 2023	BDL (DL: 0.05)	**
Pesticides				
Alachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	
Atrazine	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Butachlor	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Chlorpyriphos	μg/L	ELES/GC/SOP/01; 2023	BDL (DL: 0.5)	**
Ethion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0,5)	-
Malathion	μg/L	ELES/GC/SOP/01: 2023	BDL (DL; 0.5)	***
Methyl parathion	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.1)	2
Monocrotophos	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Phorate	µg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	-
Phorate Sulphone	μg/L	ELES/GC/SOP/01: 2023	BDL (DL: 0.5)	<u>U</u>
Dieldrin	μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.01)	-

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

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TG-13587

TEST REPORT

Test Report No.	: ELES/RNC/2024/5323	Report Release Date	: 23.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	
ULR No.	: TC135872400003236F			

t/nit	Test Protocol	Result	as per IS 2296-1992
		27200000	Class C (Inland Surface Water
µg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.006)	-
μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	
μg/L	ELES/GC/SOP/02: 2023	BDL (DL; 0.02)	4
μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.02)	
μg/L	ELES/GC/SOP/02: 2023	BDL	
μg/L	ELES/GC/SOP/02: 2023	BDL (DL: 0.05)	
fi .	Gro	up: Water	
FU/100 mL	IS 15185; 2021	4.59×10 ³	-
FU/100 mL	IS 15185: 2021	8.86×10 ¹	+
	μg/L μg/L μg/L	μg/L ELES/GC/SOP/02: 2023 I Gro FU/100 mL IS 15185: 2021	μg/L ELES/GC/SOP/02: 2023 (DL: 0.02) μg/L ELES/GC/SOP/02: 2023 BDL (DL: 0.02) μg/L ELES/GC/SOP/02: 2023 BDL (DL: 0.02) μg/L ELES/GC/SOP/02: 2023 BDL (DL: 0.05) μg/L ELES/GC/SOP/02: 2023 BDL (DL: 0.05) μg/L ELES/GC/SOP/02: 2023 BDL (DL: 0.05) FU/100 mL IS 15185: 2021 4.59×10 ³

Remarks: pH & RFC done at Lab.

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****End of Report****

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

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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/2024/5323	Report Release Date	: 23.09.2024	
Work Order No.	: 13612312113	Work Order Date	: 28.03.2024	

CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2024/SW/6048 : 10.09.2024 : 12.09.2024 : Surface Water : Spring Water : Daldaliya Village, Hisri (New		
Mines Status	: Operational	Sampling Procedure	Bauxite Mine (14.55ha) : ELES/DOC/SMPL/01		
Period of Analysis	: 12.09.2024 to 23.09.2024	Sampling Done By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

Discipline : Chemic	al	Gro	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Taste	1.0	APHA 24th Ed.2023, 2160C	N/A	
Anionic Surfactants (as MBAS)	mg/L	APHA 24 th Ed.2023, 5540-C	BDL (DL: 0.025)	1,0
Mineral Oil*	mg/L	1S 3025 (Part-39):2021 (Clause 6 Infrared Spectroscopic Method)	BDL (DL; 0.01)	

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

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****End of Report****

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

Page 1 of 1

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Annexure 3

Date - 20.11.2024

Office Order

Environmental Cell has been re-constituted at Hisri New Bauxite Mine (Area 14.55 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. Raj Sinha (Coordinator)
- 2. Mr. Basudev Gangopadhyay (Geologist)
- 3. Ms. Abhilasha Singh (Environment Engineer)
- 4. Mr. Anand Prakash Tiwari Environment Engineer

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

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Annexure 4

	Production, Mined Out, Back Filled and Over Burden removal from April'24 to September'24							
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Back filled area (ha)	Over burden (Cu.M)
1	Bagru Bauxite Mine	75.41	85000	22.01.1974 to 31.03.2030	NIL	NIL	NIL	NIL
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	82481	0.25	0.57	191521.65
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	63197	0.45	0.35	26905.95
4	Pakhar (8.09) Bauxite Mine	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
5	Pakhar (35.12) Bauxite Mine	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL
6	Pakhar (115.13) Bauxite Mine	115.13	300000	19.07.1996 to 31.03.2030	96744	4.29	8.89	365249.34
7	Sherangdag-A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	6200	0.23	0.2	10200.00
8	Serangdag-B Bauxite Mine	77.89	100000	04.10.1978 to 31.03.2030	49850	0.96	0.85	104303.82
9	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	12450	0.14	0.12	13050.63
10	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	96115	4.69	2.46	185023.98
11	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	7175	0.97	0.43	21377.24
12	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	49120	5.28	3.56	137098.55
13	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	87109	2.153	0.987	225462.85

	Minerals & Minerals Limited							
14	Pakhar (109.507) Bauxite Mine	109.507	280000	26.07.2008 to 25.07.2058	147714.95	2.06	2.60	160334.49
15	Pakhar (15.58) Bauxite Mine	15.58	60000	28.04.1965 to 31.03.2030	NIL	NIL	NIL	NIL
16	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	78750	4.44	7.35	116233.81
17	Amtipani Chirodih Bauxite Mine	130.01	450000	11.01.2017 to 10.01.2067	140900	4.25	1.50	235195.494

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

Basudev Cangopadhyay
AVP (Planning, Environment and Compliance)

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

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), Pakhars (109.507 ha), Pakhar (15.58 ha), Pakhar (8.09 ha), Pakhar (35.12 ha), Sherangdag (155.81 ha), Serangdag (77.89 ha), Jalim & Sanai (12.14 ha), Bimarla Bauxite Mines (134.526 ha), Gurdari (584.19 ha), Amtipani (190.95 ha), Kujam I (80.87 ha) Kujam II (157.38 ha), and Amtipani Chirodih (130.01 ha) Bauxite Mines.

S No	Description	Budget (in Rupees) FY 2024-25 (From Apr'24 to Sep'24)	Actual (in Rupees) FY 2024-25 (From Apr'24 to Sep'24)
1	Pollution Control & Environment monitoring	61,35,000.00	53,47,442.83
2	Reclamation/ Back filing & Rehabilitation**	5,62,80,000.00	5,60,24,564.93
3	Green belt, Plantation & Water sprinkling arrangement	73,42,000.00	69,41,114.17
4	Rural Development	2,75,00,000.00	2,05,55,592.67

^{**}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