

HIL/LHD/ENV/MoEF/ 427

Date: 25.11.2023

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

Sub: Compliance Report of EC conditions for Hisri New (14.55 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Lohardaga District of Jharkhand for the period April'23 to September'23.

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'23 to September'23.

The lease detail is as below.

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

Hindalco Industries Limited

Mines Division, Court Road, Lohardaga 835302, Jharkhand, India T: +91 6526 224112/224015/223113 | E: hindalco@adityabirla.com | W: www.hindalco.com Registered Office: Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India T: +91 22 66917000 | F: +91 22 6691 7001 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 1 st April 2023 to 30 th September 2023 |

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 has been obtained prior to start of Mining. Existing consent to operate is valid till 31.12.2025. The implementations of stipulated conditions are being implemented.

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: - 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: - Present depth of mining is 20-22 mtr (maximum) and not intersected 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: - Backfilling and reclamation is being done concurrently by overburden. 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 land

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 selfsustaining. Compliance status should be submitted to the Ministry of Environment & Forest on six-month basis.

Reply: -. 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. There is no external dump within mine lease area.

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: - No run-off is generated from mining activities. However, 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.



Garland drains

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 2540 saplings have been planted in the period from April'23 to September'23 within this

mining lease. In addition to this, agricultural activity is going on in reclaimed land as per the consent from landowners. Green belt development programme is in progress with progress of mining activities.



Plantation at mines

Condition 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 carried out in critical areas prone to air pollution. Regular Ambient Air Quality monitoring is being carried out. AAQ quality results are attached carried out by authorized agency. The parameters are found within the prescribed limit.



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: - System is already in place. Suitable conservation measures to augment ground water resources in area are being taken viz sump, rainwater harvesting pond etc. constructed in mining lease area.

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. There is no chance of intersection of ground water table during mining operation at present and in future. A Piezometer has been installed for monitoring of ground water level. Water quality and water level report are attached herewith as **Annexure 1**.



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: - Spring has been monitored. 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 noted.

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: Water is collected from rainwater harvesting pond. We are using harvested water only for mining purposes. No ground water or water from natural surface water bodies are being used for mining purposes. No Objection Certificate (NOC) for ground water abstraction for Hisri New mines has been obtained for drinking purpose only.

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|----|---------------|------------|-------------|-------|---------------------------------------|-------------|------------|--------------------------|------------|---|
| Pr | roject Name: | | | _ | (new) Bauxite M | | | | | <u> </u> |
| P | roject Addres | 5 : | | | (new) Bauxite M Lohardaga | Ining Proje | et, VII He | n, Chanpi / | Ind Korgo, | Tehsil Kisko |
| V | llage: | | | Hist | | | Block: | Kisko | 102 | |
| D | stact | | | Loha | ceebra | | State: | Jharkhar | d | |
| Pi | ins Catalus | | | 1 | | | | | | |
| G | | n Address | | | (new) Resource M Lichardwija, Lich | | | | | Televil - Know |
| A | ddress of OB | WB Regi | onal Office | | ral Ground Wate ik Jai Prakash Bl | | | | | |
| 1 | NOC No.: | | COWANOC | AINF | EN/1/2022/7276 | 8 | 200 | | | |
| 2. | Application | No.: 3 | 21-4/466/JH | MIN/2 | 019 | 1 | Category | | Safe | |
| 4 | Project Stat | 05: 1 | Lussing Gro | und W | ater | | 5. NOC Lyr | ie: | Renewal | |
| | Valid from: | | 19/09/2022 | | | | / Valid up | 10: | 17/06/2024 | 1 |
| 6 | 100 | tes Abelto | cton Permi | llert | | | | | | |
| 6 | CHEMICAL AND | | | Calle | e Water | | Dewatering | | T | otal |
| 6. | Fresh V | Vator | | 2010 | C 110/01 | | a training | | | 5-18-8 |

NOC for GW Abstraction

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 Viz. rainwater harvesting pond created.

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. Drainage system in the mining lease area is so designed that all the rainwater within the lease are collected in to the pit/rainwater harvesting pond. No water allowed to flow out of the lease.

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. Regular maintenance of vehicles is undertaken to minimize vehicular emission. Care is taken on regular basis to arrest spillage/fugitive dust 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 by IIT, Kharagpur. Efforts and mitigative measures are being taken to mitigate 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.

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:- There is no effluent generated from mine hence ETP is not required. However, we are using oil and grease for which we have constructed Effluent treatment mechanism (Oil and grease trap) at Bagru Plateau workshop where maintenance of machine is being carried out. The clarified water generated during the process is being used for plantation/gardening purpose. The sewage water for working population is collected through Septic Tank/Soak Pit and treated in Sewage Treatment Plant already existing in adjoining Bagru ML



Oil and grease trap



Sewage Treatment Plant

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 μ m (i.e. PM₁₀, 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 <u>www.envfor.nic.in</u> shall also be referred in this regard for its compliance.

Reply:- Being carried out. Monitoring report is enclosed as **Annexure 2**.

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:- 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 guildeline and timelines mentioned in MCDR/IBM guildeline 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:

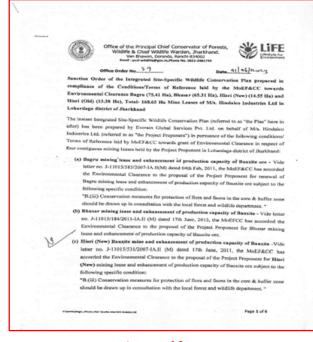
Condition i: - No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests. Reply:- Noted.

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 have been granted letter of approval for the Integrated Site-specific Wildlife Conservation Plan via Office Order No.29 dated 01.06.2023 by PCCF, Wildlife, Ranchi.



Approval Letter

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 μ m (i.e. PM₁₀)PM_{2.5}) & NOx 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 is being carried out and reported to the concerned authorities. Report is attached as **Annexure 2**.

Condition v: - Data on ambient air quality RSPM (Particulate matter with size less than 10 μ m i.e. PM₁₀) & NO_X 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: - Being carried out. Enclosed as Annexure-2.

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.

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 generated from workshop within mine lease area. We are using oil and grease for which we have constructed oil and grease trap at Bagru Plateau workshop where maintenance of machine is being carried out. The clarified water generated during the process is being used for plantation/gardening purpose.

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: - We are ensuring that the use of Personal Protective Equipment (PPE) should be done by individuals daily. Mine workers are being regularly and periodically sent to our own hospital for health checkup for any contraction of diseases due to exposure in dusty and noisy areas.

Training on safety, health and environmental aspects of mining is being regularly imparted through VT centre and also through various other training programmes conducted by the State Government, recognized agencies, etc.

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: - Adhering to our environmental policies and in order to create more awareness at mines site regarding environment, separate Environmental Management Cell (EMC) has been constituted and is functioning effectively. Copy is enclosed as **Annexure-3**.

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

Reply: - Year wise expenditure is being reported to the Ministry and its Regional Office located at Ranchi, is attached as **Annexure-5**.

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: - Since it is an operating Mine and provision related to financial closure is not applicable. Currently, Regional office is at 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. Currently, Regional office is at 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: - Duly submitted. Currently, Regional office is at 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: - Duly submitted.

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: - Displayed.

Condition xvii:- The environmental statement for each financial year ending 31st March in Form – V as is mandated to be submitted by the project proponent to the concerned 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: - Submitted.

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

Reply: - Complied and informed.

| | Annexure 1 | | | | | | |
|------|--------------------------------------|-------|--|--|--|--|--|
| | Piezometer reading - Hisri New Mines | | | | | | |
| S No | S No Month Depth (meter) | | | | | | |
| 1 | Apr-23 | 32 | | | | | |
| 2 | May-23 | 33.25 | | | | | |
| 3 | Jun-23 | 33.12 | | | | | |
| 4 | Jul-23 | 32.80 | | | | | |
| 5 | Aug-23 | 32.1 | | | | | |
| 6 | Sep-23 | 32.12 | | | | | |



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

ENGINEERING SERVICES P

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



| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/1928 | Report Release Date | : 12.06.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000889F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | States and the second second |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1355 Near Water Pump; Hisri (New) Bauxite Mine(14.55ba) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 25.04 2023 to 26.04.2023 : 10.05.2023 : Ambient Air |
| Plant Status | : Operational | Sample Drawn By | = ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) : 743 |
|---|-------------------------------|---|-------------------------|-----------|
| 3 | Relative Humidity (%) : 61 | 4 | Weather Condition | : Clear |

| Discipline : | Chemical | Group | Group : Atmospheric Pollution | | | |
|----------------------------|-------------------|---------------------------------|-------------------------------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 63 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | µg/m ³ | 1S 5182 (Part- 24): 2019 | 33 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 15 5182 (Part-2): 2001; RA2022 | 7,1 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 14.6 | 80 (24furs) | | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₅) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | µg/m² | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m² | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenic (As) | ng/m* | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |

LYYN) Reviewed by ****End of Report**** Dr. Deependra Kanna Sinha

Authorized Signatory

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Page 1 of 1



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834005 (IHARKHAND) GST NO- 20AAECE9713D124

NGINEERING SERVICES PVT. LTD.

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

| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/1928 | Report Release Date | : 12.06.2023 |
| Work Order No. | : 13612310218 | Work Order Date | ; 21.04,2023 |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | and the second second |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1355 : Near Water Pump; Hisri (New) Bauxite Mine(14.55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 25.04.2023 to 26.04.2023 : 10.05.2023 : Ambient Air |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| MET | EOR | OLOG | ICAL . | INFOR | MATION | |
|-----|-----|------|--------|--------|--------|--|
| 0.0 | 11 | 1001 | | 10.000 | | |

| | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mmH | lg) : 743 | - |
|---|-------------------------------|---|--------------------------|-----------|---|
| 3 | Relative Humidity (%) : 61 | 4 | Weather Condition | : Clear | |

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

Remarks; (*) Parameters are outsourced to other Lab,



**** End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20445CE9713D124

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



| | TES | T REPORT | |
|-----------------|-------------------------------|---------------------|--|
| Test Report No. | : ELES/RNC/2023/1929 | Report Release Date | : 12.06.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | +TC883923000000890F | | |
| CUSTOMER DET | AILS | SAMPLE DETAILS | The second s |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1356 |

| constrained realine | - Endered moustries contred | Location | : Near Old Rest Shelter; Histi |
|-------------------------|--|--|--|
| Address Plant Status | : Lohardaga, Jharkhand-835302 : Operational | Sampling Date Sample Received Date Type of Sample Sample Drawn By | (New) Bauxite Mine(14,55ha) : 25.04.2023 to 26.04.2023 : 10.05.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) ; 743 | |
|---|-------------------------------|---|-------------------------|-----------|--|
| 3 | Relative Humidity (%) : 61 | 4 | Weather Condition | : Clear | |

| Discipline : | Chemical | Group : | Group : Atmospheric Pollution | | |
|----------------------------|--------------------|---------------------------------|-------------------------------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 61 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 33 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.5 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.2 | 80 (24hrs) | |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) | |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | nig/m ¹ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.012 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



Authorized Signatory

****End of Report**** Dr. Deependra Kumar

Page 1 of 1

Ph. D. Edvironmental England

Sinha

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

ENGINEERING SERVICES PVT. LTD.

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/1929 | Report Release Date | : 12.06.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/1356 Near Old Rest Shelter; Hisri (New) Bauxite Mine(14,55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 25.04.2023 to 26.04.2023 : 10.05.2023 : Ambient Air |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 |
| Period of Analysis | = 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| I | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mmHg) | : 743 |
|---|-------------------------------|---|----------------------------|---------|
| 3 | Relative Humidity (%) : 61 | 4 | Weather Condition | : Clear |

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

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



****End of Report****

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

Page 1 of 1

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

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| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/1930 | Report Release Date | : 12.06.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC88392300000891F | | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1357 : Near Old Plantation (North West Corner) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | Hisri (New) Bauxite Mine(14,55ha : 25.04.2023 to 26.04.2023 10.05.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm) | Hg) : 743 | |
|---|-------------------------------|---|--------------------------|-----------|--|
| 3 | Relative Humidity (%) : 61 | | Weather Condition | Clear | |

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|------|------------|
| | Direl |

| Discipline : Chemical | | Group | Group : Atmospheric Pollution | | |
|----------------------------|-------------------|---------------------------------|-------------------------------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 61 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.9 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 14.7 | 80 (24hrs) | |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ² | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.007 | 1 (24firs) | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

茵 Reviewed by

****End of Report****

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Dr. Deepen

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/1930 | Report Release Date | : 12.06.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|-------------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1357 : Near Old Plantation (North West Corner) | |
| Address Plant Status | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | Hisri (New) Bauxite Mine(14.55ha) : 25.04.2023 to 26.04.2023 : 10.05.2023 : Ambient Air | |
| Plant Status | - Operational | Sample Drawn By | : ELES/DOC/SMPL/02 | |
| Period of Analysis | = 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | | | |
|----|-------------------------------|---|---------------------------|---------|---|
| 1 | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mmHg | 0 :743 | |
| 3 | Relative Humidity (%) :61 | 4 | Weather Condition | : Clear | _ |

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

****End of Report****

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



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Dr. Deepender Ph. p. Encronmental Eogg-ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

VGINEERING SERVICEN PVT. L

Email: Info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290203 Website - www.elespl.co.in



| Test Report No. | : ELES/RNC/2023/1931 | Report Release Date | : 12.06.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | ± TC88392300000892F | | |

| CUSTOMER DEL | CUSTOMER DETAILS | | |
|--|-------------------------------|-----------------------------------|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1358 |
| | | Location | : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 25.04.2023 to 26.04.2023 |
| | | Sample Received Date | : 10.05.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | Ambient Air |
| a service a service se | | | ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature ("C) : 3 | 3 | 2 | Barometric Pressure (mmHg) | : 743 |
|---|------------------------------|---|---|----------------------------|---------|
| 3 | Relative Humidity (%) : 6 | 1 | 4 | Weather Condition | : Clear |

| Discipline : | Chemical | Group ; | Atmospheri | c Pollution |
|----------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 67 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 33 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 8.5 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 19.5 | 80 (24hrs) |
| Ozone (O3) | pg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.009 | 1 (24hrs) |
| Nickel (Ni) | ng/m ¹ | IS 5182 (Part-26):2020 | <6,0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

Authorized Signatory

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****End of Report****

Dr. Deeponno ni

Ph. D. Environmental Engg. ELLS Fut. Ltd. Technical Most

Page 1 of 1

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

NGINEERING SERVICES PVT. LTD.

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/1931 | Report Release Date | : 12.06.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | _ |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1358 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14,55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 25.04.2023 to 26.04.2023 : 10.05.2023 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | = 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|--------|---|----------------------------|---------|
| T | Average Temperature (°C) | : 33 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | 2.61 | 4 | Weather Condition | : Clear |

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

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



****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Even. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PHOTING-32, MANSERBWAR ENCLAVE, TURRIDANI HATU, FANCH BERRES (JURRINANO) SATING- TURALCES (2013)

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Emaili <u>hikospelesakoa, ki veles romahillinanali vaje</u> Phane na. : 1651-2390303 Website i wiviw elesakon ()



| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/1920 | Report Release Date | : 12.06.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000000881F | | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1347 : Near Daldaliya Village |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | Bagru Bauxite Mine (75.41ha) 20.04.2023 to 21.04.2023 10.05.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| 1 / | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | :743 |
|-----|--------------------------|-----------------|------|----------------------------|----------------|
| 3 1 | Relative Humidity (%) | : 59 | - 14 | Weather Condition | : Clear |
| 5 1 | ongitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

| NABL Accredited Discipline : | Chemical | Group | : Atmospheri | e Pollution |
|---------------------------------|-------------------|---------------------------------|--------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 62 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO1) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | μg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 13.1 | 80 (24hts) |
| Ozone (O ₃) | µg/m ² | 15 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m ³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10); 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ² | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m' | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

ETLIL

Authorized Signatory

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

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The Decement stated as Test Report, is added by the Laboratory under General Terms and Coulifions, only additionally lines head in poly-ipproved offsite. The results shown in the Test Report refer or relates only to the job analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compression and jurisdictor issues. Any unauthorized alteration & fabriclearies on the limit of the legal actions unless from simple are related of solary begins and of the Test Report is unlimited an offenders may be prosecuted to the fabriclearies of the Test Report is unlimited and offenders may be prosecuted to the fabriclearies of the Test Report. The samples from Regulatory bodies are to be relative a specifical. Any type of Observations or Compliants regarding the Report shall be done within Usdays from the Date of Test Report is each offender the units of stated before, no compliants will be accepted. The entire Time schedule inclination of a Test Report is of Test Report and NA (Nor Arguitable), BDL (Below Demond Limite, LDI. (Lower Detection Limit).



PLOT NO-30, MANSAROYAR ENCLAYE, TURUDAWA MATIA, RANCH-634003 (JMARKNAND) GIT NO-254A6CE97180321

CINEARING SERVICES PVT. 112.

Email: Info@elesni.co.in , elesten.chi@amail.com Phoné noi: 0651-7290103 Website : www.slessi.co.in

| | TES | TREPORT | |
|-----------------|-------------------------------|-----------------------------|---|
| Test Report No. | : ELES/RNC/2023/1920 | Report Release Dat | e : 12.06.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| CUSTOMER DET | AILS | SAMPLE DETAIL | S |
| Customer Name | ; Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1347 : Near Daldaliya Village |

| | A STATE OF | | Bagru Bauxite Mine (75.41ha) |
|--------------------|---|-----------------------------------|-------------------------------------|
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 20.04.2023 to 21.04.2023 |
| | COLUMN FOR MICH. | Sample Received Date | + 10.05.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFOR | RMATION | | | |
|---|--------------------------|-----------------|---|----------------------------|----------------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | ; Clear |
| 5 | Longitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

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

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



****End of Report****

Authorized Signatory Dr. Deependra Komar Sinha Ph. D. Environmunial Engg. ELES Pvr. Ltd. Technical Manager

Page 1 of 1

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PUDT NO-30, MANSAROVAR BRELAVE, TUPLIDANA HATIA, MANEHI-834803 UHAMMANDI UST NO- 255 AFFF97230124



Emplit taio@elemi.en.in, elei von el@empli.com Phone no. - 0551-1290103 Webaits / upon slapphen.in

| Test Report No. | : ELES/RNC/2023/1921 | ST REPORT Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|----------------------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC88392300000882F | | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1348 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha) |
| Address | : Loharduga, Jharkhand-835302 | Sampling Date Sample Received Date | : 20.04.2023 to 21.04.2023 : 10.05.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
|---|--------------------------|----------------|---|----------------------------|-----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

| Discipline : | Chemical | Group 1 Atmospheric Pollution | | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 61 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 28 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.1 | \$0 (24hrs) | |
| Nitrogen Di-Oxide (NO1) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 12.2 | 80 (24hrs) | |
| Ozone (O ₂) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | μg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.014 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ² | 15 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

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Ph. D. Environmental Engo

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PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIR, RANDIABBAUDA (JHARKHANO) BST ND-- ROAARCERTISDIZA

VOINSERING SERVICES FLT. LYB.

Empili: Info(wslaspi,ca.)n , sles.ranchi@amail.com Phane.no.: 0551-2290103 Website : www.elespi.co.in

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RNC/2023/1921 | Report Release Date | : 12.06.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21,04.2023 | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1348 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 20.04.2023 to 21.04.2023 : 10.05.2023 : Ambient Air | |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 | |
| Period of Analysis | ÷10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFOR | RMATION | | | |
|---|--------------------------|----------------|---|----------------------------|-----------------|
| L | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | ; 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

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

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



"""*End of Report""""

Authorized Signatory Dr. Deependra Kumai Sinha Ph. D. Environmental Engg. ELES Pvt. Lt.), Tuchnical Manaper

Page 1 of 1

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PHEL NO-30, MANSAROVAR ENCLAVE, TUPUDANA NATIR, RANCHI-5340RE (INARKHAND) ISE NO- INAARDI97140274

POVERNESS ELLIVINGO FRE. 41

Email: Info@elecul.co.in, electrontal@annii.com Phane no.: DEE1-2290103 Website : www.elecol.co.in



| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/1922 | Report Release Date | : 12.06.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000883F | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1349 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 20.04.2023 to 21.04.2023 : 10.05.2023 : Ambient Air | |
| Plant Status | ; Operational | Sample Drawn By | : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| 1 | Average Temperature ("C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
|---|--------------------------|----------------|---|----------------------------|-----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | :84°41'28.22"E | 6 | Latitude | : 23°26'45.48"N |

| NABL Accredited | | | | | |
|----------------------------|-------------------|---------------------------------|-------------------------------|---|--|
| Discipline : | Chemical | Group | Group : Atmospheric Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23); 2006; RA2022 | 62 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 8.1 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 12.2 | 80 (24hrs) | |
| Ozone (O3) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | 1S 5182 (Part-22): 2004; RA2019 | 0.015 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ² | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |
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*****End of Report**** Page 1 of 1

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PLOT NO-50, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JINARI/JAND) 557 NO- 30AAECES713D124

ELRING SERVICES PVT, LTD.

Email: Info@elesal.co.in stel.conthi@amail.com Phone no.1 0651-2290103 Website ; www.elespl.co.in

| _ | _ | | _ | _ | |
|-----|--------|--------|-----------|--------|-------|
| 100 | 1000 | 100000 | 1.5-0-2.0 | TRUCT | 11-10 |
| 112 | 2.2471 | 1 | 1212 | PERCE. | 1142 |

| | TEST | REPORT | | |
|-------------------------|-------------------------------|--|--|--|
| Test Report No. | ; ELES/RNC/2023/1922 | Report Release Date | : 12.06.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| CUSTOMER DET | AILS | SAMPLE DETAILS | | |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1349 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) | |
| Address Plant Status | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sample Drawn By | : 20.04.2023 to 21.04.2023 : 10.05.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| Mi | ETEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|-----------------|---|----------------------------|----------------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | ; 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°41'28.22"E | 6 | Latitude | 123°26'45.48"N |

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

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



****End of Report****

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE TUPUDINA HATIA RANCHI-BEADDE UHARICHAND GTT NOr 204450297330324

Emil: Info@velesousc.vr., eles.control@vamail.com Phane no.) 8891-2290103 Web/Ré L Wew/Jelefal.co.In



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|---|---------------------------|
| 1.11.5.1 | REPORT |
| | IN PARTY AND A |

| Test Report No. | : ELES/RNC/2023/1923 | Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC88392300000884F | | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1350 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha) | |
| Address | - Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 20.04.2023 to 21.04.2023 : 10.05.2023 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| Ł | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (numHg) | : 743 |
|---|--------------------------|----------------|---|-----------------------------|----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | :84º37'18.22"E | 6 | Latitude | : 23°27'56.84N |

| NABL Accredited | | | | S | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|--|--|
| Discipline : | Chemical | Group : Atmospheric Pollution | | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 61 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 33 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.9 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 12.2 | 80 (24hrs) | | |
| Ozone (O3) | $\mu g/m^2$ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₃) | µg/m ¹ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | 0.006 | I (24hrs) | | |
| Nickel (Ni) | ng/m ² | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenic (As) | ng/m [*] | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |

Reviewed by

****End of Report****

Page 1 of 1

Authorized Signatory

Thenend

Ph. D. Enviranmente

Sints

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- Difference - of the line



PEDT ND-30, MANSAROVAR ENCLAVE TURUDANA HATIA, RANCHI-834003 (IHARNHAND) GST ND-20AAECE97130134

Emull: Injo@elexpl.co.in . eles.ranchl@amail.com Phone no : 0651-2290103

O SEGVICES PPE 197

Website : www.elespi.co.in

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|---------------|---|
| Test Report No. | : ELES/RNC/2023/1923 | Report Release Date | \$ 12.06.2023 | - |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/1350 Ropeway Angle Station Bagru Bauxite Mine (75,41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 20.04.2023 to 21.04.2023 : 10.05.2023 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFOR | RMATION | | | |
|----|--------------------------|-----------------|---|----------------------------|----------------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°37'18.22"E | 6 | Latitude | : 23°27'56.84N |

| Discipline | : Chemical | Group : Atmospheric Pollution | | | |
|-------------------|-------------------|--------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene® | µg/m ² | IS:5182 (part-11): 2006:RA2017 | <1.0 | 05(Annual) | |
| Benzo (a) Pyrene* | ng/m³ | 1S:5182 (Part-12): 2004;RA2019 | <0.5 | 01(Annual) | |

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



**** End of Report****

Authorized Signatory

Dr. Deepondris Kurren Ginne Ph. D. Environmental Drog ELES Pvt. Ltd. Technical Manner

Page 1 of 1

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Seve Environment, Seve Etimics



Sulphate (as SO,)

Nitrate (as NO3)

(as C6H3OH)

Phenolic Compound

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST ND:- 200AECES713D124

NGIWEERING SERVICES PYT. LTD.

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

: Hisri (New) Bauxite Mines

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Relaxation

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0.001

: ELES/DOC/SMPL/01

| | ILS | I KEPOKI | |
|------------------------------|-------------------------------|--|---|
| Test Report No. | : ELES/RAN/2023/0500 | Report Release Date | : 06.05.2023 |
| Work Order No. : 13612310218 | | Work Order Date | : 21.04.2023 |
| CUSTOMER DE | TAILS | SAMPLE DETAILS | |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Sampling Date | : ELES/RAN/2023/DW/0385 : 18.04.2023 |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 26.04.2023 : Drinking Water |

Source/Location of Sample

Sampling Procedure

CT DEDOD

| Mines Status : | : Operational | | Sample Collected By | | Sealed & Preserved | | |
|---------------------------------|------------------------|---------------------------|---------------------------------|---------------|--------------------|---------------------|----------------------|
| Period of Analysis : | 26.04.2023 to 05 | 5.05.2023 | Sample Condition | | | | |
| Discipline : Chemical | | | Group : Water | | | Regulatory Limit | |
| Parameter Uni | | Test Protocol | | Result | | Acceptable Limit | Permissible Limit |
| pH (at 25.2°C) | | APHA 23" Ed.2017, 4500-H | | 7.24 | | 6.5-8.5 | No Relaxation |
| Turbidity | NTU | APHA 23rd Ed.2017, 2130 B | | 0.14 | | 1.0 | 5.0 |
| Taste | | APHA 23rd Ed.2017, 2160 C | | Agreea | ble | Agreeable | Agreeable |
| Odour | - | IS 30 | 25 (Part-5) :2018 | Agreeal | ble | Agreeable | Agreeable |
| Colour | Hazen | APHA 23 | d Ed.2017, 2120B&D | 1.0 | - 11 | 5 | 15 |
| Total Dissolved Solids (TDS) | mg/L | APHA 23rd | Ed.2017, 2540B,C&D | 384 | | 500 | 2000 |
| Chloride (as Cl) | mg/L | APHA 23 | d Ed.2017, 4500 CI B | 68.4 | | 250 | 1000 |
| Fluoride (as F) | mg/L | APHA 23 | rd Ed.2017, 4500 F-D | BDL (DL: 0 | | 1.0 | 1.5 |
| Total Alkalinity (as Ca | CO ₃) mg/L | APHA 2 | 314 Ed.2017, 2320 B | 140 | | 200 | 600 |
| Total Hardness (as Cat | CO ₃) mg/L | APHA 2 | 3rd Ed.2017, 2340 C | 150 | 2.1 | 200 | 600 |

Page 1 of 4

APHA 23rd Ed.2017, 4500 SO42-E

APHA 23rd Ed.2017, 4500 NO-B

IS 3025 (Part-43):1992;RA2019

mg/L

mg/L

mg/L

20.8

1.78

BDI.

(DL: 0.0005

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PLOT ND-30, MANSAROVAN ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 65T ND:~ 26AAECE97130324

NGINEERING SERVICES PVT, LTD.

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

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RAN/2023/0500 | Report Release Date | : 06.05.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| Discipline : Chemical Group : Water | | | | | Regulatory Limit as per IS10500:2012 | |
|-------------------------------------|-----------|--|--------------------|------------|---|--|
| Parameter | Unit | Unit Test Protocol | | Acceptable | Permissible | |
| Cyanide (as CN) | mg/L | APHA 23 rd Ed.2017, 4500 CN-E | BDL (DL: 0.012) | 0.05 | No Relaxation | |
| Residual Free Chlorine (RFC) | mg/L | IS 3025 (Part-26):2021 | BDL (DL: 0.1) | 0.02 | 1.0 | |
| Calcium (as Ca) | mg/L | APHA 23 ^{re} Ed.2017, 3500 Ca B | 38.4 | 75 | 200 | |
| Discipl | ine : Che | mical Group | : Residues in | Water | | |
| Aluminum (as Al) | mg/L | IS 3025 (Part-55): 2003; RA2019 | BDL (DL: 0.02) | 0.03 | 0.2 | |
| Arsenic (as As) | mg/L | IS 3025 (Part 37): 2022 | BDL (DL: 0.005) | 0.01 | No Relaxation | |
| Boron (as B) | mg/L | IS 3025(Part-57): 2005; RA2021 | BDL (DL: 0.2) | 0.5 | 1.0 | |
| Cadmium (as Cd) | mg/L | APHA 23rd Ed.2017, 3111B | BDL (DL: 0.003) | 0.003 | No Relaxation | |
| Total Chromium (as Cr) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | No Relaxation | |
| Copper (as Cu) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | 15 | |
| Iron (as Fe) | mg/L | APHA 23rd Ed.2017 , 3111B | 0.212 | 1.0 | 1.0 | |
| Lead (as Pb) | mg/L | APHA 23rd Ed.2017, 3111B | BDL (DL: 0.01) | 0.01 | No Relaxation | |
| Manganese (as Mn) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.05) | 0.1 | 0.3 | |
| Mercury (as Hg) | mg/L | 15 3025 (Part-48): 1994; RA2019 | BDL (DL: 0.001) | 0.001 | No Relaxation | |
| Selenium (as Se) | mg/L | IS 3025 (Part-56): 2003; RA2019 | BDL (DL: 0.01) | 0.01 | No Relaxation | |
| Zinc (as Zn) | mg/L | APHA 23rd Ed.2017, 3111B | BDL (DL; 0.1) | 5 | 15 | |

Remarks: I. pH & RFC done at Lab,

Page 2 of 4

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NGINEERING SERVICES PVT, LTD.

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

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RAN/2023/0500 | Report Release Date | : 06.05.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| Discipline : Che | | Group : Water | | | |
|---|------|---------------|--------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit as per 15 10500:2012 | |
| Pesticides | | | | | |
| Alachlor* | µg/L | APHA | BDL (DL: 1.0) | 20 | |
| Atrazine* | µg/L | АРНА | BDL (DL: 1.0) | 2 | |
| Aldrin/Dieldrin* | µg/L | АРНА | BDL (DL: 0.01) | 0.03 | |
| Alpha HCH* | μg/L | АРНА | BDL (DL: 0.001) | 0.01 | |
| Beta HCH* | μg/L | APHA | BDL (DL: 0.01) | 0.04 | |
| Butachlor* | µg/L | АРНА | BDL (DL: 10) | 125 | |
| Chlorpyriphos* | µg/L | АРНА | BDL (DL: 10) | 30 | |
| Delta HCH* | µg/L | АРНА | BDL (DL; 0.01) | 0.04 | |
| 2,4 dichlorophenoxyacetic acid* | µg/L | АРНА | BDL (DL: 10) | 30 | |
| DDT(o,p and p,p-isomers of DDT,DDE and DDD)* | µg/L | АРНА | BDL (DL: 0.5) | 1 | |
| Endosulfan (alpha, beta, and sulphate)* | µg/L | АРНА | BDL (DL: 0.1) | 0.4 | |
| Ethion* | µg/L | АРНА | BDL (DL: 0.5) | 3 | |
| Gamma HCH (Lindane)* | µg/L | АРНА | BDL (DL: 0.5) | 2 | |
| Isoproturon* | µg/L | АРНА | BDL (DL: 0.5) | 9 | |

Page 3 of 4

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NOINEERING SERVICES PVT. LTD.

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

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RAN/2023/0500 | Report Release Date | : 06.05.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| Dissipline B | olonical | Group - 1 | Water | Regulate | ory Limit |
|---|------------|-------------------------------|---------------------|-----------------------|----------------------|
| Discipline : Biological | | Group : Water | | as per IS 10500:2012 | |
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit |
| Total Coliform | Per 100 mL | IS 15185:2016; RA 2021 | Not Detected | Shall not be detected | |
| Escherichia Coli (E. Coli) | Per 100 mL | 18 15185:2016; RA 2021 | Not Detected | | |
| Discipline : Chemical | | Group : | Water | Regulatory Limit | |
| Discipline : | Cucuticas | Group : | water | as per IS 10500:2012 | |
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit |
| Anionic Surfactants (as MBAS)* | mg/L | 1S 3025 Part 68 | BDL (DL: 0.1) | 0.2 | 1.0 |
| Mineral Oil* | mg/L | CL-6, 18: 3025 (P-39) | BDL (DL: 0.1) | 1,0 | No relaxation |
| Polynuclear Aromatic Hydrocarbons (PAH)* | mg/L | APHA 23rd Edition | BDL (DL: 0.0001) | 0.0001 | No relaxation |
| Polychlorinated Biphenyls (PCB)* | mg/L | APHA 23 rd Edition | BDL (DL: 0.0005) | 0.0005 | No relaxation |

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



****End of Report****

Rokha Saxenc

Authorised Signatory Rekha Saxena B. Sc. M. Sc. (Botany) Director ELES Pvt. Ltd.

Page 4 of 4

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| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/2259 | Report Release Date | : 01.07.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001181F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1732 : Near Water Pump; Hisri (New Bauxite Mine(14,55ha) | |
| Address | : Löhardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.05.2023 to 18.05.2023 : 06.06.2023 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air ; ELES/DOC/SMPL/02 | |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm) | lp) - 743 |
|---|-------------------------------|---|--------------------------|-----------|
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Discipline : | Chemical | Group | : Atmospheri | e Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ¹ | IS 5182 (Part-23): 2006; RA2022 | 59 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 28 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.4 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 11.4 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ¹ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

SUT Reviewed by

Authorized Signatory

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

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

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ENGINEERING SERVICES PVT. LTD.

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| TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/2259 | Report Release Date | : 01.07.2023 | - |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1732 : Near Water Pump; Hisri (New) Bauxite Mine(14.55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.05.2023 to 18.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFORMATION | | | | |
|---|-------------------------------|---|-------------------------|-----------|---|
| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm | Hg) : 743 | - |
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear | |

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

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



End of Report *

Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES P.V. Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.



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

| | TE | ST REPORT | | |
|-----------------|----------------------|-------------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/2260 | Report Release Date | : 01.07.2023 | - |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | _ |
| ULR No. | : TC883923000001182F | - Internet in the south | | - |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1733 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.05.2023 to 18.05.2023 : 06.06.2023 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| Average Temperature (°C) : 35 | | 2 | Barometric Pressure (mmHg) | mmHa) +741 | |
|-------------------------------|----|---|----------------------------|------------|--|
| 3 Relative Humidity (%) : | 60 | | Weather Condition | : Clear | |

| Discipline : | Chemical | Group | : Atmospheri | a Dollation |
|----------------------------|-------------------|----------------------------------|--------------|----------------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ¹ | IS 5182 (Part-23): 2006; RA2022 | 57 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 10.8 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m ² | IS 5182 (Part-25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | 1\$ 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.009 | |
| Nickel (Ni) | ng/m ³ | 1S 5182 (Part-26):2020 | <6.0 | 1 (24hrs) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 20 (Annual) 06 (Annual) |

Reviewed by

METEOROLOGICAL INFORMATION

Authorized Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2260 | Report Release Date | : 01.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1733 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 17.05.2023 to 18.05.2023 : 06.06.2023 : Ambient Air | |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Scaled & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | the second second second | | | |
|----|-------------------------------|--------------------------|-------------------------|------------|---|
| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mn | nHg) : 743 | |
| 3 | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear | - |

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

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



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES FVT. LTD



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| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|---------------|---|
| Test Report No. | : ELES/RNC/2023/2261 | Report Release Date | : 01.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | _ |
| ULR No. | : TC883923000001183F | | 1.5000 (1994) | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1734 : Near Old Plantation (North West Corner) | |
| Address | ± Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | Hisri (New) Bauxite Mine(14.55ha : 17.05.2023 to 18.05.2023 : 06.06.2023 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm | Hg) : 743 |
|---|-------------------------------|---|-------------------------|-----------|
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear |

| Discipline : | Chemical | Group | Group : Atmospheric Pollution | | |
|----------------------------|-------------------|---------------------------------|-------------------------------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 59 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 26 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.5 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 16.2 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | <u>нш/m</u> 3 | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.008 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ¹ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



****End of Report****

Dr. Weetien Sien Kuthar Sinha Ph. D. Environmental Engo

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | ; ELES/RNC/2023/2261 | Report Release Date | : 01.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1734 : Near Old Plantation (North West Corner) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | Hisri (New) Bauxite Mine(14.55ha) : 17.05.2023 to 18.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mmHa | 2) : 743 | |
|---|-------------------------------|---|---------------------------|----------|---|
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear | - |

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

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

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

Page 1 of 1

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

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

| _ | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No; | : ELES/RNC/2023/2262 | Report Release Date | : 01.07.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001184F | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1735 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14,55ha |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.05.2023 to 18.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mml | (g) : 743 | |
|---|-------------------------------|---|--------------------------|-----------|--|
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear | |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Discipline : | Chemical | Group | : Atmospheri | e Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ¹ | IS 5182 (Part-23): 2006; RA2022 | 64 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 35 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 16.2 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974: RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.013 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S \$182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m [®] | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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Dr. Weeger Sign Korhar Sinha Ph. D. Environmental Engg.

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Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2262 | Report Release Date | : 01.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | 2 Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1735 ; Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.05.2023 to 18.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | | | |
|----|-------------------------------|---|--------------------------|----------|---|
| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mmH | p) : 743 | - |
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear | - |

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

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



****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmantal Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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HEAT NO BU MANSAROVAR ENCLAVE, TUPUDANA HATIA, NANCHINEBOUS (IRANIHABU) BST NO-ROMECERSIO1/1

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| | TESI | REPORT | |
|--------------------|-------------------------------|--|---|
| Test Report No. | : ELES/RNC/2023/2251 | Report Release Date | : 01.07.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No, | : TC883923000001173F | | |
| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
| Customer Name | : Hindaleo Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1724 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 15.05.2023 to 16.05,2023 : 06.06.2023 |
| Plant Status | : Operational | Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06,06,2023 to 07.06,2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFOI | RMATION | | | |
|---|--------------------------|-----------------|---|----------------------------|----------------|
| 1 | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Discipline : | Chemical | Group | : Atmospheri | e Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part-24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | μg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 16.2 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | µg/m ⁱ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m1 | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | 1S 5182 (Part-22); 2004; RA2019 | <0.002 |) (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6,0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

Authorized Signatory Deepandra Kumar Sinha Dr

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

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REQTINDED, MANSAROVAR ENGLAND, TUMUDANA SHITIN, TRANSHIGE (COB (THARKHAND) GATINO: 200460557110121 ENGINEERING SERVICES PVT. LTD.

Emdil: <u>Iafo@elespl.co.in</u>, <u>eles.ronchi@amall.com</u> Phone.no.: 0651-2290103 Website::www.elespl.co.io

| Test Report No. | : ELES/RNC/2023/2251 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|--|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1724 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 15.05.2023 to 16.05.2023 : 06.06.2023 |
| Plant Status | ; Operational | Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFOI | RMATION | | | |
|---|--------------------------|-----------------|---|----------------------------|----------------|
| 1 | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | ; 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

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

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



**** End of Report****

Authorized Signutary Dr. Deepandra Kumar Sinha Ph. D. Environmental Engg. ELES 2VI. UK. Technizel Manager

Page 1 of 1

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REDT NO-SO, MANSAROVAT SNOLAVE, TUNHDANA HATLA, RANEHI-254003 (HKLRENAND) STT NO - 21482274030121

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| Test Report No. | : ELES/RNC/2023/2252 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001174F | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|--|--|
| Customer Name | : Hindaleo Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1725 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha) |
| Address. | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 15.05.2023 to 16.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.05.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFOI | RMATION | | | |
|----|--------------------------|----------------|---|----------------------------|------------------|
| T. | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"'N |

| NABL Accredited | | | | | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|--|--|
| Discipline : | Chemical | Group : Atmospheric Pollution | | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 57 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 24 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.9 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.2 | 80 (24hrs) | | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20,0 | 100 (8hrs) | | |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m ² | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8)us) | | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.010 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenić (As) | ng/m ² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |

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Authorized Signatory Ðr

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Dwill Info@elesal.co.in . elessanchi@amail.com Phone no.: 0651-2290103 Website : unvinelesel.co.in

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|-----------------|----------------------|---------------------|--|--|
| Test Report No. | : ELES/RNC/2023/2252 | Report Release Date | : 01.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|--|--|
| Customer Name | 3 Hindsleo Industries Limited | Sample Ref. No. Location Sampling Date | ELES/RNC/2023/AA/1725 Aditya School Gangupara Bagru Bauxite Mine (75.41ha |
| Address | ± Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 15.05.2023 to 16.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved |

| M | TEOROLOGICAL INFOR | EMATION | | | |
|---|--------------------------|----------------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | :35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | 1.59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

| Discipline | : Chemical | Group | Group : Atmospheric Pollution | |
|-------------------|-------------------|-------------------------------|-------------------------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene* | µg/m³ | IS 5182 (Part-11)2006; RA2017 | <1.0 | 05(Annual) |
| Benzo (a) Pyrene® | ng/m ² | 1S 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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



****End of Report****

Authorized Signatory Dr. Despendra Kumar Sinha Dr. D. Envronmental Engg. ELSS Five Ltd. Technical Manager

Page 1 of 1

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ENVIRONMENTAL LABORATORIES & NE ERING AEROSCHICS

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| Test Report No. | : ELES/RNC/2023/2253 | Report Release Date | : 01.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | r 21.04.2023 | |
| ULR No. | : TC883923000001175F | | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | and the second |
|--------------------|-------------------------------|--|--|
| Customer Name | : Hindaleo Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1726 : Ropeway Unloading Station Bagru Bauxite Mine (75,41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 16.05.2023 to 17.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
|---|--------------------------|-----------------|---|----------------------------|-----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°41'28,22"E | 6 | Latitude | : 23°26'45.48"N |

| Discipline : | Chemical | Group : | Atmospheri | e Pollution |
|----------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 59 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 15 5182 (Part-2): 2001; RA2022 | 6.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 10.3 | 80 (24hrs) |
| Ozone (O3) | µg/m ¹ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.008 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ² | ELES/AIR/SOP/01 | <2.6 | 05 (Annual) |

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Dr. Ceependra Kunter Sinha

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PLOT NO-30, MANSARDVAR ENCLAVE, TURUDANA MATIA, RANCHI-534023 (IMARXHAND) UST NO-204430297130124

Email: Info@elesyl.co.in ; pies.conchl@amoll.com Phane rio : 0551-1290103 Webiite : www.cietal.co.in

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| Test Report No. | : ELES/RNC/2023/2253 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1726 : Ropeway Unloading Station Bagra Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample Sampling Procedure | : 16.05.2023 to 17.05.2023 : 06.06.2023 : Ambient Air |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|-----------------|---|----------------------------|-----------------|
| 1 | Average Temperature ("C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°41'28.22"E | 6 | Latitude | : 23°26'45.48"N |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | | |
|-----------------------|-------------------|-------------------------------|--------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Benzene* | µg/m ⁵ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) | | |
| Benzo (a) Pyrene* | ng/m ³ | IS 5182 (Part-12)2004(RA2019 | <0.5 | 01(Annual) | | |

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



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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TURNOL KA HATIA HANCHHIG4003//HARNHAND) SST MOS- BRAAKCEPTERDERA

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| Test Report No. | : ELES/RNC/2023/2254 | Report Release Date | : 01.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001176F | | | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|--|--|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1727 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha) | | |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 16.05.2023 to 17.05.2023 : 06.06.2023 | | |
| Plant Status | 3 Operational | Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 | | |
| Period of Analysis | : 06.06.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved | | |

| 1 | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
|---|--------------------------|-----------------|---|----------------------------|----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Ciear |
| 5 | Longitude | : 84°37'18.22"E | 6 | Latitude | : 23°27'56.84N |

| NABL Accredited | | | | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|--|
| Discipline : | Chemical | Group : Atmospheric Pollution | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 57 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part-24): 2019 | 30 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.4 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 14.5 | 80 (24hrs) | |
| Ozone (O3) | µg/m ² | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | µg/m³ | 15 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1,0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0,005 | 1 (24hrs) | |
| Nickel (Ni) | ng/m [‡] | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ⁴ | ELES/AIR/SOP/01 | <2,0 | 06 (Annual) | |

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Page 1 of 1

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The December stated as Test Report, is useful by the Laboratory under General Terms and Conditions, only on Company letter head on pre-approved RINED 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 Testings done by the Laboratory in the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report. every(the information which is provided by the client. The Report cannot be reproduced every) in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertue, used for any legal actions unless pror primitision has been secured from the Management of the Laboratory. Anextons in drawn to the invitation of liability, compensation and jurediction issues. Any unauthorized alteration of the concept or appendance of the Test Report in unlaw ful and offendary may be prosequied to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/usue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done writin 15days from fite Date of Test Report released instead. After the toxe period stated before, no compliance will be accepted. The entire Time schedule, renstationed in Test Report is in 245core Torrison Alderevision used: N/A (Nor Applicable), BDL (Bidev, Detection Limit), LDL (Lower Detection Limit)



PLOT NO-30, MANSAROVAR ENCLAVE TUPUDAMA HATIA, RANCH-R34003 (JHARKHAND) 357 NO-20MAE0291130324

Email: Info@elasal.co.in , eles.conchi@amail.com Phone no.1 0651-2290103 Wessite : www.elesol.co.in

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2254 | Report Release Date | : 01.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|--|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/1727 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample Sampling Procedure | : 16.05.2023 to 17.05.2023 : 06.06.2023 : Ambient Air | |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 06.06.2023 to 07.06.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFOR | RMATION | | | |
|----|--------------------------|-----------------|---|----------------------------|----------------|
| 1. | Average Temperature (°C) | ; 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°37'18.22"E | 6 | Latitude | : 23°27'56.84N |

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

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



****End of Report****

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Page 1 of 1

The Document stated as Test Report, a based by the Laboratory under General Terms and Conditions, only on Company letter head in pre-opproved 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 refers the findings done by the Laboratory only. The information stated on the Test Report refers the findings done by the Laboratory only. The information stated on the Test Report refers the findings done by the Laboratory at the time of involvement only and within the limits of client's notractions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in fail and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report is fail or in part shall not be publiched, advertise, used for any legal actions interest prior permission has been second from the Management of the Laboratory. Attention is drawn to the limit of flightly, compensation and jurisdiction issues. Any unantherized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law, All the samples are retained for J0days from the Date of relaxe/assue of the Test Report is unlawful and offenders are to be related as specified. Any type of Observations or Compliant regarding the Reports shall be done within 15days from the Test Report is heat of the take Report permission and W/A (Net Applicable), BDJ, (Below Description family, CDJ, (Laww Detection Limit).

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

ENGINEERING SERVICES PVT. LTD.

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



CIN: U7400004202807C002325

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2847 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001712F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|--|--|--|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure | : ELES/RNC/2023/AA/2179 : Near Water Pump; Hisri (New Bauxite Mine(14.55ha) : 22.06.2023 to 23.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved | |

| - | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mmHg) | ; 739 |
|---|-------------------------------|---|----------------------------|---------|
| | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear |

| NABL Accredited Discipline : | Chemical | Group ; | Atmospherie | c Pollution |
|---------------------------------|-------------------|---------------------------------|-------------|------------------|
| Parameter Unit | | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 56 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.7 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 16.5 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10,0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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Authorised Signatory Jr. Deependra Kumar Sinha D Environmental Enga

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

ELES Pvt. Ltd. Technical Manager

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



PLOT NO-3D, 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 Websitz : www.elespl.co.in

CIN: U749999JH2018PTC011125

| | TI | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2847 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | and the second second |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2179 : Near Water Pump; Hisri (New Bauxite Mine(14.55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 22.06.2023 to 23.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES Pvt. Ltd. |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved |

| MET | TEOROLOGICAL INFORMATION | | | | |
|-----|-------------------------------|---|-------------------------|-----------|---|
| | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) : 739 | _ |
| _ | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear | - |

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

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



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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GS7 NO:- 20AAFCE97130124

ENGINEERING SERVICES PVT. LTD.



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

| | TE | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2848 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001713F | | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | the second second second |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2180 : Near Old Rest Shelter, Hisri (New) Bauxite Mine(14.55ha : 22.06.2023 to 23.06.2023 |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 26.06.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 ; ELES Pvt. Ltd. |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved |

2

4

Barometric Pressure (mmHg)

Weather Condition

| | M | ETEOROLOGICAL INFOR | MATION |
|---|---|--------------------------|--------|
| 1 | 1 | Average Temperature (°C) | : 33 |

: 60

1 Average Temperature (°C)

Relative Humidity (%) 3

| Discipline : | Discipline : Chemical Group | | | |
|----------------------------|-----------------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 55 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 26 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 16.3 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ² | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24brs) |
| Nickel (Ni) | ng/m | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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Authorised Signatory Jr. Deependra Kumar Sinha Dh.D Fauiconmontal

: 739

: Clear

****End of Report****

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

CIN-1/709991H2018PTC011125

| | TI | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2848 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | and a second second distance |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2180 : Near Old Rest Shelter, Hisri (New) Bauxite Mine(14.55ha |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 22.06.2023 to 23.06.2023 : 26.06.2023 : Ambient Air |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved |

| ME | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|----------------------------|---------|
| 1 | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mmHg) | : 739 |
| | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear |

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

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



End of Report**

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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.





CIN: U74995042038//FCU21123

| Test Report No. | : ELES/RNC/2023/2849 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001714F | | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------------|--|---|---|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/2181 : Near Old Plantation (North West Corner) Hisri (New) Bauxite Mine(14.55ha : 22.06.2023 to 23.06.2023 : 26.06.2023 |
| Mines Status | : Operational | Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pyt. Ltd. |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) : 739 | |
|---|-------------------------------|---|-------------------------|-----------|--|
| _ | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear | |

| NABL Accredited | | Course | Aturanakani | - Dallation | |
|----------------------------|-------------------|---------------------------------|-------------|------------------|--|
| Discipline : | Chemical | Group : Atmospheric Pollution | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 56 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | 1S 5182 (Part- 24): 2019 | 27 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.1 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 18.5 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.011 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ¹ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

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

Dh D Environmental ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 657 NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

| TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/2849 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | - |

| CUSTOMER DET/ | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|-------------------------|-------------------------------|---|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/2181 Near Old Plantation (North West Corner) Hisri (New) Bauxite Mine(14.55ha) | | |
| Address Mines Status | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 22.06.2023 to 23.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | | |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | | |

| Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) ; 739 |
|-------------------------------|---|-------------------------|-----------|
| Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear |

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

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



****End of Report****

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

Page 1 of 1

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



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

ENGINEERING SERVICES PVT. LTD.



CM/ U74898H2018PTC011225

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2850 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001715F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|--|--|---|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure | : ELES/RNC/2023/AA/2182 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha : 22.06.2023 to 23.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved | |

METEOROLOGICAL INFORMATION

| 1 | Average Temperature ("C) < 33 | 2 | Barometric Pressure (mm) | Hg) : 739 | |
|---|-------------------------------|---|--------------------------|-----------|--|
| 3 | Relative Humidity (%) = 60 | 4 | Weather Condition | :: Clear | |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|
| Discipline : | Atmospheri | e Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 33 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 1S 5182 (Part-2): 2001; RA2022 | 8.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 18.5 | 80 (24hrs) |
| Ozone (O3) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22); 2004; RA2019 | 0,009 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 15 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Engine Reviewed by

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Authorised Signatory Jr. Deependra Kumar Sinha Ph. D. Environmental Enco

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

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | 7 ELES/RNC/2023/2850 | Report Release Date | : 29.07.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2182 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 22.06.2023 to 23.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | | |
| Mines Status | ± Operational | Sample Drawn By | : ELES Pvt. Ltd. | | |
| Period of Analysis | : 26.06.2023 to 07.07.2023 | Sample Condition | : Sealed & Preserved | | |

| MI | ETEOROLOGICAL INFORMATION | | | | _ |
|----|-------------------------------|---|--------------------------|-----------|---|
| - | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mml | Hg) : 739 | |
| _ | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear | |

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

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



****End of Report****

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

Page 1 of 1

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Save Environment, Save Environ



PEOTIND-30, MANSAROVARENCLAYE, TURUDANA HATIA, RANCHI-834003 (IHAR/IHAND) GST NO- 704 AFCE 97 LED LET

INCERING SERVICES P



Email Info@eleadi.co.in , plez.rutch, Jumau.com Phone no.: 0651-2290103 Website : www.elesal.co.in

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/2839 | Report Release Date | : 29.07.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | _ |
| ULR No. | : TC883923000001704F | | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2171 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 20.06.2023 to 21.06.2023 : 26.06.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | ELES/DOC/SMPL/02 ELES Pvt. Ltd. |
| Period of Analysis | 1 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved |

| Barometric Pressure (mn | AND A |
|-------------------------|----------------|
| and the set of the set | 1973 |
| Weather Condition | : Clear |
| 5 Latitude | : 23°29'4.48"N |
| 1 | 5 Latitude |

| NABL Accredited | en l'anti- | Grant | Atmospheri | c Pollution |
|----------------------------|-------------------|---------------------------------|------------|------------------|
| Discipline : | | | Result | Regulatory Limit |
| Parameter | Unit | Test Protocol | | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 57 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 1S 5182 (Part-2): 2001; RA2022 | 6.9 | 80 (24hrs) |
| Nitrogen Dj-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6); 2006; RA2022 | 15.4 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | 1S 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₁) | µg/m ³ | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |
| Ausonic (As) | a CD star | | | |

Reviewed by

hē, Authorised Signatory

****End of Report****

.r. Deepenora Kumar Sinha Da D. Coursemportel Enorgh

Page 1 of 1

ELES Pvt. Ltd. Technical Manager

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Longitude

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 [JHARKHAND] GST NO:- 2014 SCENTER 121

: 84"35'37.93"E

GINEERING SERVICES PVT. LTD.

Email: infa@elespl.co.in . eles.ranchi@amail.com Phone no. 0651-2290103 Wensite : www.elespi.co.in

| | TEST | REPORT | |
|-----------------|-------------------------------|---|---|
| Test Report No. | : ELES/RNC/2023/2839 | Report Release Date | : 29.07.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| CUSTOMER DET | AILS | SAMPLE DETAILS | An an an an an an an |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2171 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 20.06.2023 to 21.06.2023 : 26.06.2023 : Ambient Air |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | ELES/DOC/SMPL/02 ELES Pvt. Ltd. |

| Period of Analysis | 1 26.06.2023 to 06.07.2023 | | ple Condition | : Sealed & Preserved |
|--------------------|----------------------------|---|-------------------|----------------------|
| METEOROLOGI | CAL INFORMATION | | | |
| | erature (°C) : 33 | 2 | Barometric Press | ure (mmHg) : 739 |
| 3 Relative Humi | | 4 | Weather Condition | on : Clear |

6

Latitude

| Discipline | : Chemical | Group | : Atmospheri | e Pollution |
|----------------------|-------------------|--------------------------------|--------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene [#] | ug/m ³ | 1S:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) |
| Benzo (a) Pyrene* | ng/m ³ | 15:5182 (Part-12): 2004;RA2019 | < 0.5 | 01(Annual) |

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



****End of Report****

: 23929'4.48"N

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, CURLIDANA PLITA, #SNCH+834003 (JHAIRHAND) SET NO - TOAABCESTISDIE+

ENGINEERING SERVICES |

Email info@elespi.co.in ; eles.roicci@orna.l.com Phone no.) 0651-2290103 Website : www.ciesul.cg.in



| | TEST | REPORT | |
|-----------------|-------------------------------|---|--|
| Test Report No. | : ELES/RNC/2023/2840 | Report Release Date | : 29.07.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001705F | | |
| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2172 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 20.06.2023 to 21.06.2023 : 26.06.2023 : Ambient Air |

| Mines Status | ; Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
|--------------------|----------------------------|---------------------------------------|--|
| Period of Analysis | : 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved |

| _ | ETEOROLOGICAL INFOI Average Temperature (°C) | 1.2.4.4 | 2 | Barometric Pressure (mmHg) | : 739 |
|---|---|----------------|---|----------------------------|----------------|
| _ | Relative Humidity (%) | - 59 | 4 | Weather Condition | ; Clear |
| - | | 1=1.1 0106010 | 5 | Latitude | :23°27'46.28"N |
| 5 | Longitude | ; 84°38'8.14"E | 0 | Daimage | |

| NABL Accredited Discipline : | Chamion | Group : | Atmospheri | e Pollution |
|--|-------------------|---------------------------------|------------|------------------|
| | Unit | Test Protocol | Result | Regulatory Limit |
| Parameter Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 63 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 34 | 60 (24lurs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 11.6 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | ug/m ³ | (S 5182 (Pari- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (Shrs) |
| Lead (Pb) | µg/m ³ | 1S 5182 (Part-22): 2004; RA2019 | 0.010 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ^r m/ga | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Revieweil by

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****End of Report****

Pre Di Environmentel Erige.

Page 1 of 1 ELES Pvi Ltd. Technical Manager The Document Muted on Test Report, is issued by the Laboratory under General Tents and Conditions, only on Company lotter lead in pre-approved format. The results shown in the Test Report lefter or relates only to the jublicatives decre by the Laboratory only. The information stated on the Test Report reflects the findings davie by the Laboratory at the sine of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the millionization or data provided on the report. except the information which is provided by the client. The Report caused be reproduced except in fall and any part of the repart is not taken out of centext, without prior written approval of the Laboratory. The Report in failt 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. Attintion is drawn to the Robinston of Hability, compensation and periodiction issues. Any manihorized alteration & faisification of the consult or appearance of the Test Report is unlawful and offendars may be presented to the fullest extent of the law. All the samples are retained for 30days from the Date of release date of the Test Report. The amples from Regulatory bodies are to be tonined as specified. Any type of Observations or Complaints regarding the Reports shaft be done, within 15days from the Date of Test Report released/usued. After the type period stated before, no complaints will be secepted. The entire Trite schedule mentioned in Teal Report is in 34 hours former. Abbreviation over N/A (Nos Applicable); BDL (Below Detection Limit), LDI, (Lower Detection Limit).



PLOT NO-30. MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 55T NO-30AAECEIT130124

ENGINEERING SERVICES PVT. LTD.

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

| Test Report No. | : ELES/RNC/2023/2840 | Report Release Date | : 29.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | :13612310218 | Work Order Date | : 21.04.2023 |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2172 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 20.06.2023 to 21.06.2023 : 26.06.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | ; ELES/DOC/SMPL/02 ; ELES Pvt, Ltd. | |
| Period of Analysis | : 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved | |

| T | ETEOROLOGICAL INFOR Average Temperature (*C) | and the second sec | 2 | Barometric Pressure (mmHg) | : 739 |
|---|---|--|---|----------------------------|-----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| - | Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

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

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



"*** End of Report****

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

Page 1 of 1

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PLOTING-30 MANSAROVAR ENCLAVE, TURUDANA NATIA RANDHI-834003 (JHAR/HAND) HST NO- 304450597130173

ENGINEERING SERVICES P



Email Info@elessi.co.in . eles conchi@ornail.com Phone no.: 0651-2290103 Website : www.efesal-co.la

| | TEST | REPORT | |
|--|---|---|---|
| Test Report No. | : ELES/RNC/2023/2841 | Report Release Date | : 29.07.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001706F | | |
| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
| Customer Name Address Mines Status | : Hindalco Industries Limited ; Lohardaga, Jharkhand-835302 : Operational | Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : ELES/RNC/2023/AA/2173 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) : 21.06.2023 to 22.06.2023 : 26.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) | | 2 | Barometric Pressure (mmHg) | : 739 |
|---|--------------------------|-----------------|-----|----------------------------|-----------------|
| - | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 3 | | : 84º41'28.22"E | 6 | Latitude | : 23°26'45.48"N |
| 5 | Longitude | 2 84 41 40,44 5 | 1.0 | Lannae | |

| NABL Accredited Discipline : | Chamical | Group : | Atmospheri | e Pollution |
|---------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | ug/m ¹ | IS 5182 (Part-23): 2006; RA2022 | 55 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.4 | 80 (24lus) |
| Nitrogen Di-Oxide (NO2) | µg/m ¹ | IS 5182 (Part-6): 2006; RA2022 | 15,7 | 80 (24hrs) |
| Ozone (O ₁) | µg/m ¹ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | µg/m ² | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m3 | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | 0.011 | 1 (24hrs) |
| Nickel (Ni) | ng/m² | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

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Page 1 of 1 ELES Pvi Ltd. Technical Manager The Document stand as Test Report, is issued by the Laboratory under Gimeral Terms and Conditions, only on Company letter head in pre-approved format. The results abeven in the Trait Report refer or minates only in the jub/anatysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of any otvement only and within the limits of client's interactions. The Laboratory is responsible for all the information or data provided on the report, exorpt the information which is provided by the client. The Report cannot be reproduced extept in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless pror permission has been recurred from the Nanagament of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any investorized ulteration & falsification of the content or appearance of the Tast Report is optimital and offenders may be prosecuted to the fullest exemp of the law. All the samples are retained for 30days from the Date of released size of the That Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within Lidays from the Date of Tell Report released/issued. After the time period statud before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is to 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Belaw Detection Limit); LDL (Lower Detection Limit);



PLOT NO.30. MANSAROVAR ENCLAVE, JUPUDANA HATTA RANEHI-884003 (JHARRHAND) GST NO- JOLARCENT 130123

ENGINEERING SERVICES PV1. LTD.

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

| | TI | EST REPORT | | |
|-----------------|---------------------|---------------------|--------------|--|
| Test Report No. | TELES/RNC/2023/2841 | Report Release Date | : 29.07.2023 | |
| Work Order No. | / 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2173 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 21.06,2023 to 22.06.2023 : 26.06.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd |
| Period of Analysis | : 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved |

| METEOROLOGICAL INI | ORMATION | | | |
|--------------------------|-----------------|---|-------------------------|-----------------|
| 1 Average Temperature (* | | 2 | Barometric Pressure (mm | Hg) : 739 |
| 3 Relative Humidity (%) | : 59 | 4 | Weather Condition | ; Clear |
| 5 Longitude | : 84°41'28.22"E | 6 | Latitude | ; 23°26'45.48"N |

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

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



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Page 1 of 1

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PLOT NO.30, MANSAROVAR ENCLAVE, TUPUDANA HATTA, BUNCHI-SSADOJ (JHARKHAND) DST NO: 204420297130124

ENGINEERING SERVICES P



Emaili Inta Delécti ca in , eles ninci le amini com Phone no :: 0651-2290103 Website : www.elespl.co.m

| Test Report No. | : ELES/RNC/2023/2842 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001707F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2174 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha | |
| Áddress | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 21.06.2023 to 22.06.2023 : 26.06.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved | |

| METEOR | OLOGICAL INFOI | RMATION | | | |
|----------|---------------------|-----------------|----|----------------------------|----------------|
| Avera | ge Temperature (%C) | : 33 | 2 | Barometric Pressure (mmHg) | : 739 |
| | re Humidity (%) | : 59 | -4 | Weather Condition | : Clear |
| 5 Longit | | : 84°37'18.22"E | 6 | Latitude | : 23°27'56.84N |

| NABL Accredited | Chaminal | Group | Atmospheri | c Pollution |
|----------------------------|-------------------|---------------------------------|------------|------------------|
| Discipline : Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 52 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 15 5182 (Part-2): 2001; RA2022 | 6.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 15.1 | 80 (24hrs) |
| Ozone (O1) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NHj) | µg/m ³ | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | 15 5182 (Part-22); 2004; RA2019 | 0.006 | 1 (24hrs) |
| Nickel (Ni) | ng/m ² | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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**** End of Report****

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Page 1 of 1

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ELOT NO-30, MANSAROVAR ENCLAVE, TURUDANA HATIA, RANCHI-838003 (JHARKHAND) 357 NO-30AAECE97130121

ENGINEERING SERVICES PVF. LTD.

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

| TEST | REPORT | |
|-------------------------------|---|--|
| : ELES/RNC/2023/2842 | Report Release Date | : 29.07.2023 |
| 1 13612310218 | Work Order Date | : 21.04.2023 |
| AILS | SAMPLE DETAILS | |
| : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2174 : Ropeway Angle Station Bagru Bauxite Mine (75.41ba) : 21.06.2023 to 22.06.2023 |
| | : ELES/RNC/2023/2842 : 13612310218 AILS | : 13612310218 Work Order Date AILS SAMPLE DETAILS : Hindalco Industries Limited Sample Ref. No. Location Sampling Date |

| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample | : 26.06.2023 : Ambient Air |
|--------------------|-------------------------------|--|--|
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 26.06.2023 to 06.07.2023 | Sample Condition | : Sealed & Preserved |

| _ | Average Temperature (°C) | and the second se | 2 | Barometric Pressure (mm | Hg) : 739 |
|---|--------------------------|---|---|-------------------------|----------------|
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear |
| 5 | Longitude | : 84°37'18.22"E | 6 | Latitude | : 23°27'56,84N |

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

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



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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G57 NO:- 20AAECE97130124

ENGINEERING SERVICES FVT. LTD.





| Test Report No. | : ELES/RNC/2023/2974 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|---------------------|--------------|---|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001821F | for order part | | - |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|-------------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/2760 : Near Water Pump; Hisri (New Bauxite Mine(14.55ha) : 25.07.2023 to 26.07.2023 | |
| Address Mines Status | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 31.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| | Average Temperature ("C) | :23 | 2 | Barometric Pressure (mmHg) | ±737 | |
|---|--------------------------|------|---|----------------------------|----------|--|
| 3 | Relative Humidity (%) | : 69 | 4 | Weather Condition | : Cloudy | |

| Discipline : | Chemical | Group : | Group : Atmospheric Pollution | | |
|----------------------------|--------------------|---------------------------------|-------------------------------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 54 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6,1 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 13.3 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | jµg/m ² | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



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

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ENGINEERING SERVICES PVT. LTD.

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

| | <u> </u> | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2974 | Report Release Date | : 08.08.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2760 : Near Water Pump; Hisri (New Bauxite Mine(14.55ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 25.07.2023 to 26.07.2023 : 31.07.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mn | iHg) ±737 |
| 3 | Relative Humidity (%) : 69 | 4 | Weather Condition | : Cloudy |

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

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



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

ENGINEERING SERVICES PVT. LTD.



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

| Test Report No. | : ELES/RNC/2023/2975 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001822F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2761 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14,55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 25.07.2023 to 26.07.2023 : 31.07.2023 |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mm | Hg) : 737 |
|---|-------------------------------|---|-------------------------|-----------|
| 3 | Relative Humidity (%) : 69 | 4 | Weather Condition | : Cloudy |

| NABL Accredited Discipline : | Chemical | Group | Group : Atmospheric Pollution | | | |
|---------------------------------|-------------------|---------------------------------|-------------------------------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 50 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 22 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.2 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 14.6 | 80 (24hrs) | | |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10); 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.010 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |

Reviewed

Dr. Deepended Signaloginha Ph. D. Environmental Engg. ELES PVI. Lto. Technical Manager

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Page 1 of 1 ELE

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

ENGINEERING SERVICES PVT. LTD.

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

| | TI | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2975 | Report Release Date | : 08.08.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|--|---------------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2761 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 Sampling Date Sample Received D Type of Sample | | : 25.07.2023 to 26.07.2023 : 31.07.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | ± 31.07.2023 to 07.08,2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|---------------------------|----------|
| 1 | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mmHg |) : 737 |
| 3 | Relative Humidity (%) : 69 | 4. | Weather Condition | : Cloudy |

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

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



****End of Report****

Dr. Deependie Ph. D. Environmental Engo ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 657 NO - 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.



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

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RNC/2023/2976 | Report Release Date | : 08.08.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |
| ULR No. | : TC883923000001823F | | | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------------|--|--|---|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/2762 : Near Old Plantation (North West Corner) Hisri (New) Bauxite Mine(14.55ha : 25.07.2023 to 26.07.2023 | |
| Mines Status | : Operational | Sample Received Date Type of Sample Sampling Procedure | : 31.07.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

METEOROLOGICAL INFORMATION Average Temperature (°C) :23 1 2

3

Barometric Pressure (mmHg) : 737 Relative Humidity (%) : 69 4 Weather Condition ; Cloudy

| Discipline : | Chemical | Group : Atmospheric Pollution | | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 52 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 23 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.4 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.3 | 80 (24hrs) | |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | µg/m ³ | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

**** End of Report****

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RNC/2023/2976 | Report Release Date | : 08.08.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------------|--|--|--|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date | : ELES/RNC/2023/AA/2762. : Near Old Plantation (North West Corner) Hisri (New) Bauxite Mine(14,55ha : 25.07.2023 to 26.07.2023 : 31.07.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

METEOROLOGICAL INFORMATION

| | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mm) | Hg) : 737 | |
|---|-------------------------------|---|--------------------------|-----------|--|
| 3 | Relative Humidity (%) : 69 | 4 | Weather Condition | : Cloudy | |

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

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



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

Email: injo@elespl.co.in , eles_ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elespl.co.in



| Test Report No. | : ELES/RNC/2023/2977 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001824F | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2763 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14,55ha |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 25.07.2023 to 26.07.2023 : 31.07.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mml- | lg) : 737 | _ |
|---|-------------------------------|---|---------------------------|-----------|---|
| 3 | Relative Humidity (%) : 69 | 4 | Weather Condition | : Cloudy | - |

| Discipline : | Chemical | Group : Atmospheric Pollution | | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 54 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.7 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15,2 | 80 (24hrs) | |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | μg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



Dr. Deependra Rumatosinha

****End of Report****

Ph. D. Environmental Engg. ELES PVL Ltd. technical Manus

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

| | <u>TI</u> | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2977 | Report Release Date | : 08.08.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2763 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 25.07.2023 to 26.07.2023 : 31.07.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 31,07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFOR | RMATION | | | |
|----|--------------------------|---------|---|----------------------------|----------|
| 1 | Average Temperature ("C) | : 23 | 2 | Barometric Pressure (mmHg) | : 737 |
| 3 | Relative Humidity (%) | c.69 | 4 | Weather Condition | : Cloudy |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | | |
|-----------------------|-------------------|--------------------------------|--------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Benzene* | µg/m ² | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) | | |
| Benzo (a) Pyrene* | ng/m³ | IS:5182 (Part-12): 2004;RA2019 | <0.5 | 01(Annual) | | |

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



****End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHINSBROBS (JHARKHAND) UST ND-30ARECESTER0104 ENGINEERING SERVICES PVT. LTD.

Email: http://elesal.co.in , eles.conchi@gmoil.com Phone no,: 0651-2290103 Website : www.elesal.co.in



| | 11 | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/2966 | Report Release Date | : 08.08.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001813F | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|--------------------------------|---|--|--|
| Customer Name | : Hindaleo Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2752 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha | |
| Address | : Löhardaga, Jharkhand-835302. | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 23.07.2023 to 24.07.2023 : 31.07,2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| I. | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mm | Hg) : 737 |
|----|--------------------------|----------------|---|-------------------------|-----------------|
| | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |
| - | Longitude | ±84°35'37.937E | 6 | Latitude | : 23°29'4,48"N |

| NABL Accredited Discipline : | Chamical | Group : | Atmospheri | c Pollution |
|---------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 53 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 1S 5182 (Part-2): 2001; RA2022 | 6.2 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Pari-6): 2006; RA2022 | 17.8 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | 1S 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₅) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10); 1999; RA2019 | <1.0 | 2 (Shrs) |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m1 | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annaal) |
| Arsenic (As) | ng/m ¹ | ELES/AIR/SOF/01 | <2.0 | 06 (Annual) |

Reviewell by

Authorised Signatory Dr. Despendra Kumar Sinha

Ph. D. Pryunninedia: Etco-ECES PM. Ltd. (echnical Manager

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

The Demonstrature of the Test Report, without by the Libertuary action General Terms and Conditions, only on Company lytter head in pre-approved format. The results shown in the Test Report, effects in the obtained site on by the Libertuary action General Terms and Conditions, only on Company lytter head in pre-approved format. The results shown in the Test Report, effects in finiture does by the Libertuary action General Terms and the test of test of test of test of the test of test of the test of test of test of test of test of test of the test of te



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST ND- 10AABCE97130124 ENGINEERING SERVICES PVT. LTD.

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

| Test Report No. | : ELES/RNC/2023/2966 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2752 : Near Daldaliya Village Bagru Bauxite Mine (75,41ha) | |
| Address | : Lohurdaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 23.07.2023 to 24.07.2023 : 31.07.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFOR | RMATION | | | |
|----|--------------------------|-----------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mm | Hg) : 737 |
| _ | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |
| - | Longitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

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

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



===>End of Reportsass

Authorised Signatory Dr. Deependra Kumar Sinha Po. D. Environmente Engr. ELES PVI. Ltd. Technical Managar

Page 1 of 1

The Dominent satisfies Test Report, is owerd by the Exboratory under General Terms and Conditions, only no Company letter hand in pre-approved format. The reading on an is the Test Report willy or the probability to the probability of the Udomatory and y. The information stated an the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the ionts of class's instruments. The testimation stated and the restauration of the provided on the report, except the information would be provided by the class. The Forent could be reported and the provided on the report, except the information would be provided on the report of the test Report of non-test encount would be reported on the report of the test encount of the test of counter, without prior test of the report of the Laboratory. The Report in full or to port to be reported except in full and styper of the report of non-test encounter of the Laboratory. Another is drawn to be report to in the published, idvertise, or at for any legal actions and the previous the formation would be to be reported to the tables of the tabernation of the tabernato

"Save know comment, Save Partnes"



HLOT NO-30, MANSAROVAR ENCLAVE, TURUDANA HATIA, RANCHI-834003 (JHARKHAND) EET NO-20144ECE93130124 ENCINEERING SERVICES PVT. 150. Emcli: info@elgspl.co.lt., eles.ranchi@gmmli.com Phane na.: 0651-2290103

Website : www.elesal.co.in



| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/2967 | Report Release Date | : 08.08.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001814F | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/2753 Aditya School Gangupara Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | 23.07.2023 to 24.07.2023 31.07.2023 Ambient Air ELES/DOC/SMPL/02 ELES Pvt. Ltd. | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| 1 | Average Temperature ("C) | : 26 | 2 | Barometric Pressure (mm) | Hg) 5737 |
|---|--------------------------|---------------|---|--------------------------|-----------------|
| | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |
| | Longitude | ±84°38'8.14"E | ú | Latitude | = 23°27'46.28"N |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|------------|------------------|
| Discipline 2 | Chemical | Group : | Atmospheri | e Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 54 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part-24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 1S 5182 (Part-2): 2001; RA2022 | 8.5 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 18,5182 (Part-6): 2006; RA2022 | 9.2 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | (00 (8brs) |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.010 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S 5182 (Part-26):2020. | <5.0 | 20 (Amual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 05 (Annual) |

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Dr. Deuthering Signatestinia

Ph. D. Environmental Engg ELES PV, Cld. (Bornical Manage

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Page 1 of 1

The Decontent initial is Test Report, is usual by the Laboratory used General Terms and Conditions, willy on Company tells has a provided format. The results have in the Test Report refer or influenced by the Laboratory only. The information stated on the Test Report refers to the indiany done by the Laboratory at the time of involvement only on the jubility is already of control on the Laboratory only. The information stated on the Test Report is not interpreted format. The results are information which is provided by the client. The Report cannot be septements in full and any part of the report is not interpreted by the client and the provided by the client in part will be septements in full and any part of the report is not interpreted by the client in part will be information or the provided by the client. The Report cannot be septements in full and any part of the report is not interpreted attempt from the part will be in part will be information of the provided by the client in part will be individed accepted on the full and any part of the taboratory. Attemption is drawn to be information of an interpreted on the full of the part will be provided to the full of the part will be provided to the full of the part will be provided to the full of the part will be provided to the full of the part will be provided to the full of the part of the information of the full of the

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

ENGINEERING SERVICES PVT. LTD.

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

| Test Report No. | : ELES/RNC/2023/2967 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21,04.2023 |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/2753 Aditya School Gangupara Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 23.07.2023 to 24.07.2023 : 31.07.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt, Ltd. | |
| Period of Analysis | ± 31.07.2023 to 07.08.2023 | Sample Condition | · Sealed & Preserved | |

| M | ETEOROLOGICAL INFOR | MATION - 26 | 12 | Barometric Pressure (mm | Hol - 737 |
|---|---|----------------|----|-------------------------|-----------------|
| 2 | Average Temperature (°C) Relative Humidity (%) | 1.24 | | Weather Condition | : Partiy Cloudy |
| 5 | Longitude | : 84°38'8.14"E | | Latitude | : 23°27'46,28"N |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | | |
|--------------------------------|-------------------|--------------------------------|--------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Benzene* | µg/m ³ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) | | |
| Benzo (a) Pyreste ⁹ | ng/m ³ | 1S:5182.(Part-12): 2004;RA2019 | <0.5 | 01(Annual) | | |

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



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Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmantal Engo ELES PVL Ltd. Technical Manager

Page 1 of 1

The Document water as ten Report, is usual by the Laboratory under Gameral Terms and Could dow, with the Company letter band in pre-approved format. The results shown in the Test Report enter or relates only in the yeldimalysis done by the Laboratory only. The advantation aland on the Test Report reflects the findings done by the Laboratory only as the time of involvement only and while the limits of chard's instructions. The Laboratory is the advantation aland on the Test Report reflects the findings done by the Laboratory only. The advantation aland on the Test Report reflects the findings done by the Laboratory is the time of involvement only and while the limits of chard's instructions. The Laboratory is responsible for all the report is not incom out of concept, without grant written approval of the Laboratory. The Report is fall as a grant all too the published, advantation and jurisdiction ages and your best in their second from the Management of the Laboratory. Advantation is drawn to the limits of of aboratory is no all tools on all too the published, advantation and jurisdiction ages. Any orm theorem the Report is fainteened from the Management of the Test Report in a distribution of the full too the published of advantation and jurisdiction ages. Any orm theorem the Network is not advantation in the limits on or the full too the full too two of the fainteened of the Test Report. Advantation is advantation when the fainteened of the full resonance of the Test Report. The same less new too be received to the fainteened of the Test Report. The same less from Reputatory before results as operified. Any type of Observation or Compliants regarding the Report shall be fore which is farm Reputation would be tone approach as period and the fainteened of the tasks. The completed The control Test reports all the time. The results approach as the fainteened of the tasks and the fainteened of the fainteened of the Test Report to the tasks from Reputatory before the tasks and the fainteened of the fainteened of th

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PLOT NO.30, MANSAROVAR ENCLAVE, TUPUDANA RATIA, RANCHI-ISSACOS (JHARKHAND) SST NO. JUAASSETTISDISA ENGINEERING SERVICES PVT. LTD.

Email (<u>nfoi®elesai co.in</u> , <u>eles.ranchi@amail.com</u> Phone.no.: 0651-2290103 Website : www.elespi.co.in



| Test Report No. | : ELES/RNC/2023/2968 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|--------------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001815F | 1 Activity of the second | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|--------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/2754 Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkisand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | = Ambient Air = ELES/DOC/SMPL/02 = ELES Pvi. Ltd. |
| Mines Status | : Operational | Sample Drawn By | |
| Period of Analysis | : 31.07.2023 to 07.08,2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) | 124 | 2 | Barometric Pressure (mmHg) | : 737 |
|---|--------------------------|------------------|---|----------------------------|-----------------|
| _ | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy |
| - | Longitude | :: 84°41'28.22"E | 6 | Latitude | : 23°26'45.48"N |

| NABL Accredited Discipline : | Chaminel | Group : | Atmospheri | c Pollution |
|---------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 52 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | 1S 5182 (Pari- 24): 2019 | 24 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 6.2 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6); 2006; RA2022 | 18.9 | 80 (24hrs) |
| Olzone (O.) | "µg/m³ | IS 5182 (Part+9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ¹ | IS 5182 (Part-10): 1999; RA2019 | 0.1> | 2 (8hrs) |
| Lead (Tb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.007 | 1 (24hrs) |
| Nickel (Ni) | ng/m ² | IS 5182 (Part-26)/2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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Dr. Deependra Kümar Sinha

Ph. D. Environmental Samo EDES Pvt. Ltd. Technical Manager

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Page 1 of 1

The Decoment stated is Test Report, is issued by the Laborate's mader General Terms and Conditions, only on Contrary letter head in pre-approved format. The results (how is the Test Report refer or islates only to the jobtendyou done by the Laboratory only. The information stated on the Test Report reflects the functions of the first or islates only to the jobtendyou done by the Laboratory only. The information stated on the Test Report reflects the functions of the first or islates only to the jobtendyou done by the Laboratory only. The information stated on the Test Report reflects the functions of the test of the first of the first of them's instructions. The Laboratory is responsible for all the information or is an provided on the report, except the information which is provided by the client. The Report exempts the reportion of the any part of the report is not taken out of costeon, without price wright approved of the Laboratory. Attention is drawn to the first along of autility, compensation on align and early on all the isometers are reliable for all the fillest extents of the second to a Robiterstation 4. Robiterstation of the approximation of the Laboratory. Attention is drawn to the first along of autility, compensation on all provided in states of the second attention 4. Robiterstation of the automaty of the Laboratory. Attention of the Solidari and offensation only be preserved on the follest extent of the law. All the samples are reliable for 30days from the Daie of symptosic scale of the Test Report for Report reliablest on the test more period as specified. Any type of (Mervattors or Compliants or Robiterstation of the days from the Report scale before, as compliants will be second for entire time. Report scale of symptosic scale of the Test Report for Report reliablest on the test more period stated before, as compliants will be second. The entire Time Report scale attenuated in Test Report is in Discuss format, Albertonian used NiA the rome period stated before, as compliants will be se

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) SST NO-204AECE97130124 ENGINEERING SERVICES PVT, LTD.

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

 TEST REPORT

 Test Report No.
 : ELES/RNC/2023/2968
 Report Release Date
 : 08.08.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2754 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha | |
| Address | ; Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 24,07,2023 to 25.07.2023 : 31,07.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | |

| - | Average Temperature (°C) | Carlos and a second sec | 2 | Barometric Pressure (mmHg |) : 737 |
|---|--------------------------|--|---|---------------------------|-----------------|
| _ | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy |
| _ | Longitude | : 84941/28.2215 | 6 | Latitude | : 23°26'45.48"N |

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

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



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Dr. Deethering Sixtuar Sinha Ph. D. Environments' Enge EUES Pvl. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHABIIHAND) EST NO-2044-80557110124

Empili, <mark>(nfo,©) (esol.co.in</mark>, eles ranchi@arnali.com Phane no.: 0651/2290303 Website : www.elesol.co.in



| Test Report No. | : ELES/RNC/2023/2969 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001816F | | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2755 : Ropeway Angle Station Bagru Bauxite Mine (75.4) ha) | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 24.07.2023 to 25.07.2023 : 31.07.2023 : Ambient Air | | |
| Mines Status | Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES PVL Ltd | | |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved | | |

| Í. | Average Temperature (°C) | : 24 | 2 | Barometric Pressure (mm | Hg) ±737 |
|----|--------------------------|-----------------|----|-------------------------|--------------|
| - | Relative Humidity (%) | : 68 | 4. | Weather Condition | : Cloudy |
| _ | Longitude | : 84°37'18.22"E | 6 | Latitude | 23°27'56.84N |

| NABL Accredited | PH | Cosun | Atmosphari | e Pollution |
|----------------------------|-------------------|---------------------------------|------------|-------------------|
| Discipline : | | Group : Atmospheric Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Lintit |
| Particulate Matter (PM10) | µg/m³ | 18 5182 (Part-23): 2006; RA2022 | 48 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 35 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 137 | \$0 (24lus) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Sius) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8lurs) |
| Lead (Pb) | µg/m) | IS 5182 (Part-22): 2004; RA2019 | 0.009 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/in | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed &

Dr. Deependra RumarSinha

Ph. O. Environmental Engl. ELES PVI: Ltd. (ectinical Manager

Page 1 of 1

**** End of Report****

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PLOT NO-30, MANSAROVAH ENCLAVE, TUPUDANA HATIAL RANCHI-834003 (JHARKHAND) GST NO-20A4ECE8713D124 ENGINEERING SERVICES PVT. LTD.

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

| | TES | TREPORT | |
|-----------------|-------------------------------|-----------------------------|---|
| Test Report No. | : ELES/RNC/2023/2969 | Report Release Date | : 08.08,2023 |
| Work Order No. | r 13612310218 | Work Order Date | : 21.04.2023 |
| CUSTOMER DET | AILS | SAMPLE DETAILS | |
| Customer Name | ; Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/2755 Ropeway Angle Station Bagru Bauxite Mine (75.41ha) |

| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 24.07.2023 to 25.07.2023 : 31.07.2023 : Ambient Air |
|--------------------|-------------------------------|---|---|
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 31.07.2023 to 07.08.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFOR | MATION | | | |
|---|--------------------------|-----------------|---|----------------------------|----------------|
| T | Average Temperature (°C) | : 24 | 2 | Barometric Pressure (mmHg) | : 737 |
| 3 | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy |
| 5 | Longitude | : 84°37'18.22"E | 6 | Latitude | : 23°27'56.84N |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | |
|-------------------------------|-------------------|--------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene" | µg/m ³ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Arinual) | |
| Benzo (n) Pytene ⁴ | ng/m ³ | (S:5182 (Part-12): 2004;RA2019 | <0.5 | 01(Annual) | |

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



End of Reportant

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

Page 1 of 1

The Document stated as Test Report, is larged by the Laboratory under General Terms and Conditions, only on Company letter head as pre-approved format. The results throw in the Test Report reflects the findings done by the Laboratory only. The minimum stated on the Test Report reflects the findings done by the Laboratory only. The minimum stated on the Test Report reflects the findings done by the Laboratory on the time of invalvement only and within the limits of clean a restruction). The Laboratory is responsible for all the information which is provided by the clear. The Report cannot be reproduced except in full and any part of the report is not laber out of contaxt, without private approval of the Laboratory. The Report is full or is put initial on the public editer is used for any legal actions only one private and contaxt, without private approved of the Laboratory. Attention is drawn in the immuno of labelity, compensation and practice or only on antifering of the Test Report is antaward offenders may be protected to the function of the Laboratory Attention is drawn in the immuno of labelity, compensation and practice or only on antifering of the Test Report is antaward offenders may be protected to the function action. Any otherhorized for Report is antaward in the function of the function does not be reacted to the function of the function or Complaints regarding the Report shall and offenders may be protected to the function does. Any otherhorized for Report is antaward of the Test Report relation and offenders may be protected to the function does. Any otherhorized for Report is antaward of the Test Report relation of the taboratory of the Test Report relation from Regulation of the taboratory of the Test Report relation from Regulation of the taboratory of the Test Report is antaward from the taboratory of the taboratory is a function of the taboratory of the Test Report relation from Regulation of the taboratory of the taboratory of the Test Report relation action of the taboratory of the taborato

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ENGINEERING ADMINES PVT. LTD

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



| Test Report No. | : ELES/RNC/2023/3421 | Report Release Date | : 09.09.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | ; 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002189F | HUR OILE Date | 1 41.01.4040 |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|--|--|--|--|
| Customer Name Address | : Hindalco Industries Limited ; Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample | : ELES/RNC/2023/AA/3045 : Near Water Pump; Hisri (New Bauxite Mine(14.55ha) : 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| 1 | Average Temperature (°C) | :23 | 2 | Barometric Pressure (mmHg) | : 733 | |
|---|--------------------------|------|---|----------------------------|----------|--|
| 3 | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy | |

| Discipline : | Group | Group : Atmospheric Pollution | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 51 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 24 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.6 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.9 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ¹ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

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



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

NOINEERING SERVICES PVT. LTD.

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

| | <u>T1</u> | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3421 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | ; 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|--|--|--|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample | : ELES/RNC/2023/AA/3045 : Near Water Pump; Hisri (New Bauxite Mine(14.55ha) : 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mn | nHg) :733 |
| | Relative Humidity (%) : 68 | 4 | Weather Condition | : Cloudy |

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

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



****End of Report****

Authorised Signatory

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA NATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20AAECE3713D124

NUTVERSNG SERVICES PVT. LTD



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

| | TE | ST REPORT | and a second second |
|-----------------|----------------------|---------------------|---------------------|
| Test Report No. | : ELES/RNC/2023/3422 | Report Release Date | : 09.09.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002190F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3046 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 ; ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| | Average Temperature (°C) | A CONTRACTOR OF | 2 | Barometric Pressure (mmHg) | : 733 | _ |
|---|--------------------------|---|---|----------------------------|----------|---|
| _ | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy | |

| NABL Accredited Discipline : | Discipline : Chemical Group : | | | | |
|---------------------------------|-------------------------------|---------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | 1S 5182 (Part-23): 2006; RA2022 | 46 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | 1S 5182 (Part- 24): 2019 | 24 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.5 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 12.8 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part-25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | 1S 5182 (Part-22): 2004; RA2019 | 0.006 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

Reviewed by

Authorised Signalar Sinha

****End of Report****

Ph. D. Environmental Engo ELES Pvt. Lto. Technico Me

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only in the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and writin the timits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in fall and any part of the report is not taken out of centers, without prior writien 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 Imitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the Oate of relates from Regulatory badies are to be retained as specified. Any type of Observations or Complaints regarding the Report that be done within 15days from the Date of Test Report is in 24bours format. Abbreviation used N/A (Nor Appliciable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

NGINEERING SERVICES PVT. LTD.

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

| | TI | STREPORT | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/3422 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | _ |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3046 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | and the second second | |
|----|-------------------------------|---|-------------------------|-----------|
| I | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mn | 1Hg) :733 |
| 3 | Relative Humidity (%) : 68 | 4 | Weather Condition | : Cloudy |

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

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



****End of Report****

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

Page 1 of 1

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

NUMEZRINW SERVICES PVT. LTD



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

| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/3423 | Report Release Date | : 09.09.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002191F | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------------|--|--|---|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date | : ELES/RNC/2023/AA/3047 : Near Old Plantation (North West Corner) Hisri (New) Bauxite Mine(14.55ha : 23.08.2023 to 24.08.2023 : 26.08.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFOI | RMATION | | | |
|---|--------------------------|---------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) | :: 23 | 2 | Barometric Pressure (mm | Hg) : 733 |
| 3 | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy |

| NABL Accredited | Chamterl | Crown | Atmosphere | a Dollation | |
|----------------------------|-------------------|---------------------------------|-------------------------------|------------------|--|
| Discipline : | | | Group : Atmospheric Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 48 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 21 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ¹ | IS 5182 (Part-2): 2001; RA2022 | 5.2 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 17.1 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH3) | μg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.007 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m3 | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

****End of Report****

ELES Pvt. Ltd. Technical Manager

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

CINEERING SERVICES PVT. LTD.

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3423 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04,2023 | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------------|---|---|---|--|
| Customer Name Address | Hindalco Industries Limited Lohardaga, Jharkhand-835302 | Sample Ref. No. Location | : ELES/RNC/2023/AA/3047 : Near Old Plantation (North West Corner) Hisri (New) Bauxite Mine(14.55ha | |
| Mines Status | : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | = 26.08.2023 to 08.09.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

METEOROLOGICAL INFORMATION

| 1 | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mm | Hg) : 733 | - |
|---|-------------------------------|---|-------------------------|-----------|---|
| 3 | Relative Humidity (%) : 68 | 4 | Weather Condition | : Cloudy | |

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

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



****End of Report****

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Page 1 of 1

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

NOIVELRING SLRVICES PTT. 1.7D



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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3424 | Report Release Date | : 09.09.2023 | |
| Work Order No. | T 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000002192F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | - Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3048 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha | |
| Address | c Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 23.08.2023 to 24.08.2023 : 26.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| 1 | Average Temperature (°C) :: | 23 | 2 | Barometric Pressure (mmHg) | : 733 |
|---|-----------------------------|----|---|----------------------------|----------|
| 3 | Relative Humidity (%) : | 68 | 4 | Weather Condition | : Cloudy |

| NABL Accredited Discipline : | Chemical | Group | Atmospheri | c Pollution |
|---------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 51 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 1S 5182 (Part-2): 2001; RA2022 | 5.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 18.5 | 80 (24hrs) |
| Ozone (O3) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m' | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ² | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

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

Page 1 of 1

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

VOINEERING SERVICES PPT, LTD.

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

| _ | 11 | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3424 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|-------------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/3048 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha : 23.08.2023 to 24.08.2023 | |
| Address Mines Status | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|--------|---|----------------------------|----------|
| 1 | Average Temperature (°C) | :23 | 2 | Barometric Pressure (mmHg) | :733 |
| 3 | Relative Humidity (%) | : 68 | 4 | Weather Condition | : Cloudy |

| Discipline : Chemical | | Group : Atmospheric Pollution | | |
|-----------------------|-------------------|--------------------------------|--------|-------------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene* | µg/m ⁹ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) |
| Benzo (a) Pyrene* | ng/m ³ | IS:5182 (Part-12): 2004;RA2019 | <0.5 | 01(Annual) |

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



****End of Report****

Dr. Deependra Kumar Sinha Ph. D. Enviconmental Engo ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3413 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000002181F | | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | A CONTRACTOR OF A |
|--------------------|-------------------------------|--|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3037 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 21.08.2023 to 22.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Mines Status | : Operational | | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) | : 23 | 2 | Barometric Pressure (mmHg) | : 736 |
|---|--------------------------|-----------------|---|----------------------------|-----------------|
| 3 | Relative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| 5 | Longitude | : 84°35'37.93"E | 6 | Latitude | :23°29'4.48"N |

| NABL Accredited | | | | 24 10 cf |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Discipline : | Chemical | Group | : Atmospheri | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 51 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 25 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.2 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 14.3 | 80 (24hrs) |
| Ozone (O3) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ² | 1S 5182 (Part-26):2020* | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

Authorised Signatory

Deependra Kumar Sintis

****End of Report****

ELES PVI. Liu. Technical Manager



| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RNC/2023/3413 | Report Release Date | : 09,09.2023 | | |
| Wark Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3037 : Near Daldaliya Village Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 21,08,2023 to 22,08,2023 : 26,08,2023 |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved |

| METEO | ROLOGICAL INFOR | MATION | | | |
|--------|------------------------|-----------------|---|----------------------------|-----------------|
| 1 Ave | erage Temperature (*C) | : 23 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 Rela | ative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| 5 Lon | gitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

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

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



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Page 1 of 1

The Document stated as Test Report, a issued by the Laboratory under General Terms and Conditions, only im 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 on 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 a provided by the client. The Report cannot be republicaded except in full and any part of the report is not laken out of context, without prior written approval of the Laboratory. The Report is full or in part shall not be published, advertue, 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 garadiction issues. Any unauthorized alteration & faisification of the Context, without prior of permission the Dete context of the Test Report is unlawful and offenders may be proseculed to for fullest estent of the taw. All the samples are trained for 30days, from the Date of relaxofasture of the Test Report in Early and offenders may be proseculed to for fullest estent of the taw. All the samples are trained for 30days, from the Date of relaxofasture of the Test Report is an approximation used. After the time period statel before, on compliants will be accepted. The entire Time samplation de Report Allows from the Date of the Report and Form Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Report of the Report Allows from the Date of the Repor



| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | 1 ELES/RNC/2023/3414 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | ± TC883923000002182F | | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | #Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3038 : Aditya School Gangupara Bagru Bauxite Mine (75:41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 21.08.2023 to 22.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | ± Operational | Sample Drawn By | ELES PVL Ltd | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | Sealed & Preserved | |

| M | ETEOROLOGICAL INFOI | RMATION | | | |
|---|--------------------------|----------------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | : 23 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 | Relative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| 5 | Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Discipline : | Chemical | Group | : Atmospheri | e Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 51 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 7.4 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.010 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

**** End of Report****

Authorised Signatory

Dr. Deependra Humar Sinha

Page 1 of 1 ELES Put Lis, Technical Managar The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved Remar. The results The Electronic stated as Test Report, is issued by the Laboratory under General Terms and Conditions, usity on Company letter head in pre-approved formar. The results shown in the Test Report refer or relates only in the joblandysis 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 works the limits of client's maturation. The Laboratory is responsible for all the information oc data provided on the report, except the information which is provided by the client. The Report control be reproduced except in full and my part of the report is not taken ool of contest, without prior written approval of the Laboratory. The Report is full or in part child on the published, whether, and for my legal actions unless prior permission as been secured from the Management of the Laboratory. The Report is full or in part childs of a bability, compension and provided in some Any unarchivitical alternation of the commit or appearance of the Test Report is volved and offenders may be presented to the fullest extent of the laboratory and offenders may be presented to the fullest extent of the laboratory and offenders may be presented to the fullest extent of the laboratory and of the Test Report is volved and offenders may be presented to the fullest extent of the laboratory and offenders may be presented to the fullest extent of the laboratory and offenders may be presented to the fullest extent of the laboratory of the Test Report is only with and offenders may be presented to the fullest extent of the laboratory and offenders may be presented to the fullest extent of the laboratory of the Test Report is only with and offenders may be presented to the fullest extent of the laboratory and offenders may be presented to the fullest extent of the laboratory of the Test Report is not head offenders was been presented to the fullest extent of the laboratory and offenders was been presented to the fullest extent of the laboratory is ano of release issue of the Test Report. The samples from Regulatory bodies are to be related as specified. Any type of Observations or Complaints regarding the Reports shall be dose within 15days from the Date of Test Report released/issued. After the noise period stand before, no complaints will be accepted. The entire Time schedule menhoriod in Test Report is in 24hours format. Abbreviation used: N/A (Not Artificable), BDL (Below Descessor Limit), LDL (Lower Descent Limit).



| Test Report No. | : ELES/RNC/2023/3414 | Report Release Date | : 09.09.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DELT | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3038 : Aditya School Gangupara Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 21.08.2023 to 22.08.2023 : 26.08.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 ; ELES Pvt. Ltd |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved |

| METEOROLOGICAL I | NFORMATION | | | |
|------------------------|----------------|---|-------------------------|-----------------|
| 1 Average Temperature | (°C) : 23 | 2 | Barometric Pressure (mm | Hg) : 736 |
| 3 Relative Humidity (% | | 4 | Weather Condition | ; Partly Cloudy |
| 5 Longitude | : 84°38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

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

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



****End of Report****

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Page 1 of 1

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| | TE | ST REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/3415 | Report Release Date | : 09.09.2023 |
| Work Order No. | : 13612310218 | Work Order Date | ; 21.04,2023 |
| ULR No. | : TC883923000002183F | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|--|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3039 : Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 22,08,2023 to 23.08.2023 | |
| Mines Status | : Operational | | | |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| _ | Average Temperature (°C) | and the second se | 2 | Barometric Pressure (mmHg) | : 736 |
|---|--------------------------|---|---|----------------------------|------------------|
| | Relative Humidity (%) | : 67 | | Weather Condition | : Cloudy |
| _ | Longitude | : 84°41°28.22"E | 6 | Latitude | : 23°26'45.48"'N |

NABL Accredited

| Discipline : | Chemical | Group | : Atmospheri | e Pollution |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | 1S 5182 (Part-23): 2006; RA2022 | 49 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24); 2019 | 22 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 19.1 | 80 (24hrs) |
| Ozong (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m ² | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ¹ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

****End of Report****

Authorised Signatory Dr. Deependre Kulmar Sinna

Page 1 of 1

BLES PH. Ltd. Technical Manager

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| | TE | STREPORT |
|-----------------|----------------------|----------------------------------|
| Test Report No. | : ELES/RNC/2023/3415 | Report Release Date : 09.09.2023 |
| Work Order No. | : 13612310218 | Work Order Date : 21.04,2023 |

| CUSTOMER DETA | ILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/3039 Ropeway Unloading Station Bagru Bauxite Mine (75.41ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 22.08.2023 to 23.08.2023 : 26.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | ELES/DOC/SMPL/02 ELES Pvi, Ltd. | |
| Period of Analysis | c 26,08,2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved | |

| ME | TEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|-----------------|---|---------------------------|-----------------|
| T | Average Temperature (°C) | :22 | 2 | Barometric Pressure (mmHg | z) : 736 |
| _ | Relative Humidity (%) | : 67 | 4 | Weather Condition | : Cloudy |
| _ | Longitude | : 84°41'28.22"E | 6 | Latitude | : 23°26'45,48"N |

| Discinnare | . Chemical | Group | Atmoopher | - Dalladian |
|----------------------|-------------------|--------------------------------|-----------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene [®] | µg/m ³ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) |
| Benzo (a) Pyrene* | ng/m ³ | IS:5182 (Part-12): 2004;RA2019 | <0,5 | 01(Annual) |

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



****End of Report****

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Page 1 of 1

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| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3416 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | :21.04.2023 | |
| ULR No. | : TC883923000002184F | | | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/3040 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha) : 22,08,2023 to 23.08.2023 |
| Address | : Lohardaga, Jharkhand-835302 | Sample Received Date Type of Sample Sampling Procedure | : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Mines Status | | Sample Drawn By | : ELES Pvt. Ltd. |
| Period of Analysis | : 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (°C) | : 22 | 2 | Barometric Pressure (mmHg |) : 736 |
|---|--------------------------|-----------------|---|---------------------------|----------------|
| 3 | Relative Humidity (%) | : 67 | 4 | Weather Condition | : Cloudy |
| 5 | Longitude | : 84°37'18.22"E | 6 | Latitude | : 23°27'56.84N |

| NABL Accredited | | | | |
|----------------------------|-------------------|---------------------------------|------------|------------------|
| Discipline : | Chemical | Group : | Atmospheri | c Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 45 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 21 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ¹ | IS 5182 (Part-2): 2001; RA2022 | 7,3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 14.2 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m³ | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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

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Page 1 of 1

ELES PVI Ltd. Technical Manager

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| | TH | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/3416 | Report Release Date | : 09.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3040 : Ropeway Angle Station Bagru Bauxite Mine (75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 22.08.2023 to 23.08.2023 : 26.08.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Mines Status | COperational | Sample Drawn By | = ELES PVL Ltd. |
| Period of Analysis | :: 26.08.2023 to 08.09.2023 | Sample Condition | : Sealed & Preserved |

| 1 | Average Temperature (*C) | : 22 | 2 | Barometric Pressure (mmHg) | : 736 |
|---|--------------------------|-----------------|----|----------------------------|----------------|
| | Relative Humidity (%) | : 67 | -4 | Weather Condition | : Cloudy |
| 5 | Longitude | : 84°37'18,22"E | 6 | Latitude | : 23°27'56.84N |

| Discipling | - Chamical | Group | Atmospheri | e Pollution |
|-------------------|-------------------|--------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene* | µg/m ³ | 1S:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) |
| Benzo (a) Pyrene* | ng/m³ | IS:5182 (Part-12): 2004;RA2019 | <0,5 | 01(Annual) |

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



****End of Report****

Authorised Signatory

Page 1 of 1

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

GIWEERING SERVICES PYT, LTD.

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

TEST REPORT

| Test Report No. | : ELES/RAN/2023/1722 | Report Release Date | : 10.09.2023 | - |
|-----------------|----------------------|----------------------------|--------------|---|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|--|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Sampling Date Sample Received Date | : ELES/RAN/2023/DW/1609 : 18.08.2023 : 28.08.2023 | |
| Address | 2 Lohardaga, Jharkhand-835302 | Type of Sample Source/Location of Sample | : Drinking Water : Hisri (New) Bauxite Mines | |
| Mines Status | : Operational | Sampling Procedure Sample Collected By | : ELES/DOC/SMPL/01 : ELES Pvt. Ltd. | |
| Period of Analysis | : 28.08.2023 to 09.09.2023 | Sample Condition | : Sealed & Preserved | |

| Discipline : Chemical | | Group : Water | r | Regulatory Limit as per 1S 10500:2012 | |
|--|-------|--|---------------------|--|----------------------|
| Parameter | Unit | Test Protocol | Result | Acceptable | Permissible Limit |
| pH (at 24,8 °C) | 14 | APHA 23rd Ed.2017, 4500-H' | 7.18 | 6.5-8.5 | No Relaxation |
| Turbidity | NTU | APHA 23rd Ed.2017, 2130 B | 0.28 | 1.0 | 5.0 |
| Taste | 14 | APHA 23rd Ed.2017, 2160 C | Agreeable | Agreeable | Agreeable |
| Odour | ÷ . | IS 3025 (Part-5) :2018 | Agreeable | Agreeable | Agreeable |
| Colour | Hazen | APHA 23 rd Ed.2017, 2120B&D | 1.0 | 5 | 15 |
| Total Dissolved Solids (TDS) | mg/L | APHA 23 rd Ed.2017, 2540B,C&D | 361 | 500 | 2000 |
| Chloride (as Cl) | mg/L | APHA 23rd Ed.2017, 4500 CI B | 70.8 | 250 | 1000 |
| Fluoride (as F) | mg/L | APHA 23 rd Ed.2017, 4500 F-D | BDL (DL: 0.1) | 1.0 | 1.5 |
| Total Alkalinity (as CaCO3) | mg/L | APHA 2316 Ed.2017, 2320 B | 128 | 200 | 600 |
| Total Hardness (as CaCO3) | mg/L | APHA 23 ^{sd} Ed.2017, 2340 C | 138 | 200 | 600 |
| Sulphate (as SO4) | mg/L | APHA 23 nd Ed.2017, 4500 SO4-2-E | 22.6 | 200 | 400 |
| Nitrate (as NO3) | mg/L | APHA 23 nd Ed.2017, 4500 NO ₃ -B | 1.65 | 45 | No Relaxation |
| Phenolic Compound (as C ₆ H ₃ OH) | mg/L | IS 3025 (Part-43):1992;RA2019 | BDL (DL: 0.0005) | 0.001 | 0.002 |

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NGINEERING SERVICES PVT, LTD.

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

| | 115 | REPORT | |
|-----------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RAN/2023/1722 | Report Release Date | : 10.09.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |

INTERACION DA PARA CARACTE

| Discipli | ine : Che | mical Group : W | Vater | | ory Limit 10500:2012 |
|---------------------------------|-----------|--|--------------------|------------|-------------------------|
| Parameter | Unit | Test Protocol | Result | Acceptable | Permissible Limit |
| Cyanide (as CN) | mg/L. | APHA 23" Ed.2017, 4500 CN-E | BDL (DL: 0.012) | 0.05 | No Relaxation |
| Residual Free Chlorine (RFC) | mg/L | 1S 3025 (Part-26):2021 | BDL (DL: 0.1) | 0.02 | 1.0 |
| Calcium (as Ca) | mg/L | APHA 23 rd Ed.2017, 3500 Ca B | 35.4 | 75 | 200 |
| Discipl | ine : Che | mical Group | : Residues in | Water | |
| Aluminum (as Al) | mg/L | IS 3025 (Part-55): 2003; RA2019 | BDL (DL: 0.02) | 0.03 | 0.2 |
| Arsenic (as As) | tng/L | IS 3025 (Part 37): 2022 | BDL (DL: 0.005) | 0.01 | No Relaxation |
| Boron (as B) | mg/L | IS 3025(Part-57): 2005; RA2021 | BDL (DL: 0.2) | 0.5 | 1.0 |
| Cadmium (as Cd) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.003) | 0.003 | No Relaxation |
| Total Chromium (as Cr) | mg/L | APHA 23 ¹⁰ Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | No Relaxation |
| Copper (as Cu) | mg/L | APHA 23rd Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | 1,5 |
| Iron (as Fe) | mg/L | APHA 23rd Ed.2017, 3111B | 0.196 | 1.0 | 1.0 |
| Lead (as Pb) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.01) | 0.01 | No Relaxation |
| Manganese (as Mn) | mg/L | APHA 23rd Ed.2017, 3111B | BDL (DL: 0.05) | 0.1 | 0.3 |
| Mercury (as Hg) | mg/L | IS 3025 (Part-48): 1994; RA2019 | BDL (DL: 0.001) | 0.001 | No Relaxation |
| Selenium (as Se) | mg/L | IS 3025 (Part-56): 2003; RA2019 | BDL (DL: 0.01) | 0.01 | No Relaxation |
| Zinc (as Zn) | mg/L | APHA 23rd Ed.2017, 3111B | BDL (DL: 0.1) | 5 | 15 |

Remarks: 1. pH & RFC done at Lab.

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

| TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RAN/2023/1722 | Report Release Date | : 10.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Discipline : Che | mical | | Group : Water | | |
|---|-------|---------------|--------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit as per IS 10500:2012 | |
| Pesticides | - | | | | |
| Alachlor* | µg/L | APHA | BDL (DL: 1.0) | 20 | |
| Atrazine* | µg/L | АРНА | BDL (DL: 1.0) | 2 | |
| Aldrin/Dieldrin* | µg/L | АРНА | BDL (DL: 0.01) | 0.03 | |
| Alpha HCH* | µg/L | АРНА | BDL (DL: 0.001) | 0.01 | |
| Beta HCH* | µg/L | АРНА | BDL (DL: 0.01) | 0.04 | |
| Butachlor* | µg/L | АРНА | BDL (DL: 10) | 125 | |
| Chlorpyriphos* | µg/L | АРНА | BDL (DL: 10) | 30 | |
| Delta HCH* | µg/L | АРНА | BDL (DL: 0.01) | 0.04 | |
| 2,4 dichlorophenoxyacetic acid* | µg/L | АРНА | BDL (DL: 10) | 30 | |
| DDT(0,p and p,p-isomers of DDT,DDE and DDD)* | µg/L | АРНА | BDL (DL: 0.5) | đ | |
| Endosulfan (alpha, beta, and sulphate)* | µg/L | АРНА | BDL (DL: 0.1) | 0,4 | |
| Ethion* | µg/L | АРНА | BDL (DL: 0.5) | 3 | |
| Gamma HCH (Lindane)* | µg/L | АРНА | BDL (DL: 0.5) | 2 | |
| Isoproturon* | µg/L | АРНА | BDL (DL: 0.5) | 9 | |

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WGDIEERING SERVICES PVT. LTD.

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

| TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RAN/2023/1722 | Report Release Date | ± 10.09.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Dissipline (B) | Industrial | Group : V | Votor | Regulate | ory Limit | |
|---|-------------|-------------------------------------|----------------------|-----------------------|----------------------|--|
| Discipline : Biological | | Group + | as per IS 10500:2012 | | | |
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit | |
| Total Coliform | Per 100 ml. | IS 15185:2016; RA 2021 Not Detected | | Shall not 1 | | |
| Escherichia Coli (E. Coli) | Per 100 mL | IS 15185:2016; RA 2021 | Not Detected | Shall not be detected | | |
| Distations | Chambrel | Group : | Regulatory | | ry Limit | |
| Discipline : | Chemical | Group : | water | as per 1S 10500:2012 | | |
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit | |
| Anionic Surfactants (as MBAS)* | mg/L | IS 3025 Part 68 | BDL (DL: 0.1) | 0.2 | 1.0 | |
| Mineral Oil* | mg/L | CL-6, 18: 3025 (P-39) | BDL (DL: 0.1) | 1.0 | No relaxation | |
| Polynuclear Aromatic Hydrocarbons (PAH)* | mg/L | APHA 23 rd Edition | BDL (DL: 0.0001) | 0.0001 | No relaxation | |
| Polychlorinated Biphenyls (PCB)* | mg/L | APHA 23 rd Edition | BDL (DL: 0.0005) | 0.0005 | No relaxation | |

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



****End of Report****

Eckha Savera

Authorised Signatory Rekha Saxena B. Sc, M. Sc. (Bolany) Director ELES Pvt. Ltd.

Page 4 of 4

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

ENGINEERING SERVICES PVT. LTD.

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

| Work Order No. : 13612310218 Work Order Date : 21.04.2023 | TEST REPORT | | | | | |
|---|-----------------|----------------------|---------------------|--------------|--|--|
| | Test Report No. | : ELES/RNC/2023/4029 | Report Release Date | : 28.10.2023 | | |
| CUSTOMER DETAILS SAMPLE DETAILS | Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |
| | CUSTOMED DET | ATTS | SAMPLE DETAILS | | | |

| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/3446 |
|--------------------|-------------------------------|--|---|
| | | Location | : Near Water Pump; Hisri (New) Bauxite Mine(14.55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 19.09.2023 to 20.09.2023 |
| | | Sample Received Date | : 29.09.2023 |
| | | Type of Sample | : Ambient Air |
| Mines Status | : Operational | Sampling Procedure | : ELES/DOC/SMPL/02 |
| Period of Analysis | : 29.09.2023 to 11.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Scaled & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | and the second | |
|----|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) : 26 | 2 | Barometric Pressure (mm | Hg) : 734 |
| 3 | Relative Humidity (%) :65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemica | il | Group : Atmospheric Pollution | | |
|-------------------------------------|-------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | 15 5182 (Part-23): 2006; RA2022 | 46 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 21 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 13.8 | 80 (24hrs) |
| Ozone (O3) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m ¹ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Page 1 of 2

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|---|-------------|------|--------|
| TES | 6 B. | PA 1 | N I. |
| | | | |

| Test Report No. | : ELES/RNC/2023/4029 | Report Release Date | : 28.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Discipline : Chemi | cal | Group : Atmospheric Pollution | | | |
|--------------------|-------------------|-------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene (C6H6)* | µg/m ³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) | |
| Benzo-(a)-Pyrene* | ng/m ³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) | |

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmentel Engg. ELES PvL. U.C. Technical Manager

Page 2 of 2

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| Test Report No. | : ELES/RNC/2023/4030 | Report Release Date | : 28.10.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|-------------------------------------|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/3447 |
| | | Location | : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 19.09.2023 to 20.09.2023 |
| | | Sample Received Date | : 29.09.2023 |
| | | Type of Sample | : Ambient Air |
| Mines Status | : Operational | Sampling Procedure | : ELES/DOC/SMPL/02 |
| Period of Analysis | : 29.09.2023 to 11.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

| M | ETEOROLOGICAL INFORMAT | ON | and the second s | |
|---|-------------------------------|----|--|-----------------|
| 1 | Average Temperature (PC) : 26 | 2 | Barometric Pressure (mmh | Hg) : 734 |
| 3 | Relative Humidity (%) : 65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemics | u . | Group : Atmospheric Pollution | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 40 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 19 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 13.3 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Page 1 of 2

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

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| | TES |

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/4030 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Discipline : Chemical | | Group : Atmospheric Pollution | | |
|-----------------------|-------------------|-------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene (C4H4)* | µg/m ³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m ⁹ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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

Reviewed by

****End of Report****

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

Page 2 of 2

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

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| | <u>11</u> | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/4031 | Report Release Date | : 28.10.2023 | _ |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref, No, Location | : ELES/RNC/2023/AA/3448 : Near Old Plantation (North West Corner) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | Hisri (New) Bauxite Mine(14.55ha) : 19.09.2023 to 20.09.2023 : 29.09.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 29.09.2023 to 11.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

METEOROLOGICAL INFORMATION

| 1 | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 734 |
|---|--------------------------|------|----|----------------------------|-----------------|
| 3 | Relative Humidity (%) | : 65 | .4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemica | d | Group : Atmospheric Pollution | | |
|----------------------------|-------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | -42 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | 1\$ 5182 (Part- 24): 2019 | 18 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 16.3 | 80 (24hrs) |
| Ozone (O3) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH3) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Page 1 of 2

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| | TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RNC/2023/4031 | Report Release Date | : 28.10.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | |
|-----------------------|-------------------|-------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene (C6H6)* | µg/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) | |
| Benzo-(a)-Pyrene* | ng/m ³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) | |

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



****End of Report****

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

Page 2 of 2

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METEOROLOGICAL INFORMATION

ENVIRONMENTAL LABORATORIES &

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| TEST REPORT | | | | |
|--------------------|-------------------------------|---|---|--|
| Test Report No. | : ELES/RNC/2023/4032 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| CUSTOMER DET/ | AILS | SAMPLE DETAILS | the second second | |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3449 : Hisri New (Southern Area) Hisri (New) Bauxite Mine(14.55ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 19.09.2023 to 20.09.2023 : 29.09.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 29.09.2023 to 11.10.2023 | Sample Condition | : Sealed & Preserved | |

| 1 | Average Temperature (%C) : 26 | 2 | Barometric Pressure (mm | Hg) : 734 |
|---|-------------------------------|---|-------------------------|-----------------|
| 3 | Relative Humidity (%) : 65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemics | al | Group : Atmospheric Pollution | | | |
|--------------------------------------|-------------------|---------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 48 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 22 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO ₂) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 13.9 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |
| | | | | | |

Page 1 of 2

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| | TEST | REPORT |
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| C/DN/C/2022/4022 | | Demant Delener D |

| Test Report No. | : ELES/RNC/2023/4032 | Report Release Date | : 28.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

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

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



****End of Report****

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

Page 2 of 2

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| | TI | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|---|
| Test Report No. | : ELES/RNC/2023/4021 | Report Release Date | : 28.10.2023 | _ |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3438 : Near Daldaliya Village Bagru Bauxite Mine(75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 17.09.2023 to 18.09.2023 : 29.09.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES PvL Ltd. |
| Period of Analysis | : 29.09.2023 to 10.10.2023 | Sample Condition | : Sealed & Preserved |

| | Average Temperature (°C) | and the second | 2 | Barometric Pressure (mmHg) | : 738 |
|---|--------------------------|---|---|----------------------------|-----------------|
| _ | Relative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| 5 | Longitude | : 84°35'37.93"E | 6 | Latitude | : 23°29'4.48"N |

| Discipline : Chemica | ıl | Group : A | tmospherie | Pollution |
|-------------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 43 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ¹ | IS 5182 (Part- 24): 2019 | 20 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.1 | 80 (24hrs) |
| Ozone (O ₁) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH2) | µg/m ³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Purt-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Page 1 of 2

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

GINEERING SERVICES PVT. LTD.

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|---|----------------------|
| 1.16 26 1 | REPORT |
| 1 1 1 1 1 1 | 18424 NO.45.4 |

| Test Report No. | : ELES/RNC/2023/4021 | Report Release Date | : 28.10.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04,2023 |

| Discipline : Chemical | | Group : | Atmospheric | Pollution |
|-----------------------|-------------------|------------------------------|-------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene (C4H6)* | µg/m ³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m ³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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



****End of Report****

Authorised Signatory

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

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713DIZ4

ENGINEERING SERVICES PVT. LTD.

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

| | 11 | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/4022 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21,04.2023 | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3439 : Aditya School Gangupara Bagru Bauxite Mine(75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.09.2023 to 18.09.2023 : 29.09.2023 : Ambient Air |
| Mines Status | 2 Operational | Type of Sample Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt Ltd. |
| Period of Analysis | : 29,09:2023 to 10.10.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFOI | RMATION | | | |
|---|--------------------------|----------------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | : 25 | 2 | Barometric Pressure (mmHg) | : 738 |
| _ | Relative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| 5 | Longitude | : 84"38'8.14"E | 6 | Latitude | : 23°27'46.28"N |

| Discipline : Chemica | il . | Group : A | tmospheric l | Pollution |
|----------------------------|-------------------|---------------------------------|--------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m ³ | IS 5182 (Part-23): 2006; RA2022 | 40 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 22 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ² | IS 5182 (Part-2); 2001; RA2022 | 6.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 5.5 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ² | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NII1) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ¹ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ¹ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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

VGINEERINO SERVICES PVT. LTD.

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/4022 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Discipline : Chemi | ical | Group : Atmospheric Pollution | | | |
|--------------------|-------------------|-------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene (C6H6)" | µg/m ¹ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) | |
| Benzo-(a)-Pyrene* | ng/m ³ | 1S 5182 (Part-12)2004;RA2019 | <0.5 | 01(Amual) | |

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



****End of Report****

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

Page 2 of 2

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

VOINEERING SERVICES PVT. LTD.

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

| | TEST | REPORT | |
|---------------------|-------------------------------|---|---|
| Test Report No. | : ELES/RNC/2023/4023 | Report Release Date | : 28.10.2023 |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| CUSTOMER DET/ | AILS | SAMPLE DETAILS | |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3440 : Ropeway Unloading Station Bagru Bauxite Mine(75.41ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 17.09.2023 to 18.09.2023 : 29.09.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis. | : 29.09.2023 to 10.10.2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFOR | RMATION | | | |
|----|--------------------------|-----------------|---|----------------------------|-----------------|
| 1 | Average Temperature (%C) | : 25 | 2 | Barometric Pressure (mmHg) | : 738 |
| 3 | Relative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| 5 | Longitude | : 84°41'28.22"E | 6 | Latitude | : 23°26'45.48"N |

| Discipline : Chemica | Discipline : Chemical Group : A | | | Pollution |
|----------------------------|---------------------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m ¹ | IS 5182 (Part-23); 2006; RA2022 | 41 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 19 | 60 (24hrs) |
| Sulphur Di-Oxide (SO2) | µg/m ³ | 15 5182 (Part-2): 2001; RA2022 | 5.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO1) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 17.5 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | µg/m ³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ³ | IS 5182 (Part-22): 2004; RA2019 | 0.006 | I (24hrs) |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 05 (Annual) |

Page 1 of 2

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

| TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/4023 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

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

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

Reviewed by

****End of Report****

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

Page 2 of 2

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| | TE | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | ; ELES/RNC/2023/4024 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3441 : Ropeway Angle Station Bagru Bauxite Mine(75.41ha) | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.09.2023 to 18.09.2023 : 29.09.2023 : Ambient Air | | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pv1_Ltd. | | |
| Period of Analysis | : 29.09.2023 to 10.10.2023 | Sample Condition | : Sealed & Preserved | | |

| M | ETEOROLOGICAL INFOR | MATION | | | |
|---|--------------------------|-----------------|---|----------------------------|------------------|
| 1 | Average Temperature (°C) | : 25 | 2 | Barometric Pressure (mmHg) | ; 738 |
| 3 | Relative Humidity (%) | : 66 | 4 | Weather Condition | : Partly Cloudy |
| - | Longitude | : 84º41'28.22"E | 6 | Latitude | : 23°26'45.48"'N |

| Discipline : Chemical | | | Group : Atmospheric Pollution | | |
|----------------------------|-------------------|---------------------------------|-------------------------------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | µg/m ³ | 1S 5182 (Part-23): 2006; RA2022 | 39 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m ³ | IS 5182 (Part- 24): 2019 | 17 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO2) | µg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.5 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.6 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) | |
| Ammonia (NH3) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m ¹ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (Shrs) | |
| Lead (Pb) | µg/m ³ | IS 5182 (Pari-22): 2004; RA2019 | 0.007 | 1 (24hrs) | |
| Nickel (Ni) | ng/m ³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

Page 1 of 2

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

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

| | TE | ST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/4024 | Report Release Date | : 28.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

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

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

Reviewed by

****End of Report****

Authorised Signatory Ph. D. Environmental Engg. ELES PVI. Ltd. Technical Managar

Page 2 of 2

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| TEST REPORT | | | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/4129 | Report Release Date | : 31.10.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|-------------------------------|--|---|--|
| Customer Name Address | : Hindalco Industries Limited | Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By | : 19.09.2023 to 20.09.2023 : 30.09.2023 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd. | |
| Mines Status | : Operational | Period of Analysis | : 30.09.2023 to 10.10.2023 | |

| METEOROLOGICAL INFORMATION | | | | | |
|----------------------------|--------------------------|------|---|----------------------------|-----------------|
| Г | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 734 |
| 3 | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |

| Location | Unit | Test Protocol | Result | | Regulatory Limit (Industrial Zone) |
|--|-------|-----------------------------|------------|-----|---------------------------------------|
| | | 1. | Time | Leq | |
| Hisri (New) Bauxite Mines (14.55ha) | dB(A) | A) IS 9989:1981, RA 2020 | Day Time | 62 | 75 dB(A) Day Time & |
| Sample ID: ELES/RNC/2023/AN/3521 | | | Night Time | 46 | 70 dB(A) Night Time |

Reviewed by

****End of Report****

Authorised Signatory Or. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES PVL Ltd. Technical Manager

Page 1 of 1

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| TEST REPORT | | | | | |
|-----------------|----------------------|---------------------|--------------|--|--|
| Test Report No. | : ELES/RNC/2023/4151 | Report Release Date | : 31.10.2023 | | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|--|--|--|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By | : 19.09.2023 : 30.09.2023 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd. | |
| Mines Status | : Operational | Period of Analysis | + 30.09.2023 to 11.10.2023 | |

| METEOROLOGICAL INFORMATION | | | | | |
|----------------------------|--------------------------|------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 | Relative Humidity (%) | : 64 | 4 | Weather Condition | : Partly Cloudy |

| Location | ion Unit Test Protocol Result | | Regulatory Limit (Industrial Zone) | | |
|-------------------------------------|-------------------------------|--------------------------|---------------------------------------|-----|-----------|
| South Area - | | | Time | Leq | |
| Hisri (New) Bauxite Mine (14.55ha) | dB(A) | IS 4758:1968; RA 2017 | Der | 69 | 90 dB (A) |
| Sample ID: ELES/RNC/2023/WN/3543 | | KA 2017 | Day Time | | |



****End of Report****

Authorised Signatory Or. Deependra Kumar Sinna Ph. D. Environmental Enge ELES Pvt. Lid, Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

| | TI | EST REPORT | | |
|-----------------|----------------------|---------------------|--------------|--|
| Test Report No. | : ELES/RNC/2023/2975 | Report Release Date | : 08.08.2023 | |
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET/ | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2761 : Near Old Rest Shelter; Hisri (New) Bauxite Mine(14.55ha | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 25.07.2023 to 26.07.2023 : 31.07.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | ± 31.07.2023 to 07.08,2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|---------------------------|----------|
| 1 | Average Temperature (°C) : 23 | 2 | Barometric Pressure (mmHg |) : 737 |
| 3 | Relative Humidity (%) : 69 | 4. | Weather Condition | : Cloudy |

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

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



****End of Report****

Dr. Deependie Ph. D. Environmental Engo ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES FYT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/4103 | Report Release Date | : 31.10.2023 |
|-----------------|-------------------------------|--|---|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| CUSTOMER DET | AILS | SAMPLE DETAILS | |
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Sampling Date Sample Received Date | : ELES/RNC/2023/SW/3495 : 19.09.2023 : 29.09.2023 |
| Address | : Lohardaga, Jharkhand-835302 | Type of Sample Source of Sample | : Surface Water : Spring Water |

| | | Location of Sample | : Hisri (New) Bauxite Mine (14.55ha) |
|--------------------|----------------------------|---|---|
| Mines Status | : Operational | Sampling Procedure Sample Collected By | : ELES/DOC/SMPL/01 : ELES Pvt. Ltd. |
| Period of Analysis | : 29.09.2023 to 17.10.2023 | Sample Condition | : Sealed & Preserved |

| Discipline : Chem | ical | Group | : Water | Tolerance Limits | |
|----------------------------------|-------|--|---------------------|---|--|
| Parameter | Unit | Test Protocol | Result | as per IS 2296-1992 Class C (Inland Surface Water | |
| pH (at 24.9 °C) | eC | IS 3025 (Part 11): 2022 | 6.60 | 6.5-8.5 | |
| Colour | Hazen | IS 3025 (Part -4) : 2021 | 5.0 | 300 | |
| Odour | - 97 | IS 3025 (Part-5) : 2018 | Unobjectionable | 2 | |
| Taste | | APHA 23rd Ed.2017, 2160 C | N/A | - | |
| Turbidity | mg/L | 1S 3025 (Part-10) :1984;RA2017 | 9.6 | | |
| Total Dissolved Solids (TDS) | mg/L | IS 3025 (Part 16):1984; RA2017 | 198 | 1500 | |
| Total Alkalinity (as CaCO3) | mg/L | IS 3025 (Part-23) :1986; RA2019 | 40.8 | | |
| Total Hardness (as CaCO3) | mg/L | IS 3025 (Part-21) : 2009; RA2019 | 71.7 | ÷ | |
| Sulphate (as SO4) | mg/L | IS 3025 (Part 24) : 1986; RA2019 | 16.1 | 400 | |
| Nitrate (as NO ₃) | mg/L | APHA 23rd Ed.2017, 4500 NO3-B | 1.18 | 50 | |
| Chloride (as Cl) | mg/L | 1S 3025 (Part-32) :1988; RA2019 | 8.5 | 600 | |
| Fluoride (as F) | mg/L | IS 3025 (Part-60) :2008; RA2019 | 0.109 | 1.5 | |
| Cyanide (as CN) | mg/L | APHA 23 ^{sd} Ed.2017, 4500 CN-E | BDL (DL: 0.012) | 0.05 | |
| Phenols Compounds (as C6H(OH) | mg/L | 1S 3025 (Part-43): 1992;RA2019 | BDL (DL: 0.0005) | 0.005 | |

Page 1 of 3

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

GINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/4103 | Report Release Date | : 31.10.2023 | |
|-----------------|----------------------|---------------------|--------------|---|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | _ |

| Discipline: C | hemical | Group: Water | r | Tolerance Limits | |
|---------------------------------|-------------|---------------------------------------|----------------------|--|--|
| Parameter Unit | | Test Protocol | Result | as per IS 2296-1992 Class C (Inland Surface Water) | |
| Calcium (as Ca) | mg/L | IS 3025 (Part-40): 1991;RA2019 | 19 | | |
| Free Residual Chlorine (RFC) | mg/L | IS 3025 (Part-26) :2021 | BDL (DL: 0.1) | | |
| Discipline: Ch | emical | Group: Residue | | | |
| Aluminium (as Al) | mg/L | IS 3025 (Part-55) :2003; RA2019 | BDL (DL: 0.02) | <u>0</u> | |
| Arsenic (as As) | mg/L | IS 3025 (Part 37): 2022 | BDL (DL: 0.005) | 0.2 | |
| Boron (as B) | mg/L | 1S 3025 (Part-57) :2021 | BDL (DL: 0.2) | | |
| Cadmium (as Cd) | mg/L | APHA23 rd Ed.2017; 3111B | BDL (DL: 0.003) | 0.01 | |
| Total Chromium (as Cr) | mg/L | APHA 23rd Ed.2017; 3111B | BDL (DL: 0.03) | - | |
| Copper (as Cu) | mg/L | APHA 23rd Ed.2017; 3111B | BDL (DL: 0.03) | 1.5 | |
| Iron (as Fe) | mg/L | APHA 23rd Ed.2017; 3111B | 0.437 | 50 | |
| Lead (as Pb) | mg/L | APHA 23rd Ed.2017, 3111 B | BDL (DL: 0.01) | 0.1 | |
| Manganese (as Mn) | mg/L | APHA 23rd Ed.2017; 3111 B | BDL (DL: 0.05) | + | |
| Mercury (as Hg) | mg/L | IS 3025 (Part-48) :1994; RA2019 | BDL (DL: 0.001) | - | |
| Selenium (as Se) | mg/L | IS 3025 (Part-56) :2003; RA2019 | BDL (DL: 0.01) | 0.05 | |
| Zinc (as Zn) | mg/L | APHA 23 rd Ed.2017, 3111 B | BDL (DL: 0.1) | 15 | |
| Discipline: Bi | ological | Group: Wat | | | |
| Total Coliform | CFU/100 mL. | IS 15185: 2016, RA2021 | 5.72×10 ³ | 5000 | |
| Escherichia Coli | CFU/100 mL | IS 15185:2016; RA2021 | 1.27×103 | | |

Remarks: 1. pH & RFC done at Lab.

Page 2 of 3

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ENGINEERING SERVICES PVT. L

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

CIN: 1/74999/H/2018PTC011125

| TE | ST REPORT |
|------------------|---------------------|
| FS/RNC/2023/4103 | Report Release Date |

| Test Report No. | : ELES/RNC/2023/4103 | Report Release Date | : 31.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Discipline: Che | mical | Group: | Water |
|---|--------|-------------------------------|---------|
| Parameter | Unit | Test Protocol | Result |
| Anionic Surfactants (as MBAS)* | mg/L | 15 3025 Part 68 | <0.1 |
| Mineral Oil* | mg/L | CL-6, IS: 3025 (P-39) | <0.1 |
| Polynuclear Aromatic Hydrocarbons (PAH)* | mg/L | APHA 23 rd Edition | <0.0001 |
| Pesticides | 1000 C | | |
| Alachlor* | µg/L | APHA | <1.0 |
| Atrazine* | µg/L | APHA | <1.0 |
| Aldrin/Dieldrin* | µg/L | APHA | <0.01 |
| Alpha HCH* | µg/L | АРНА | <0.001 |
| Beta HCH* | µg/L | APHA | <0.01 |
| Butachlor* | µg/L | АРНА | <10 |
| Chlorpyriphos* | µg/L | APHA | <10 |
| Delta HCH* | µg/L | APHA | <0.01 |
| 2,4 dichlorophenoxyacetic acid* | µg/L | АРНА | <10 |
| DDT(o,p and p,p-isomers of DDT,DDE and DDD)* | µg/L | АРНА | <0.5 |
| Endosulfan (alpha, beta, and sulphate)* | µg/L | АРНА | <0.1 |
| Ethion* | µg/L | APHA | <0.5 |
| Gamma HCH (Lindane)* | µg/L | APHA | <0.5 |
| Isoproturon* | µg/L | APHA | <0.5 |

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

Reviewed by

****End of Report****

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

Page 3 of 3

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Annexure 3

Date - 28.10.2023

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)

| S No | Name of the Mines | Mining lease area (ha) | Production Capacity (MT)* | Lease Period* | Production (MT) | Mined out area (ha) | Back filled area (ha) | Over burden (Cu.M) |
|------|--------------------------------|------------------------------|---------------------------------|-----------------------------|--------------------|------------------------|--------------------------|-----------------------|
| 1 | Bagru bauxite Mine | 75.41 | 85000 | 22.01.1974 to 31.03.2030 | 0 | 0 | 0.00 | 0.00 |
| 2 | Bhusar Bauxite Mine | 65.31 | 280000 | 11.07.1981 to 31.03.2030 | 148918 | 0.92 | 0.45 | 163157.26 |
| 3 | Hisri (New) Bauxite Mine | 14.55 | 100000 | 19.07.1981 to 31.03.2030 | 56738 | 0.4 | 0.49 | 27329.28 |
| 4 | Kujam - I Bauxite Mine | 80.87 | 150000 | 13.03.2006 to 12.03.2056 | 102270 | 2.1 | 1.61 | 157784.02 |
| 5 | Kujam - II Bauxite Mine | 157.38 | 300000 | 24.03.2006 to 23.03.2056 | 61110 | 3.02 | 1.21 | 134785.10 |
| 6 | Amtipani Bauxite Mine | 190.95 | 150000 | 13.03.2006 to 12.03.2056 | 100700 | 2.91 | 1.00 | 125875.50 |
| 7 | Gurdari Bauxite Mine | 584.19 | 325000 | 23.03.1985 to 22.03.2035 | 78106 | 3.07 | 2.38 | 242675.00 |
| 8 | Shrengdag A Bauxite Mine | 155.81 | 260000 | 16.10.1974 to 31.03.2030 | 14860 | 0.39 | 0.35 | 14280 |
| 9 | Shrengdag B Bauxite Mine | 140.07 | 100000 | 04.10.1978 to 31.03.2030 | 43320 | 1.12 | 1.15 | 77170 |
| 10 | Jalim & Sanai Bauxite 'Mine | 12.14 | 50000 | 16.10.1974 to 31.03.2030 | 26725 | 0.21 | 0.2 | 8750 |
| 11 | Orsapat Bauxite Mine | 196.36 | 200000 | 17.07.1986 to 16.07.2036 | NIL | NIL | NIL | NIL |
| 12 | Chiro Kukud bauxite Mine | 152.57 | 100000 | 29.01.1985 to 28.01.2035 | NIL | NIL | NIL | NIL |
| 13 | Pakhar (8.09) | 8.09 | 80000 | 16.05.1973 to 31.03.2030 | NIL | NIL | NIL | NIL |
| 14 | Pakhar (35.12) | 35.12 | 200000 | 17.04.1975 to 31.03.2030 | NIL | NIL | NIL | NIL |

Annexure 4

| 15 | Pakhar (115.13) | | | 19.07.1996 to | | | | |
|----|------------------------------------|---------|--------|-----------------------------|-------------------|-------|------|-----------|
| | | 115.13 | 300000 | 31.03.2030 | 147508.00 | 2.29 | 0.4 | 532571.87 |
| | | | | Miner | als & Minerals Li | mited | | |
| 16 | Pakhar (15.58) | 15.58 | 60000 | 28.04.1965 to 31.03.2030 | 80.00 | 0.00 | 0.00 | 0.00 |
| 17 | Pakhar (109.507) | 109.507 | 280000 | 26.07.2008 to 25.07.2058 | 97720.00 | 1.93 | 0.71 | 237280.85 |
| 18 | Bimarla Bauxite Mine | 134.37 | 300000 | 18.07.2009 to 17.07.2059 | 39550 | 2.21 | 0.8 | 64913.65 |
| 19 | Amtipani Chirodih Bauxite Mines | 130.01 | 450000 | 11.01.2017 to 10.01.2067 | 84678 | 3.96 | 1.15 | 98519.66 |

*Static information about the mines included in the above table



Basudev Gangopadhyay AVP (Planning, Environment and Compliance)

Annexure-5

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

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

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

**Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)







ENVIRONMENT POLICY

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

To achieve this, we shall:

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

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

TISH PAI

MANAGING DIRECTOR

Date : 30 June 2020

HINDALCO INDUSTRIES LIMITED

















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

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

To achieve this, we shall:

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

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

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

We shall communicate and make this policy available to all stakeholders

Lohardaga Date: 24-03-2018

President, Jharkhand Mines

HINDALCO INDUSTRIES LIMITED MINES DIVISION