

HIL/LHD/ENV/MoEF/419

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 Jalim & Sanai Bauxite Mining project of M/s Hindalco Industries Limited located in Gumla, Jharkhand for the period April'23 to September'23.

Ref: Environmental Clearance letter no J-11015/138/2006-IA II (M) dated 10th April 2007

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for Jalim & Sanai Bauxite mining project of M/s Hindalco Industries Limited located in Gumla, Jharkhand for the period April'23 to September'23.

The lease detail is as below.

| Lease area (ha) | Production Capacity (MT) | Lease Period |
|-----------------|--------------------------|--------------------------|
| 12.14 | 50000 | 16.10.1974 to 31.03.2030 |

Hope you will find the same in order.

Thanking You

Yours Sincerely FOR HINDALCO INDUSTRIES LIMITED

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

Enclosure: - As Above

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

Corporate ID No.: L27020MH1958PLC011238

: Jalim Sanai Bauxite Mine (12.14 ha) Name of the Project

M/s Hindalco Industries Limited

Environment Clearance No. & date : J-11015/138/2006-IA.II(M), dated 10.04.2007

: From 1st April 2023 to 30th September 2023, Period of compliance Report

Specific Conditions

Condition i: - All the conditions stipulated by SPCB in their NOC shall be effectively implemented.

Reply: - Implementations of the stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time. The current Consent is valid up to 31/03/2024. Productions of bauxite are within limits specified in consent to operate.

Condition ii: - 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: - The land acquisition is being done with the permission of competent authority of State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement has been done with Raiyat (Landowner) for 20 years with permission of State Govt. with provision of returning the land as per the norms set by D.C. The compensation and facilities are being provided as per norms set in the agreement. Thus, land acquisition has the approval of the State Government.

Condition iii: - Mining shall not intersect groundwater. The mine working shall be restricted to ground water table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.

Reply: - Bauxite mining is being done at shallow depth in this mine also, hence at no point it will intersect the ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

Condition iv: - The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations.

Reply: - It is being ensured. No natural watercourse is obstructed during mining operation.

Condition v: - Top soil shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.

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. Details of land reclamation for April'23 to September'23 are enclosed as Annexure 4.



Reclaimed Land

Condition vi: - The waste generated shall be concurrently backfilled in the mined out area. There shall be no external OB dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest on six month basis.

Reply: - Backfilling and reclamation is being done concurrently by overburden. The mining is being carried out as per the approved mining plan. Data pertaining to backfilling is enclosed as **Annexure 4**. Monitoring and management of rehabilitated areas is being done through effective supervision. Compliance status is being submitted to MoEF on six monthly basis.

Condition vii: - Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. 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 (size, gradient and length) shall be constructed for mine pit 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. No external dump exists in the project area as on date.



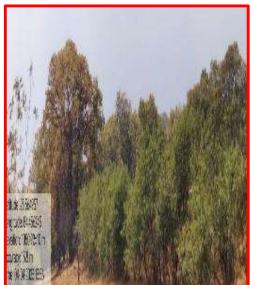


Garland drains Siltation Pond

Condition viii: - Plantation shall be raised in an area of 10.58 ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.

Reply: - Progressive plantation is being carried out with advancement of mining operation. During April'23 to Sept'23 around 1500 saplings were planted. Total 4.53 ha areas have been planted till date. Rest to be complied during project period.









Plantation at Mines

Condition ix: - The project proponent shall ensure that there shall be no discharge from the mine.

Reply: - Ensured. There is no discharge from the mine.

Condition x: - The project proponent shall carry out regular monitoring of spring discharge and its quality near Shrengdag village on long term basis.

Reply: - Spring quality parameter of the near Sherengdag village has been monitored. Analysis report is attached as **Annexure -2**.

Condition xi: - 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: - A plan is drawn based on the discussion with Scientists of State unit office of Central Ground Water Board, Ranchi to implement suitable conservation measures to augment groundwater resources in the area and is also submitted to the Regional Director, Central Ground Water Board, Patna, for his further suggestions. As of now, to augment the ground water resource measures like no use of ground water, systematic backfilling, and effective drainage system so to not allow any mine water to flow outside mine lease area is being implemented. It may be noted that there is no chance to intersect ground water table during mining operation.

Condition xii: - 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 monitoring should be carried out four times in a year – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground water Authority and Regional Director Central Ground Water Board.

Reply: Considering that we strictly adhere to the compliance condition. It is made sure that the mining operate ground water table. 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 xiii: - Prior permission from the competent authority should be obtained for drawl of water from the surface water bodies.

Reply: - Water is collected from rainwater harvesting pond of Serengdag plateau. We are not using natural water bodies, ground water for mining purposes. We have obtained NOC for extraction of ground water from CGWB.



Rainwater Harvesting Pond



CGWB License

Condition xiv: - 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. The vehicles should be covered with a tarpaulin and shall not be overloaded.

Reply: - Vehicle engaged in mining operation are regularly checked and maintenance of vehicle is being done. The vehicles are being covered with tarpaulin while transportation of mineral.



Covered transportation

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

Reply: - Wet drilling is in practice.



Wet Drilling

Condition xvi: - 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. All efforts and mitigative measures are being taken to mitigate the impact of blasting.

Condition xvii: - Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.

Reply: - There is no proposal for production enhancement.

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

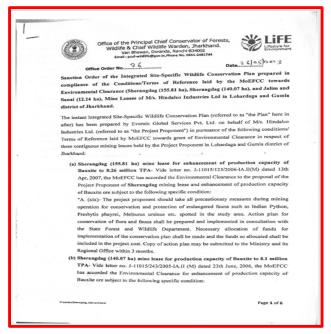
Reply: - There is no effluent discharge from Mine, hence ETP has not been installed. The sewage water from domestic uses is being collected through individual septic tanks & soak pits. Sludge is collected to an integrated soak pit. Arrangement has been made for Sherengdag group of Mines.

Condition xix: - The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python, <u>Presbytis phayrei</u> etc. Spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.

Reply: - Action taken for conservation of flora and fauna as under:

- 1) Permanent pillars are established within the mine lease area
- 2) Maintenance of the forest road
- 3) Ensured necessary air and noise pollution control measures.
- 4) Daily water sprinkling is being carried out on the forest road
- 5) Transportation is being done during daytime

Also, we have been granted letter of approval for the Integrated Site-specific Wildlife Conservation Plan via Office Order No.26 dated 26.05.2023 by PCCF, Wildlife, Ranchi.



Approved Letter

Condition xx: - 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 along with scheme of mining has been approved by IBM. FMCP (part) is also approved by the authority. FMCP for total lease area will be prepared and submitted in due time as per applicable guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on the present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.

GENERAL CONDITIONS: -

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

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 scheme. Report is attached as **Annexure 4.**

Condition iii: - Four ambient air quality-monitoring station should be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂, NO_X monitoring. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.

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

Condition iv: - Data on ambient air quality (RPM, SPM, SO₂, and NOx) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central pollution Control Board once in six months.

Reply: - Monitoring Reports of AAQ data is attached as **Annexure 2**.

Condition v: - 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: - One mobile water tanker with a sprinkling facility has been provided along haul roads, loading unloading & at transfer points to arrest dust emissions.



Water sprinkling through tanker

Condition vi: - 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: - Noise monitoring is done regularly. Workers engaged in operation of HEMM, etc. are provided with ear plug / muffs. Monitoring report is enclosed as **Annexure 2.**

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

Reply: - There is no industrial wastewater generated from workshop within mine lease area. We are not discharging any wastewater outside mine lease area. Oil and grease traps are installed at suitable site in Sherengdag plateau.



Oil & Grease trap

Condition viii: - 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: - Complied. 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 checkups for any contraction of diseases due to exposure in dusty and noisy areas. Training on safety, health & environmental aspects of mining is being regularly imparted through VT training & other training programmes.

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

Reply: - Adhering to our environmental policies and 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 x: - The project authorities should inform to the Regional Office located at Bhubneshwar 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 operational mine, hence this provision is not applicable. Currently, the Regional Office is located at Ranchi.

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 Bhubneshwar.

Reply: - Statement of actual expenses for environmental protection measure is attached as **Annexure-5.**

Condition xii: - The Regional Office of this Ministry located at Bhubneshwar 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.

Condition xiii: - The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Lucknow, Central Pollution Control Board and State Pollution Control Board.

Reply: - Duly submitted.

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

Reply: - Complied.Copy submitted to the Regional office.

Condition xv: - 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: - Agreed.

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

Reply: - Complied. Copy of paper cuttings containing advertisements is already submitted.

| | Annexure 1 | | | | | | | |
|------|----------------|----------------------------|--|--|--|--|--|--|
| Pie | zometer Readir | ng - Jalim & Sanai (12.14) | | | | | | |
| S No | Month | Depth (meter) | | | | | | |
| 1 | Apr-23 | 36.10 | | | | | | |
| 2 | May-23 | 36.15 | | | | | | |
| 3 | Jun-23 | 36.20 | | | | | | |
| 4 | Jul-23 | 36.31 | | | | | | |
| 5 | Aug-23 | 36.72 | | | | | | |
| 6 | Sep-23 | 37.80 | | | | | | |



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

ENGINEERING SERVICES PYT, LTD.

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

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



TC-8839

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1952 | Report Release Date | : 12.06.2023 |
|-----------------|----------------------|---------------------|---------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000913F | | 2230000000000 |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|----------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | ELES/RNC/2023/AA/1379 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine | |
| Address Plant Status | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sample Drawn By | : Ambient Air | |
| Period of Analysis | = 10.05,2023 to 08.06,2023 | Sample Condition | : ELES/DOC/SMPL/02 : Sealed & Preserved | |

| METEOROLOGICAL INFORMATION | | | |
|---------------------------------|---|--------------------------|-----------|
| 1 Average Temperature (°C) : 31 | 2 | Barometric Pressure (mm) | He) : 743 |
| 3 Relative Humidity (%) 60 | | Weather Condition | : Clear |

| NABL Accredited | | | | |
|-------------------------------------|-------------------|---------------------------------|--------------|------------------|
| Discipline : | Chemical | Group | : Atmospheri | c Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 69 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 33 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 7,9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 15.3 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m² | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.014 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

****End of Report****

Authorized Signatory

Dr.

Sinha

Page 1 of 1

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/1952 | Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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 | : ELES/RNC/2023/AA/1379 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine (12:14ha) | |
| Plant Status | Operational | Sampling Date Sample Received Date Type of Sample Sample Drawn By | 12.04.2023 to 13.04.2023 : 10.05.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| MET | TEOROLOGICAL INFOR | MATION | | | |
|-----|--------------------------|--------|---|----------------------------|---------|
| | Average Temperature (°C) | 2.31 | 2 | Barometric Pressure (mmHg) | : 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 ¹ | 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 Pvl. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D174



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TEST REPORT

| Test Report No. | : ELES/RNC/2023/1953 | Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000000914F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1380 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | (12.14ha) 12.04.2023 to 13.04.2023 | |
| Plant Status | Operational | Sample Received Date Type of Sample Sample Drawn By | : 10.05.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | ±10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|------------|
| 1 | Average Temperature (°C) : 31 | 2 | Barometric Pressure (mm | (Hg) : 743 |
| 3 | Relative Humidity (%) : 60 | | Weather Condition | : Clear |

| Discipline : | Chemical | Group | Atmospheri | c Pollution |
|-------------------------------------|----------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 66 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 35 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 8.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 15.7 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

****End of Report****

Reviewed b

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

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

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1953 | Report Release Date | : 12.06.2023 |
|-----------------|----------------------|---------------------|--------------|
| 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 | : ELES/RNC/2023/AA/1380 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine (12.14ha) | |
| Plant Status | : Operational | Sampling Date Sample Received Date Type of Sample Sample Drawn By | : 12.04.2023 to 13.04.2023 : 10.05.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMA | TION | | |
|----|------------------------------|------|---------------------------|---------|
| | Average Temperature (°C) : 3 | 2 | Barometric Pressure (mmHg | 3 : 743 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Clear |

| Discipline | : Chemical | Group | : Atmospheri | c 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****

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, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO: 20AAECE9713D1Z4

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/1954 | Report Release Date | ; 12.06.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000915F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1381 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 12.04.2023 to 13.04.2023 : 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 INFORMATION | | A TOWN | | |
|----|-------------------------------|---|--------------------------|----------|--|
| 1 | Average Temperature (°C) : 31 | 2 | Barometric Pressure (mml | Ig) :743 | |
| 3 | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear | |

| NABL Accredited | | | | |
|--------------------------------------|-------------------|---------------------------------|------------|------------------|
| Discipline : | Chemical | Group | Atmospheri | c Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 64 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 33 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m ³ | IS 5182 (Part-2); 2001; RA2022 | 7.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 17.5 | 80 (24hrs) |
| Ozone (O ₁) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part-25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ¹ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.012 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | 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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Authorized Signatory Dr. Deependra Kumar Sinha

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA. RANCHI-834003 (JHARKHAND) GST NO:- 20AAECEU7130124 ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1954 | Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1381 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine |
| Address | ; Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) ; 12.04,2023 to 13.04,2023 ; 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 | | | |
|----|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 31 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 60 | 4 | Weather Condition | : Clear |

| Discipline | : Chemical | Group | : Atmospheri | c 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 | 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 Pvl. Ltd. Technical Manager

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



TC-BERRY

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1955 | Report Release Date | : 12,06,2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000916F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | * Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1382 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 12.04.2023 to 13.04.2023 ; 10.05.2023 | |
| 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 | ETEOROLOGICAL INFORMATIO | N | | |
|----|-------------------------------|---|--------------------------|-----------|
| 1 | Average Temperature (°C) : 31 | 2 | Barometric Pressure (mml | Hg) : 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 ³ | IS 5182 (Part-23): 2006; RA2022 | 61 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 34 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 7.2 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 18.1 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.01 | 1 (24hrs) |
| Nickel (Ni) | ng/m² | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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ELES Pvt. Ltd., Technical Manager

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

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1955 | Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|------------------------------------|----------------------|------------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1382 | |
| | | Location | : Near Colony; Jalim & Sanai | |
| | Landan and the same of the same of | | Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 12.04.2023 to 13.04.2023 | |
| | | Sample Received Date | : 10.05.2023 | |
| | | Type of Sample | : 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) :31 | 2 | Barometric Pressure (mm | Hg) : 743 |
| 3 | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear |

| Discipline | : Chemical | Group | Atmospheri | c 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****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAN ENCLAVE, YURLIBANA HATIA, RANCHE BEADUT (THAIRMOND) UST IND: TO A RECEIVE HOTEL



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TEST REPORT

| Test Report No. | : ELES/RNC/2023/1944 | Report Release Date | : 12.06.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000905F | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1371 : Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14.04.2023 to 15.04.2023 : 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 | |

| M | ETEOROLOGICAL INFORM | ATION | | | |
|---|----------------------------|-------|---|----------------------------|---------|
| 4 | Average Temperature (°C) : | 32 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | 50 | | Weather Condition | : Clear |

| 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 | 63 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | IS 5182 (Part-2); 2001; RA2022 | 6.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | μg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 19.1 | 80 (24hrs) |
| Ozone (O ₃) | μg/m [†] | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m ⁷ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.008 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ¹ | ELES/AIR/SOP/01 | <2.0 | 06 (Armust) |

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****End of Report****

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PLOT NO-30, MANSARD VAR ENCLAVE, TUPUDANA HATIA. RANCHI-234003 (SHARKHAND) GST NO:-20AAECE9713DAZA ENGINEERING SERVICES PUT, LTD.

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/1944 | Report Release Date | : 12,06,2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | ; 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|--|----------------------|----------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1371 | |
| | | Location | : Near Banjari Village | |
| | | | Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 14.04.2023 to 15.04.2023 | |
| | Programme and the second secon | Sample Received Date | : 10.05.2023 | |
| | | Type of Sample | 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 INFOR | MATION | | | |
|----|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3. | Relative Humidity (%) | : 60 | 4 | Weather Condition | : Clear |

| Discipline | : Chemical | Group | : Atmospheri | e Pollution |
|-------------------|------------|--------------------------------|--------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene* | μg/m³ | (S: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
De Brahamman Hengg,
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ELES Por List, Teatured Manager

Page 1 of 1

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PLOT MO-30, MANSAROVAR ÉMELANE, TUPUDANA MATIA, RÁNCHI-E36503 (JHARIHAND) BYT MOS JOAARGESTI SOESA

NEWSCHING SERVICES FVT. LTD

Emmil (gfp@elesal.cp.fr), eles runchi@antall.com Phone no.: 0651-2290103 Website - www.elespl.co.fr



TEST REPORT

| Test Report No. | : ELES/RNC/2023/1945 | Report Release Date | : 12.06.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000906F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|----------------------|----------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1372 | |
| | | Location | : Near Pauri Village | |
| | and the second second | Marie and the second | Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 14.04.2023 to 15.04.2023 | |
| | | Sample Received Date | 10.05,2023 | |
| | | Type of Sample | : 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 | ETEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | ; 743 |
| 3 | Relative Humidity (%) | : 60 | 4 | Weather Condition | ; Clear |

| NABL Accredited | 60 | | - Francis Col | to the ex- |
|-------------------------------------|--------------------|---------------------------------|---------------|------------------|
| Discipline : | Chemical | Group | Atmospheri | c Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | IS 5182 (Part-2): 2001; RA2022 | 7.6 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 12.4 | 80 (24hrs) |
| Ozone (O ₃) | µg/m² | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ¹ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.015 | I (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ing/m ¹ | ELES/AIR/SOP/01 | 2.2 | 06 (Annual) |

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Date

Page 1 of 1

ELES Ryl. Lto. Technical Manager

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PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIP, RANCHI-834003 (IHARKHANO) GST NO: 2044EC697130124 INGINEERING SERVICES PUT. LTD.

Emall: Info@elesal.ca.in _ eles.ranch(@gmall.com Phone no.: 06\$1-2290103 Website : www.elespl.co.in

TEST REPORT

| Test Report No. | ; ELES/RNC/2023/1945 | Report Release Date | : 12.06,2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1372 : Near Pauri Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14,04,2023 to 15,04,2023 : 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 INFORMATION | | | |
|----|-------------------------------|---|--------------------------|-----------|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm) | Hg) : 743 |
| _ | Relative Humidity (%) : 60 | 4 | Weather Condition | Clear |

| Discipline : Chemical | | 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 [†] | 1S:5182 (Part-12); 2004;RA2019 | <0.5 | 01(Annual) | |

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



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Ph. D. Environments, Engl. ELES Pyr. 1.10. Technical Manager

Page 1 of 1

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FLOT NO 30, MANSAROVAR ENCLAVE, TUPLDANA HISTIA, RANCHI-934007 (IMARKHANDI EST NO: MAARCESTLIOLIN

Enjoll info@elesol.co.in , elesiranchi@antail.com Phase no.: 0651-2290103 Waterita's womentagel on his



TEST REPORT

| Test Report No. | : ELES/RNC/2023/1946 | Report Release Date | : 12.06.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000000907F | | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|--|----------------------|----------------------------|--|
| Customer Name | : Hindalco industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1373 | |
| | | Location | : Near Harup Village | |
| | The sales of the sales of the | | Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhund-835302 | Sampling Date | : 14.04.2023 to 15.04.2023 | |
| | | Sample Received Date | : 10.05.2023 | |
| | No. of Contract of | Type of Sample | : Ambient Air | |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPL/02 | |
| Period of Analysis | 5 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| Average Temperature (°C) : 32 | 2 | Barometric Pressure (mmHg) | . 743 |
|-------------------------------|---|----------------------------|-------|
| Relative Humidity (%) : 60 | 4 | Weather Condition | Clear |

| NABL Accredited Discipline: | Charatasi | 2010 | 48 35 36 4 | 72.00 |
|--------------------------------------|-------------------|---------------------------------|--------------|------------------|
| Decibine : | | Group | : Atmospheri | c Poliution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | 15 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 37 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₁) | µg/m³ | IS 5182 (Pan-2); 2001; RA2022 | 6.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₁) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 11.8 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hts) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10); 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ³ | 1S-5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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Dr. Deere

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PLOT NO-30, MANIAROVAR ENCLAVE TUPUDANA HATIA, RANCHI-834003 (INARKHAND) GST NO:- 20A48CE9715DIDI Vaineeriya services ppi. Led.

Email: Infa@elespl.co.in , eles.ronchl@gmail.com Phone no.: 0653-2290103 Website ; www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1946 | Report Release Date | : 12.06,2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | ; 21.04.2023 | |

| CUSTOMER DETA | CUSTOMER DETAILS | | |
|--------------------|-------------------------------|----------------------|----------------------------|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | ; ELES/RNC/2023/AA/1373 |
| | | Location | : Near Harup Village |
| | | 7 | Serengdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 14.04.2023 to 15.04.2023 |
| | The second second | Sample Received Date | : 10.05.2023 |
| | | Type of Sample | : 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 |

| Ü | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm | Hg) : 743 |
| 3 | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear |

| Discipline : Chemical | | Group ; Atmospheric Pollution | | |
|-----------------------|-------|--------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene* | ug/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.



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Dr. Внапел

Ph. D. Paras.

Page 1 of 1

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PULLY NO-30, MANISAROVAR ENZLAVE, TURLIDANA HATIA, DANG DIA MINISTERARRENUM 30 NO-30ARESTERATIO

Email: infa@elespl.ca.jn., descrimin@intall.com Phone ha.: 0651-22903.03 Website: www.elespl.ca.in



TEST REPORT

| Test Report No. | : ELES/RNC/2023/1947 | Report Release Date | : 12.06.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000000908F | | |

| CUSTOMER DET. | ATLS | SAMPLE DETAILS | | |
|--------------------|--|----------------------|----------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1374 | |
| | | Location | : Near Paintoli Village | |
| | to a second seco | | Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | : 14.04.2023 to 15.04.2023 | |
| | | Sample Received Date | : 10.05,2023 | |
| | | Type of Sample | : Ambient Air | |
| Plant Status | : Operational | Sample Drawn By | : ELES/DOC/SMPIJ/02 | |
| Period of Analysis | : 10.05.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORMATION | | | | |
|----|-------------------------------|-----|--------------------------|-----------|--|
| -1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm) | Hg) : 743 | |
| 3 | Relative Humidity (%) : 60 | - 4 | Weather Condition | Clear | |

| Discipline : | Chemical | Group : Atmospheric Pollution | | | | |
|-------------------------------------|-------------------|---------------------------------|--------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 63 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 34 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | μg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 8.8 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO2) | jig/m³ | IS 5182 (Part-6): 2006; RA2022 | 13.2 | 80 (24hrs) | | |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Pari- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m² | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | μe/m³ | 1S 5182 (Part-22); 2004; RA2019 | 0.012 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m1 | 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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Page 1 of 1

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PLOT NO-20, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) ISP NO-20X46559713D324

ENGINEERING SERVICES PLT. LTD.

Emall: Info@lelespl.co.in , elet.ranchii@amall.com Phone no.: 0651-2290102 Website : www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/1947 | 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/1374 : Near Paintoti Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14.04.2023 to 15.04.2023 : 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 | MATION | | | |
|----|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | : 60 | 4 | Weather Condition | : Clear |

| Discipline | : Chemical | Group : Atmospheric Pollution | | | |
|-------------------|------------|--------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene* | jig/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****

Dr. Authorized Signatory

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9719D1Z4 ENGINEERING SERVICES PYT, LTD.

Email: info@elespl.co.in , eles.ranchl@gmail.com Phone na.: 0651-1290103 Website : www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RAN/2023/0505 | Report Release Date | : 06.05.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/RAN/2023/DW/0390 : 11.04.2023 : 26.04.2023 | |
| Address | : Lohardaga, Jharkhand-835302 | Type of Sample Source/Location of Sample | : Drinking Water : Jalim & Sanai (12.14ha) Bauxite Mine | |
| Mines Status | : Operational | Sampling Procedure Sample Collected By | : ELES/DOC/SMPL/01 : ELES Pvt. Ltd. | |
| Period of Analysis | : 26.04.2023 to 05.05.2023 | Sample Condition | : Sealed & Preserved | |

| Discipline : Chem | ical | Group : Water | r | | ory Limit 10500:2012 |
|--|-------|--|---------------------|---------------------|-------------------------|
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit |
| pH (at 25.1 °C) | 18 | APHA 23 rd Ed.2017, 4500-H | 6.73 | 6.5-8.5 | No Relaxation |
| Turbidity | NTU | APHA 23 rd Ed.2017, 2130 B | 0,38 | 1.0 | 5.0 |
| Taste | 10-01 | APHA 23rd Ed.2017, 2160 C | Agreeable | Agreeable | Agreeable |
| Odour | + 1 | 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 | 326 | 500 | 2000 |
| Chloride (as CI) | mg/L | APHA 23rd Ed.2017, 4500 CI B | 52.8 | 250 | 1000 |
| Fluoride (as F) | mg/L | APHA 23 rd Ed.2017, 4500 F-D | BDL (DL: 0.1) | 1.0 | 1,5 |
| Total Alkalinity (as CaCO ₃) | mg/L | APHA 23 rd Ed.2017, 2320 B | 92.8 | 200 | 600 |
| Total Hardness (as CaCO ₃) | mg/L | APHA 23 ^{nt} Ed.2017, 2340 C | 148 | 200 | 600 |
| Sulphate (as SO ₄) | mg/L | APHA 23 rd Ed.2017, 4500 SO ₄ -3-E | 28.8 | 200 | 400 |
| Nitrate (as NO ₅) | mg/L | APHA 23 st Ed.2017, 4500 NO ₃ -B | 3.28 | 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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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHANO) GST NO: 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No. : ELES/RAN/2023/0505 Report Release Date : 06.05.2023

Work Order No. : 13612310218 Work Order Date : 21.04.2023

| Discipl | ine : Che | mical Group: V | Vater | | ory Limit |
|---------------------------------|-----------|--|--------------------|---------------------|----------------------|
| Distrip | me i eme | men arrap . | 1 | | 10500:2012 |
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit |
| Cyanide (as CN) | mg/L | APHA 23 rd Ed.2017, 4500 CN-E | BDL (DL: 0.012) | 0.05 | No Relaxation |
| Residual Free Chlorine (RFC) | mg/L | IS 3025 (Part-26):2021 | BDL (DL: 0.1) | 0.02 | 1,0 |
| Calcium (as Ca) | mg/L | APHA 23 rd Ed.2017, 3500 Ca B | 36.6 | 75 | 200 |
| Discipl | ine : Che | mical Group | : Residues in | Water | |
| Aluminum (as Al) | mg/L | IS 3025 (Part-55): 2003; RA2019 | BDL (DL: 0.02) | 0.03 | 0.2 |
| Arsenic (as As) | mg/L | IS 3025 (Part 37): 2022 | BDL (DL: 0.005) | 0.01 | No Relaxation |
| Boron (as B) | mg/L | IS 3025(Part-57): 2005; RA2021 | BDL (DL: 0.2) | 0.5 | 1.0 |
| Cadmium (as Cd) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.003) | 0.003 | No Relaxation |
| Total Chromium (as Cr) | mg/L | APHA 23 rd Ed,2017, 3111B | BDL (DL: 0.03) | 0.05 | No Relaxation |
| Copper (as Cu) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | 1.5 |
| Iron (as Fe) | mg/L | APHA 23" Ed.2017, 3111B | 0.224 | 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 23 rd Ed,2017, 311 IB | RDL (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 23 rd Ed.2017, 3111B | BDL (DL: 0.1) | 5 | 15 |

Remarks: 1. pH & RFC done at Lab.

Page 2 of 4

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

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

Phone na.: 0651-2290103 Website: www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RAN/2023/0505 | Report Release Date | : 06.05.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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 | | | | 34 4 1 |
| Alachlor* | μg/L | APHA | BDL (DL: 1.0) | 20 |
| Atrazine* | μg/L | APHA | BDL (DL: 1.0) | 2 |
| Aldrin/Dieldrin* | μg/L | APHA | BDL (DL: 0.01) | 0,03 |
| Alpha HCH* | μg/L | APHA | BDL (DL: 0,001) | 0.01 |
| Beta HCH* | µg/L | АРНА | BDL (DL: 0.01) | 0.04 |
| Butachlor* | μg/L | APHA | BDL (DL: 10) | 125 |
| Chlorpyriphos* | μg/L. | АРНА | BDL (DL: 10) | 30 |
| Delta HCH* | µg/L | АРНА | BDL (DL: 0.01) | 0.04 |
| 2,4 dichlorophenoxyacetic acid* | μg/L | 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 | APHA | BDL (DL: 0.1) | 0.4 |
| Ethion* | µg/L | АРНА | BDL (DL: 0.5) | 3 |
| Gamma HCH (Lindane)* | μg/L | APHA | BDL (DL: 0.5) | 2 |
| Isoproturon* | μg/L | APHA | BDL (DL: 0.5) | 9 |

Page 3 of 4

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

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

TEST REPORT

| Test Report No. | : ELES/RAN/2023/0505 | Report Release Date | : 06.05.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| Distribution Di | alestual | Cuana i V | Votor | Regulate | ory Limit | |
|---|------------|-------------------------------|---------------------|-----------------------|-------------------------|--|
| Discipline : Bi | ological | Group; | 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 Cali (E. Coli) | Per 100 mL | 1S 15185;2016; RA 2021 | Not Detected | | | |
| Discipline : | Chemical | Group: | Water | | ory Limit 10500:2012 | |
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit | |
| Anionic Surfactants (as MBAS)* | mg/L | IS 3025 Part 68 | BDL (DL; 0.1) | 0.2 | 1.0 | |
| Mineral Oil* | mg/L | CL-6, IS: 3025 (P-39) | BDL (DL: 0.1) | 1.0 | No relaxation | |
| Polynuclear Aromatic Hydrocarbons (PAH)* | mg/L | APHA 23 rd Edition | BDL (DL: 0.0001) | 0.0001 | No relaxation | |
| Polychlorinated Biphenyls (PCB)* | mg/L | APHA 23rd Edition | BDL (DL: 0.0005) | 0.0005 | No relaxation | |

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

Reviewed

****End of Report***

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:- 20AAECE9713D124

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/2283 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001205F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|-----------------------------------|---|--|
| Customer Name | † Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1756 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | (12.14ha) : 14.05.2023 to 15.05.2023 | |
| Piant Status | : Operational | Type of Sample Sample Drawn By | : 06.06.2023 : 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 : | Atmospheri | c Pollution | | |
|--------------------------------------|------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 63 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | 1S 5182 (Part-2): 2001; RA2022 | 7.5 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 17.2 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.011 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

****End of Report****

Dr. Authorized Signatory

Page I of 1

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

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



FC-8835

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2284 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001206F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1757 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 14.05.2023 to 15.05.2023 : 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 INFORM | ATION | | | |
|----|----------------------------|-------|---|----------------------------|---------|
| T | Average Temperature (°C) : | 35 | 2 | Barometric Pressure (mmHg) | - 743 |
| 3. | Relative Humidity (%) | 50 | | Weather Condition | : Clear |

| NABL Accredited | | | | |
|--------------------------------------|-------|---------------------------------|-------------|------------------|
| Discipline : | Group | : Atmospheri | c Pollution | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 61 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 32 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | 15 5182 (Part-2): 2001; RA2022 | 7.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 12.9 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Reviewed by

****End of Report****

Authorized Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

Page 1 of 1

ELES Por 1 id. Torchnical Manager

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2284 | Report Release Date | : 01.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1757 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date | (12.14ha) : 14.05.2023 to 15.05.2023 | |
| | | Sample Received Date Type of Sample | : 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 | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | The same of the sa | |
|----|-------------------------------|----|--|------------|
| 1 | Average Temperature ("C) : 35 | 2. | Barometric Pressure (mm. | Hg) :: 743 |
| 3 | Relative Humidity (%) : 60 | 4 | Weather Condition | : Clear |

| Discipline : Chemical | | 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 | 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 Sinna Ph. D. Sovicemental Engg. ELES PM List Technique (Tringger

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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TC-8839

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2285 | Report Release Date | : 01.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001207F | | 7 1141 - 5-4 | |

| CUSTOMER DET | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|---|
| Customer Name | : Hindatco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1758 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 14.05.2023 to 15.05.2023 : 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 | |

| NABL Accredited Discipline: | Chemical | Group | Atmospheri | c Pollution |
|--------------------------------------|----------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 28 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.7 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 14.2 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.006 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

****End of Report****

Reviewed by

Dr. Dauthorized Signatory Sinha

Page 1 of 1 ELES Pyt. Lto, Toolmical Mana

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-B34003 (JHARKHAND) GST NO:-20AAECE97130124 ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2285 | Report Release Date | : 01.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | CUSTOMER DETAILS | | |
|--------------------|--------------------------------|---------------------------------------|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1758 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine |
| Address | : Loliardaga, Iharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 14.05.2023 to 15.05.2023 : 06.06.2023 |
| Plant Status | : Operational | Type of Sample Sample Drawn By | 2 Ambient Air 2 ELES/DOC/SMPL/02 |
| Period of Analysis | : 06.06.2023 to 08.06.2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | | -1-22 |
|----|-------------------------------|---|-------------------------|------------|
| 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/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****

Dr. Deapendra Rumar Sinha

ELES Pvl. Ltd. Technical Manager

Page 1 of 1

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TC-8835

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2286 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001208F | | |

| CUSTOMER DET | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1759 : Near Colony; Jalim & Sanai Bauxite Mine (12,14ha) | |
| Address | ; Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 14.05.2023 to 15.05.2023 : 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 | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFO | RMATION | | | |
|----|--------------------------|---------|---|----------------------------|---------|
| | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | ; 60 | 4 | Weather Condition | ; Clear |

| Discipline : | Chemical | Group | Atmospheri | c Pollution |
|--------------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter U | | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 55 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 7.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₁) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 14.3 | 80 (24hrs) |
| Ozone (O ₃) | µg/m ² | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.007 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/0) | <2.0 | 06 (Amoual) |

Reviewed by

****End of Report****

Dr. Dautherized Signatural Sinha

Page 1 of 1

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

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2286 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | 2 21.04.2023 |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1759 : Near Colony; Jalim & Sana Bauxite Mine (12.14ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 14.05.2023 to 15.05.2023 : 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 | : Sealed & Preserved |

| MI | TEOROLOGICAL INFORMA | ATION | | |
|----|----------------------------|-------|---------------------------|-----------|
| 1 | Average Temperature (°C) : | 35 2 | Barometric Pressure (mmHg | (2) : 743 |
| 3 | Relative Humidity (%) | 50 4 | Weather Condition | : Clear |

| Discipline : Chemical | | 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 Signatory

Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES FVL Ltd. Tocamical Manager

Page 1 of 1

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PLOT NO-50, MANSAROVAR ENCLAVE, TUPVIDANA HATTA, RANCHI-03-1103 (JHARNHAND) 05T NO-10A460691130124

ENGINEERING SERVICES FVE, LYD

Email: Info@elesal.co.ln , eles ranchi@amall.com Phone no.: 0651-2290103 Website : www.elesal.co.in



TC-6500

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2275 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001197F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---------------------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1748 : Near Banjari Village Serengdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 13.05,2023 to 14.05,2023 : 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 INFO | MATION | | | |
|---|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 35 | 2 | Barometric Pressure (mmHg) | : 743 |
| 3 | Relative Humidity (%) | :59 | 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 | 59 | 100 (24hrs) |
| Particulate Matter (PM2.5) | ug/m³ | JS 5182 (Part- 24): 2019 | 26 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m ³ | 1S 5182 (Part-2): 2001; RA2022 | 5.7 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 13.5 | 80 (24hrs) |
| Ozone (O ₁) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.8 | 100 (Shrs) |
| Ammonia (NH ₂) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10); 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m ² | 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) | stg/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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****End of Report****

Anthorized Signatory

Dr. Deependra Kumar Sinha

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATUL RANCHI-E34003 (JHARKHAND) 05T NO - 204AFCE9713D124

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

| Test Report No. | ; ELES/RNC/2023/2275 | 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 | : ELES/RNC/2023/AA/1748 : Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 13.05.2023 to 14.05.2023 | |
| 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 | |

| ME | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|--------------------------|-----------|
| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm) | Hg) : 743 |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | |
|-----------------------|-------|-------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene* | µg/m² | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Amual) | |
| Benzo (a) Pyrene® | ng/m³ | IS 5182 (Part-12)2004;RA2019 | < 0.5 | 01(Annual) | |

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

Reviewed by

****End of Report****

Authorized Signmory

DJ. Deependra Kumar Sinha

Ph. D. Environmental Engg.

ELES PVI. Lig. Todahimi sinager.

Page 1 of 1

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



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2276 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001198F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1749 : Near Pauri Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 13.05,2023 to 14.05,2023 : 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 | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|--------------------------|-----------|
| T | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm. | Hg) : 743 |
| 3 | Relative Humidity (%) : 59 | -4 | Weather Condition | : Clear |

| NABL Accredited | | | | Secretary Co. C. |
|--------------------------------------|-------------------|---------------------------------|--------|------------------|
| Discipline : Chemical Group : | | | | c Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 57 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 34 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 13.3 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | 1S 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH _i) | pg/m³ | 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/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.10 | I (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m ⁷ | ELES/AIR/SOP/01 | 2,2 | 06 (Annual) |



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Authorized Signatory Deepensia Kumar Sinha

Page 1 of 1 ELES PVL Util Tie / Man

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ENGINEERING SERVICES PVT. LYD.

Emall: Info@elezpl.co.ln , eles.ranchi@amail.com Phone no.: 0651-2290103

Website : www.elespi.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2276 | 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 | : ELES/RNC/2023/AA/1749 : Near Pauri Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 13.05.2023 to 14.05.2023 : 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 | : Sealed & Preserved | |

| VΠ | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|--------------------------|----------|
| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mmH | g) : 743 |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear |

| Discipline : Chemical | | 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 | OI(Annual) | |

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

Reviewed by

****End of Report****

Authorized Signatory

Dr. Deependra Kumar Sinha

Ph. D. Saviroma, and Engl.

ELES P. Ud. Total Sangar

Page 1 of 1

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PLOT NO-50, MANSAROVAR ENCLAVE, TUPUDANA HATIA. RENCHESSIOGS (IHARKHAND) 65T NO:- 10A48CE9913D124



Emoil: Info@elesol.co.in eles rancil@amail.com

Phone no.: 0691-2290105. Website: www.elespl.co.in



TC-8.835

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2277 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001199F | | |

| CUSTOMER DET | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|------------------------------------|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1750 : Near Harup Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : Ambient Air : ELES/DOC/SMPL/02 | |
| Plant Status | : Operational | Type of Sample Sample Drawn By | | |
| 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 |
| | Relative Humidity (%) : 59 | | Weather Condition | : Clear |

| NABL Accredited Discipline: | Chambral | Group : | Atmospheri | c Pollution |
|--------------------------------------|-------------------|---------------------------------|------------------|--------------|
| Parameter | Unit | Test Protocol | Regulatory Limit | |
| Particulate Matter (PM10) | μg/m ³ | IS 5182 (Part-23); 2006; RA2022 | Result 59 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 31 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | 1S 5182 (Part-2): 2001; RA2022 | 5.7 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | 1S 5182 (Part-6): 2006; RA2022 | 13.2 | 80 (24hrs) |
| Ozone (O ₁) | µg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24tirs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m² | ELES/AIR/SOP/01 | <2,0 | 06 (Annual) |



****End of Report***

Jespendra Kumar Sinha

Dr. D. Four-pomental Forto

Page 1 of 1

ELES Put, Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE TUPUDANA HATIA, RANCHI-884003 (HARKHAND) GSTNG-- 20A480897120124 ENGINEERING SERVICES PVT. LESS.

Emall: <u>Info@elespl.co.in</u> <u>eles.ranchi@amail.com</u> Phone no.: 0691-2290103 Website : www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2277 | 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/1750 : Near Harup Village Serengdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 13.05.2023 to 14.05.2023 : 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 | : Sealed & Preserved |

| MI | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|-------------------------|-----------|
| T | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm | Hg) : 743 |
| 3 | Relative Humidity (%) : 59 | -4 | Weather Condition | : Clear |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | | |
|-----------------------|-------|-------------------------------|--------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Benzene* | µg/m² | 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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****End of Report****

Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvi. Ltd. Terrament Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE PLIFUDANA HATIA, RANCHI SEEDOS TIHARICHAN GIL GST NO 10446CERTIBOIZA



Website v www.elespi.so.in

Email Into Deletal co.in , eles ranchi Barrati doni Priorie no.: 0651-2290103



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2278 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001200F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|----------------------------------|----------------------|----------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RNC/2023/AA/1751 | |
| | | Location | : Near Paintoli Village | |
| | I have been a second as a second | | Serengdag-A Bauxite Mines | |
| Address | : Lohardage, Jharkhand-835302 | Sampling Date | : 13.05.2023 to 14.05.2023 | |
| | | Sample Received Date | : 06.06.2023 | |
| | | Type of Sample | : Ambient Air | |
| Plant Status | : Operational | Sample Drawn By | : 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 (mn | (Hg) : 743 | |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear | |

| NABL Accredited | | | | |
|-------------------------------------|-------------------|---------------------------------|--------|------------------|
| Discipline : | Atmospheri | c Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) |
| Particulate Matter (PM2.5) | ug/m³ | IS 5182 (Part- 24): 2019 | 29 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | IS 5182 (Part-2): 2001; RA2022 | 7.5 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 12.5 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₂) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | 1S 5182 (Part-22): 2004; RA2019 | 0.016 | 1 (24hrs) |
| Nickel (Ni) | ng/m ² | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenić (As) | ng/m² | ELES/AIR/SOP/01 | <2.0 | 06 (Armual) |



*** End of Report***

Dr. Deependra Kumar Sinha

Page 1 of 1

ELES Pvl. Ltd. Tardinion Manager

The Decement stated in Test Report to sexual by the Laboratory under General Terms and Conditions, only on Company letter fread in gre-approved format. The results aboves in the Test Report refer or relates only to the jubilanalisms done by the Laboratory only. The information stated on the Test Report referes the findings done by the Laboratory of the time of involvement only and within the limits of client's manufactors. The Laboratory is responsible for all the information or dina 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 swritten approval of the Laboratory. The Report in full or in part shall not be published, adversing used fin any legal actions solons prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction or uses. Any usual horizon & fabriculation of the deleted at appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are regarded for Todays from the Date of release use the Test Report. The samples from Regulatory bodies are in he retained as specified. Any type of Osservations or Complaints remeding the Reports studies. be also within 15days from the Date of Tein Report reseased restord. After the time period stated before, no complaints will be accepted. The entire Time schedule ment area in Test Report is in 26 loans runnar. Abbreviation used. N/A (Nor Applicable), RDI. (Below Descripe Limit), LDI. (Lower Descripe Limit)



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-334003 (IHARKHAND) GST NO:- 20A45CE9713D124

ENGINEERING SERVICES PVT. LTD.

Email: Info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2190103 Website : www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2278 | Report Release Date | : 01.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |

| CUSTOMER DET. | CUSTOMER DETAILS | | and the second second second |
|--------------------|-------------------------------|---|---|
| Customer Name | ; Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1751 : Near Paintoli Village Screngdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 13.05.2023 to 14.05.2023 : 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 | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 35 | 2 | Barometric Pressure (mm | Hg) : 743 |
| 3 | Relative Humidity (%) ; 59 | 4 | Weather Condition | : Clear |

| Discipline : Chemical | | 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.

Reviewed by

****End of Report****

Authorized Signatory
Dr. Deependra Kumar Sinha
Ph. D. Environmental Engg.
ELES Pvt. Utt. Technical Canage.

Page 1 of 1

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ENCINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

| Test Report No. | ; ELES/RNC/2023/2795 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001660F | - | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|--------------------------|--|--|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location | : ELES/RNC/2023/AA/1975 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine (12.14ha) |
| Mines Status | : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 14.06.2023 to 15.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 17.06,2023 to 27.06.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

| MI | ETEOROLOGICAL INFOR | RMATION | | | |
|----|--------------------------|---------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 738 |
| 3 | Relative Humidity (%) | : 59 | | Weather Condition | : Clear |

| Discipline : | Chemical | Group : | Atmospheri | c Pollution |
|--------------------------------------|----------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 67 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 37 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 8.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 22.7 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | 1S 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.007 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

****End of Report****

Reviewed by

Authorised Signatory

Dr. Deependra Kumar Sinha

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.

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

Website: www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2795 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | ; 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET | AILS | SAMPLE DETAILS | |
|-----------------------|-------------------------------|---------------------------------------|--|
| Customer Name Address | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1975 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine (12.14ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14.06.2023 to 15.06.2023 : 17.06.2023 |
| Mines Status | : Operational | Type of Sample Sampling Procedure | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|--------------------------|-----------|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mml | Hg) : 738 |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear |

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

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

Reviewed/by

****End of Report****

Authorised Signatory

Or. Deependra Kumar Sinhie
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:- 20AAECES713D12M

ENGINEERING SERVICES PVT. LTD.

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

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



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2796 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|---|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001661F | | | _ |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1976 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 14.06.2023 to 15.06.2023 : 17.06.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | |

| M | TEOROLOGICAL INFORM | MATION | | | |
|---|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | 32 | 2 | Barometric Pressure (mmHg) | : 738 |
| 3 | Relative Humidity (%) | : 59 | | Weather Condition | : Clear |

| Discipline : | : Atmospheri | e Pollution | | |
|--------------------------------------|-------------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 54 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 8.2 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 16.4 | 80 (24hrs) |
| Ozone (O ₃) | μg/m ³ | 1S 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ¹ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

****End of Report****

Reviewed by

Authorised Signatory Jr. Deependra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1 ELES Pvt. Ltd. Technical Manager The results
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PLOT NG-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2796 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1976 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14.06.2023 to 15.06.2023 : 17.06.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm | Hg) : 738 |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear |

| Discipline | : Chemical | 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.

Reviewed by

****End of Report****

(Sinto

Authorised Signatory

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

Page 1 of 1

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ENGINEERING SERVICES PVT. LTD.

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



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2797 | Report Release Date | : 29.07,2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001662F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1977 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 14.06.2023 to 15.06.2023 : 17.06.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORT | MATION | | | |
|---|--------------------------|--------|---|----------------------------|---------|
| 1 | Average Temperature (°C) | : 32 | 2 | Barometric Pressure (mmHg) | : 738 |
| 3 | Relative Humidity (%) | : 59 | | Weather Condition | : Clear |

| Discipline : | Atmospheri | e Pollution | | |
|--------------------------------------|------------|---------------------------------|--------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 56 | 100 (24hrs) |
| Particulate Matter (PM2,5) | μg/m³ | IS 5182 (Part- 24): 2019 | 25 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 7.3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 16.7 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₁) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m² | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22); 2004; RA2019 | 0.009 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

****End of Report****

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

ELES Pvt. Ltd., Technical Manager

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ENCINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.ln

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2797 | Report Release Date | : 29,07,2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1977 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine (12.14ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14.06.2023 to 15.06.2023 : 17.06.2023 |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|--------------------------|-----------|
| I | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm. | Hg) : 738 |
| 3 | Relative Humidity (%) : 59 | -4 | Weather Condition | Clear |

| Discipline | : Chemical | 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****

Authorised Signatory

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

Page 1 of 1

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

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TC-8839

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2798 | Report Release Date | : 29.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001663F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1978 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 14.06.2023 to 15.06.2023 : 17.06.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | | |
|----|-------------------------------|---|-------------------------|-----------|--|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm | Hg) : 738 | |
| 3 | Relative Humidity (%) : 59 | | Weather Condition | : Clear | |

| NABL Accredited | | | | |
|--------------------------------------|-------------------|---------------------------------|--------|-----------------|
| Discipline : | : Atmospheri | c Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limi |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 49 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 25 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 18.5 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | 1S 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.011 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



****End of Report****

Anthonical Simulation

Authorised Signatory

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

Page 1 of 1

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

Website: www.elespl.co.ln

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2798 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1978 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 14.06.2023 to 15.06.2023 : 17.06.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES PvL Ltd. | |
| Period of Analysis | = 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|----------------------------|---------|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mmHg) | ÷738 |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | ; Clear |

| Discipline : Chemical | | 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/m² | IS:5182 (Part-12): 2004;RA2019 | < 0.5 | 01(Annual) | | |

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

Reviewed by

****End of Report***

Authorised Signatory

Jr. 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, TUPLIDANA HATTA, RANCHI-834003 (HARNHAND) 557 NO: - 20AAECE971301Z4

ENGINEERING SERVICES PUT, LTD

Email info@syssol on in . Her randi\@amoli.com Phone no.: 0553-2290103 Website: www.glasplas.in.



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2787 | Report Release Date | ; 29.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001652F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1967 ; Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 12.06,2023 to 13.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | |

| M! | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) : 742 |
| | Relative Humidity (%) : 59 | 4 | Weather Condition | ; Clear |

| 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 | 55 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 28 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | 1S 5182 (Part-2): 2001; RA2022 | 6.1 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6); 2006; RA2022 | 11.2 | 80 (24hrs) | | |
| Ozone (O ₃) | μg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (Shrs) | | |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.007 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |



****End of Report****

Authorised Signatory

Dr. Deepengra Kumar Sinha

Ph. D. Environmental Engg.

Page 1 of 1 ELES Pvt, Ltd., Technical Manager
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ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | ; ELES/RNC/2023/2787 | 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/1967 : Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 12.06.2023 to 13.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Mines Status | | | | |
| Period of Analysis | : 17.06,2023 to 27.06,2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| 1 | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) ; 742 |
| 3 | Relative Humidity (%) ; 59 | 4 | Weather Condition | : Clear |

| Discipline : Chemical | | 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.

Reviewed by

****End of Report****

Authorised Signatory

Or. Deependra Kumar Sinh.

Ph. D. Environmental Engg.

ELES Pvt. Ltd. Technical Manage:

Page 1 of 1

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PLOT NO 30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-114003 (HARKHAND) GET NO: 10148CE97130114

ENGINEERING SERVICES PUT, LYD.

Emill in (10 flespi.co.in , e)es ranchi Bamal, com Phone no.: 0651-2290103 Website : www.elespi.co.in



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2788 | Report Release Date | : 29.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001653F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1968 : Near Pauri Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 12.06.2023 to 13.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 17,06,2023 to 27,06,2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------|
| I | Average Temperature (°C) : 33 | 2 | Barometric Pressure (mm | Hg) : 742 |
| | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear |

| NABL Accredited | Principal Control | Conve | Armonhoul | a Pollution | | |
|--------------------------------------|-------------------|---------------------------------|-----------|------------------|--|--|
| Discipline : | 1 | Group : Atmospheric Pollution | | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 60 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | μg/m³ | 1S 5182 (Part- 24): 2019 | 36 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 7.3 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | 1S 5182 (Part-6): 2006; RA2022 | 15.5 | 80 (24hrs) | | |
| Ozone (O ₂) | 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 ¹ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.10 | 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***

Authorised Signatory

or. Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

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PCOT NO-30, MANSAROVAR ENGLAVE, TUPUDANA RATIA, RANCHI-834002 (HARNHAND) GST NO-204455597120121

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , elestronchi@gmail.com Phone no.: 0651-3250103

Website: www.elespi.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2788 | Report Release Date | ; 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/1968 : Near Pauri Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 12.06.2023 to 13.06.2023 : 17.06.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Scaled & Preserved | |

| MI | METEOROLOGICAL INFORMATION | | | | | | |
|----|----------------------------|------|----|----------------------------|---------|--|--|
| 1 | Average Temperature (°C) | : 33 | 12 | Barometric Pressure (mmHg) | : 742 | | |
| 3 | Relative Humidity (%) | : 59 | 4 | Weather Condition | : Clear | | |

| Discipline : Chemical | | 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.

Reviewed by

****End of Report***

Authorised Signatory

Jr. Deependra Kumar Sini.
Ph. D. Environmental Engg.
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAH ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) JST NO:- 20A4606971301Z4

ENGINEERING SERVICES PUT, 175.

Email: Info@eletal.co.in | Elet.ronchi.Enmail.com Phone na.: 0651-2290103 Website: www.eleral.co.in



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TEST REPORT

| Test Report No. | : ELES/RNC/2023/2789 | Report Release Date | : 29.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001654F | | |

| CUSTOMER DETA | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------------|--|---|---|--|--|
| Customer Name Address | : Hindulco Industries Limited : Lohardaga, Tharkhand-835302 | Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample | : ELES/RNC/2023/AA/1969 : Near Harup Village Serengdag-A Bauxite Mines : 13.06.2023 to 14.06.2023 : 17.06.2023 : Ambient Air | | |
| Mines Status | ; Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | | |

| MI | TEOROLOGICAL INFORM | ATION | | | |
|----|----------------------------|-------|---|----------------------------|---------|
| 1 | Average Temperature (°C) : | 32 | 2 | Barometric Pressure (mmHg) | : 742 |
| 3 | Relative Humidity (%) | 59 | 4 | Weather Condition | : Clear |

| 1000000 | | | THE RESERVE OF THE SECOND SECO |
|-----------------------------|--|---|--|
| Discipline : Chemical Group | | | |
| Unit | Test Protocol | Result | Regulatory Limit |
| µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 51 | 100 (24hrs) |
| µg/m³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| µg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.4 | 80 (24hrs) |
| µg/m³ | 15 5182 (Part-6): 2006; RA2022 | 15.3 | 80 (24hrs) |
| µg/m² | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| µg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | I (24hrs) |
| ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| ng/m² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |
| | Unit µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ µg/m³ ng/m³ ng/m³ | Unit Test Protocol μg/m³ IS 5182 (Part-23): 2006; RA2022 μg/m³ IS 5182 (Part-24): 2019 μg/m³ IS 5182 (Part-2): 2001; RA2022 μg/m³ IS 5182 (Part-6): 2006; RA2022 μg/m³ IS 5182 (Part-6): 1974; RA2019 μg/m³ IS 5182 (Part-25): 2018 mg/m³ IS 5182 (Part-10): 1999; RA2019 μg/m³ IS 5182 (Part-10): 1999; RA2019 μg/m³ IS 5182 (Part-22): 2004; RA2019 ng/m³ IS 5182 (Part-22): 2004; RA2019 | Unit Test Protocol Result μg/m³ IS 5182 (Part-23): 2006; RA2022 51 μg/m³ IS 5182 (Part-24): 2019 27 μg/m³ IS 5182 (Part-2): 2001; RA2022 6.4 μg/m³ IS 5182 (Part-6): 2006; RA2022 15.3 μg/m³ IS 5182 (Part-9): 1974; RA2019 <20.0 |



****End of Report****

Dr. Deependra Kumar Sinha

Page 1 of 1 Ph. D. Environmental Engg.
Page 1 of 1 ELES Pv1, Ltd., Technical Manager

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ENGINEERING SERVICES PVT. LTD.

Email: Info@elesal.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290102 Website : www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2789 | 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/1969 : Near Harup Village Serengdag-A Bauxite Mines | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 13.06.2023 to 14.06.2023 : 17.06.2023 : Ambient Air | | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | | |

| MI | ETEOROLOGICAL INFORMA | TION | | |
|----|-------------------------------|------|---------------------------|----------|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mml- | lg) :742 |
| 3 | Relative Humidity (%) : 59 | 4 | Weather Condition | : Clear |

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

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 1 of 1

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Empli- lofo(Beleso), on in , elem ranon Barnail son, Phone no.: 0651-2290103



TE-8539

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2790 | Report Release Date | : 29.07.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | 1 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001655F | | |

| CUSTOMER DETA | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1970 : Near Paintoli Village Serengdag-A Bauxite Mines | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 13.06.2023 to 14.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02 | | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES PVL Ltd. | | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | | |

| MI | ETEOROLOGICAL INFORMATION | (| | | |
|----|-------------------------------|-----|-------------------------|------------|--|
| 1 | Average Temperature (°C) : 32 | 2 | Barometric Pressure (mm | iHg) : 742 | |
| _ | Relative Humidity (%) : 59 | - 4 | Weather Condition | : Clear | |

| NABL Accredited | | | | | | |
|-------------------------------------|----------|---------------------------------|--------|------------------|--|--|
| Discipline : | Chemical | Group : Atmospheric Pollution | | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23); 2006; RA2022 | 54 | 100 (24hrs) | | |
| Particulate Matter (PM2,5) | µg/m³ | 1S 5182 (Part- 24): 2019 | 25 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.7 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO2) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 15.9 | 80 (24hrs) | | |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9); 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₃) | µg/m³ | 15 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.011 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Amenia (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |



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Authorised Signatory Dr. Deependra Kumar Sinii

Ph. D. Environmental Enna

ELES Pvt. Ltd. Technical Manager Page 1 of 1

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FLOT NO-30, MANSAROVAR ENCLAYE, TUPUDANA HATIA, RANCHI-534003 (JHARNHANO) GST NO-10AAECE9711D124

ENGINEERING SERVICES PVT. LTD.

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

Phone na.: 0651-2290103 Website : www.elespi.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2790 | Report Release Date | : 29.07.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|--|
| Customer Name | ; Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/1970 : Near Paintoli Village Serengdag-A Bauxite Mines | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 13,06,2023 to 14,06,2023 : 17,06,2023 : Ambient Air | | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | | |
| Period of Analysis | : 17.06.2023 to 27.06.2023 | Sample Condition | : Sealed & Preserved | | |

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

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

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

Reviewed by to

****End of Report****

1 dinto

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, RANCHI-834003 (JHARKHAND) GST NO: JUANECETTISDIZA



Email: Info@elespl.co.In , eles_ranchi@amail.com

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/2934 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001781F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|----------------------|--|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2605 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address Mines Status | : Lohardaga, Jharkhand-835302 : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 17.07.2023 to 18.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Willings Status | . Operational | | | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) ; 26 | 2 | Barometric Pressure (mm | Hg) : 736 |
| 3 | Relative Humidity (%) : 65 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | | | |
|--------------------------------------|-------------------|----------------------------------|---------|------------------|--|--|
| Discipline : | Chemical | Group : Atmospheric Pollution | | | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022: | 56 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 23 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | μg/m ³ | IS 5182 (Part-2): 2001; RA2022 | 5.5 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 16.1 | 80 (24hrs) | | |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |



****End of Report***

Authorised Signatory

Dr. Deependra Kumar Sinha

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Page 1 of 1 ELES Pvl. Ltd. Technical Manager
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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 204AECE9713D1Z4

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/2023/2934 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| 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/2605 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.07.2023 to 18.07.2023 : 25.07.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORM | IATION | | | |
|----|--------------------------|--------|---|----------------------------|-----------------|
| 11 | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline | : Chemical | 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 | 1S:5182 (Part-12): 2004;RA2019 | < 0.5 | 01(Annual) | | |

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

Reviewed by

UF.

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2935 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | CUSTOMER DETAILS | | |
|--------------------|-------------------------------|---|--|
| Customer Name | ; Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2606 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine (12,14ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.07.2023 to 18.07.2023 : 25.07.2023 |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|--------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline | : Chemical | 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.

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****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D. Environmental Engo

ELES Pyt. Ltd. Technical Manager

Page 1 of 1

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TEST REPORT

| Test Report No. | ; ELES/RNC/2023/2936 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001783F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | 3 Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2607 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.07.2023 to 18.07.2023 : 25.07.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | = 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORM | MATION | | | |
|----|--------------------------|--------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 | Relative Humidity (%) | : 65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : | Discipline : Chemical Group | | | | | |
|--------------------------------------|-----------------------------|---------------------------------|--------|------------------|--|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 52 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 23 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 6.2 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO ₂) | μg/m ³ | IS 5182 (Part-6): 2006; RA2022 | 13.6 | 80 (24hrs) | | |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m ³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) | | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | | |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | | |



****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager

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Save Environment, Save Future



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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2936 | 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/2607 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 17.07.2023 to 18.07.2023 : 25.07.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|---------------------------|-----------------|
| 1 | Average Temperature (°C) : 26 | 2 | Barometric Pressure (mmHg | : 736 |
| | Relative Humidity (%) : 65 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemical | | 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 | D1(Annual) | |

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



****End of Report****

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

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/2937 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001784F | | | |

| 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/2608 : Near Colony; Jalim & Sana Bauxite Mine (12,14ha) : 17.07.2023 to 18.07.2023 : 25.07.2023 : Ambient Air | |
| Mines Status Period of Analysis | : Operational : 25.07.2023 to 02.08.2023 | Sampling Procedure Sample Drawn By Sample Condition | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved | |

| METEOROLOGICAL INFORMATION | | | |
|-------------------------------|---|--------------------------|-----------------|
| Average Temperature (°C) ; 26 | 2 | Barometric Pressure (mmH | g) : 736 |
| Relative Humidity (%) :65 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited Discipline: | Discipline : Chemical Group | | | | |
|--------------------------------------|-----------------------------|---------------------------------|--------|------------------|--|
| Parameter . | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 43 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | µg/m³ | 1S 5182 (Part- 24); 2019 | 22 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | 1S 5182 (Part-2): 2001; RA2022 | 5.4 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | 1S 5182 (Part-6): 2006; RA2022 | 16.2 | 80 (24hrs) | |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9); 1974; RA2019 | <20.0 | 100 (Shrs) | |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m³ | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.009 | 1 (24hrs) | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m ³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |



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Stinks

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

Page 1 of 1 Ph. D.

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

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/2937 | 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/2608 : Near Colony; Jalim & Sana Bauxite Mine (12,14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 17.07.2023 to 18.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| METEOROLOGICAL INFORMATION | | | - |
|----------------------------------|----|-------------------------|-----------------|
| 1 Average Temperature (°C) :: 26 | 2 | Barometric Pressure (mm | Hg) : 736 |
| 3 Relative Humidity (%) : 65 | -4 | Weather Condition | : Partly Cloudy |

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

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

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****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 HATTA, RANCHI-834003 (IHARKHAND) GST NO - 20AAECE9713D1Z4

ENGINEERING SERVICES PUT, 1 TO

Emails info@elespi.co.in , elestranchi Elamaii.com Phone no.: 0651-2290103 Website: www.e/espi.co.in



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2926 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001773F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2597 : Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 15:07.2023 to 16:07.2023 : 25:07.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| METEOROLOGICAL INFORMATION | | | |
|---------------------------------|-----|---------------------------|-----------------|
| 1 Average Temperature (°C) : 27 | 2. | Barometric Pressure (mmHg | : 738 |
| 3 Relative Humidity (%) : 66 | - 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | |
|--------------------------------------|-------------------|---------------------------------|---------|------------------|
| Discipline : Chemical Group : | | | | e Pollution |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 49 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 23 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₁) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5,5 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 9.2 | 80 (24lus) |
| Ozone (O ₂) | µg/m³ | 1S 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammeria (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 (Shrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | f (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Atsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



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Authorised Signatory

Dr. Despendra Kumar Sinha

Page 1 of 1 ELES Pvt. Ltd. Technical Manager
The December stated as Test Report, in Issued by the Laboratory under General Terms and Conditions, only on Company fetter head in pre-approved therein. The results shown in the Test Report rates or cutaes only to the job/coulysts done by the Laboratory only. The enformation cream on the Test Report reflects the factors done by the Laborators at the time of involvement only and within the limits of client's instruction. The Laboratory is responsible for all the estrenation or data provided on the report, except the information which is provided by the eleme. The Report cannot be reproduced except in full and any part of the report is not taken our of context, without pour surines approved of the Laboratory. This Report to full of in part shall not be published, advertise, used for any legal nations unless prior permanent. East been secured from the Management of the Laborators: Attention is the toronton of lightly, compensation and provided on the samples are returned for 30 days from the Date of releaselysists of the Test Report. The samples from Regulatory hedder are to be remined as specified. Any type of Deservations or Canadams regarding the Reports shall be those within 15days from the Units of Test Report released bysics. After the period sexual before an exceptions with his acceptant. The entire Time as a few sexual before the exception. mentioned in Test Report is in Different Council Abbertation used, MA (Nat Applicable), BDL (Defens Detection Limit), LDL (Lower Desection Limit)



PLOT NG-30; MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 208AECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2926 | 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/2597 : Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 15.07,2023 to 16.07,2023 : 25.07,2023 : Ambient Air | |
| Mines Status | - Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| Mi | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------------|
| | Average Temperature (°C) : 27 | 2 | Barometric Pressure (mm | Hg) : 738 |
| _ | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemical Group | | | : Atmospheric Pollution | |
|-----------------------------|-------------------|--------------------------------|-------------------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Benzene ^s | ug/m³ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | D5(Annual) |
| Benzo (a) Pyrene* | ng/m ³ | IS:5182 (Part-I2): 2004;RA2019 | < 0.5 | 01(Annual) |

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

Reviewed by

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**** End of Report****

Dr. Chulteriand StandarSinha

Pr. D. Environmental Engl. BLES Pv. Lid. Technical Manager

Page I of i

The Discinness stated as Test Report, is asseed by the Laboratory and commental Terms and Conditions, only on Company letter bend in pre-superiord format. The results shown in the Test Report series in relation only at the judician was slowed by the Laboratory of the officeration among the test Report reflects the feetings done by the Laboratory of the time of provided by the client. The Report comment has provided by the client. The Report comment by reproduced except of full used any partial the report in not taken out of contest, without provided by the client. The Report comment to reproduced except of full used any partial the report in not taken out of contest, without provided on the report of the Laboratory. The Report in full or in part shall not be published education, and for any legal actions or less year permission has been accured from the Attraggment of the Laboratory. Attention is drawn to the limitation of furbility, compensation and jurisdiction enough and affection of the contest of the law. All the complete are retained to Addays from the Date of Test Report is or lawful and affection or to be received as general of the law. All the complete are retained to Addays from the Date of Test Report as or lawful and affection or to be received as general of the law. All the complete are retained to Addays from the Date of Test Report referred/based. After the time period shall before an compliants with the covered. The entire Time schedule mentioned in Test Report is a Schedule mentioned in Test Report in Advanced to the Advanced to the Date of Test Report referred/based. After the time period shall before an compliants with the accepted. The entire Time schedule mentioned in Test Report is in Advanced to the Advanc



PLOT NO-30, MANSAROVAR ENGLAVE, TUPUDANA HATIA RANCHI-834003 (JHARKHANDI GET NO- 20AAFCER713D124

ENGINEERING SERVICES PST. LTD

Empili info@elesol so.in , eles ranchi@amaii.com Phone no.: 0551-2290103

Website: www.slessf.co.in



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2927 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |
| ULR No. | : TC883923000001774F | | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|----------------------|---|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2598 : Near Pauri Village Serengdag-A Bauxite Mines | |
| Address Mines Status | : Lohardaga, Jharkhand-835302; : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 15.07.2023 to 16.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| METEOROLOGICAL INFORMATION | | | |
|---------------------------------|---|-------------------------|-----------------|
| 1 Average Temperature (°C) : 27 | 2 | Barometric Pressure (mm | Hg) : 738 |
| 3 Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | 201 | 715 Car 1 To 1 | 25.31.41 |
|-------------------------------------|-------------------|---------------------------------|----------------|------------------|
| Discipline : | Chemical | Group : | Atmospheri | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | 18 5182 (Part-23): 2006; RA2022 | 54 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 30 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 8.1 | 80 (24lirs) |
| Nitrogen Di-Oxide (NO2) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 12.2 | 80 (24hrs) |
| Ozone (O ₁) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | µg/m² | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | 15 5182 (Part-22): 2004; RA2019 | 0.10 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



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Dr. Deependra Kumar Sinha

Ph. 2 Environmental Ency

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TURLIDANA HATIA, RANCHI-834003 (HARKHAND) GST NO:- 20A45C59713D124

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/2023/2927 | Report Release Date | : 08.08.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04,2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|----------------------|--|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/2598 : Near Pauri Village Serengdag-A Bauxite Mines : 15.07.2023 to 16.07.2023 |
| Address Mines Status | : Lohardaga, Jharkhand-835302 : Operational | Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 25.07,2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 25,07,2023 to 02.08,2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) : 27 | 2 | Barometric Pressure (mmHg) | : 738 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemical | | Group : Atmospheric Pollution | | | |
|-----------------------|-------|--------------------------------|--------------------------------------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Benzene* | μg/m² | IS:5182 (Part-11): 2006;RA2017 | <l0< td=""><td>05(Annual)</td></l0<> | 05(Annual) | |
| Benzo (a) Pyrene* | ng/m³ | IS:5182 (Part-12): 2004;RA2019 | <0,5 | 01(Annual) | |

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

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Authorised Signatory
Dr. Despendes Kumar Sinna
Ph. O. Sinna and 18 5 55
EUSS Pv. Ltd. Technical Manager

Page 1 of 1

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ENGINEERING SERVICES PUT LIB

Email: Info@alegal to in , electronch! @gmail.com Phone no.: 0651-2290103

Website: aww.elespi.co.in



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2928 | Report Release Date | : 08.08,2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001775F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2599 : Near Harup Village Serengdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 16.07.2023 to 17.07.2023 : 25.07.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | ELES/DOC/SMPL/02 ELES Pvt. Ltd. |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | 4 Sealed & Preserved |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) : 28 | 2 | Barometric Pressure (mm | Hg) : 738 |
| 3 | Relative Humidity (%) : 67 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | |
|--------------------------------------|--------------------|---------------------------------|---------|------------------|
| Discipline : | : Atmospheri | e Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 47 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m² | IS 5182 (Part- 24): 2019 | 23 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | jig/m1 | 1S 5182 (Part-2): 2001; RA2022 | 6.1 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) |)1g/m ² | 3S 5182 (Part-6): 2006; RA2022 | 12.7 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (Shrs) |
| Ammonia (NH ₃) | ug/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | < 6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



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Anthorised Signatory

Dr. Deepandra Kumar Sinna

Page 1 of 1 ELES PVI. Lot Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.ca.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/2928 | 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/2599 : Near Harup Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 16.07.2023 to 17.07.2023 : 25.07.2023 : Ambient Air | |
| Mines Status | ; Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pv. Ltd. | |
| Period of Analysis | : 25.07.2023 to 02.08.2023 | Sample Condition | : Sealed & Preserved | |

| VII | TEOROLOGICAL INFORMATION | | | |
|-----|-------------------------------|---|--------------------------|-----------------|
| | Average Temperature (°C) : 28 | 2 | Barometric Pressure (mm) | Hg) : 738 |
| | Relative Humidity (%) : 67 | 4 | Weather Condition | : Partly Cloudy |

| Discipline | : Chemical | Group : Atmospheric Pollution | | | |
|-------------------|-------------------|--------------------------------|--------|------------------|--|
| Parameter Unit | | Test Protocol | Result | Regulatory Limit | |
| Benzene* | µg/m ⁷ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) | |
| Benzo (a) Pyrene* | ng/m² | IS:5182 (Part-12): 2004;RA2019 | < 0.5 | 01(Annual) | |

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

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End of Report

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Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCH!-8340G3 (IHARKHAND) GST NO:-20AA8C897138524

ENGINEERING SERVICES PYT. LTD.

Email: info@elesol.co.in , eles ranchi@amail.com Pliane no.: 0651-2290103 Weblith : www.elesol.co.in



TEST REPORT

| Test Report No. | : ELES/RNC/2023/2929 | Report Release Date | : 08.08.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000001776F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|--------------------|-------------------------------|---|---|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2600 : Near Paintoli Village Serengdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 16.07.2023 to 17.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES Pvi. Ltd. |
| Period of Analysis | : 25.07.2023 to 02,08.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------------|
| T | Average Temperature (°C) : 28 | 2 | Barometric Pressure (mm | Hg) : 738 |
| | Relative Humidity (%) : 67 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | |
|-------------------------------------|-------------------|---------------------------------|--------|------------------|
| Discipline : | Atmospheri | e Pollution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 51 | 100 (24hrs) |
| Particulate Matter (PM2,5) | μg/m³ | IS 5182 (Part- 24); 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5.4 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 13.2 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | µg/m³ | IS 5182 (Part-25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | 15 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (Shrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.008 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26);2020 | < 6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



****End of Report****

Dr. Dauflerting Stendoninta

Ph. D. Environmental Engl.

Page 1 of 1

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ENGINEERING SERVICES PVT. LTD.

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

Website : www.elespi.co.in

TEST REPORT

| Mr. and Daniel Alle | EL ESIMNE 2023/2020 | Report Release Date | : 08.08.2023 |
|---------------------|----------------------|---------------------|--------------|
| Test Report No. | : ELES/RNC/2023/2929 | Report Referse Date | 7.700 |
| 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/2600 : Near Paintoli Village Serengdag-A Bauxite Mines |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 16.07.2023 to 17.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Mines Status | : Operational | Sample Drawn By | : ELES Pvt. Ltd. |
| Period of Analysis | ; 25.07.2023 to 02.08;2023 | Sample Condition | : Scaled & Preserved |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------------|
| | Average Temperature (°C) : 28 | 2 | Barometric Pressure (mm | Hg) : 738 |
| | Relative Humidity (%) = 67 | 4 | Weather Condition | : Partly Cloudy |

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

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

Reviewed by

****End of Report****

Dr. Deagendra Kumar Sinha Ph. G. Enwicement Engo ELES Put. Ltd. Technical Manager

Page 1 of 1

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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/2023/3385 | 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 | : ELES/RNC/2023/AA/2952 : Mine Pit Quarry No 2 Jalim & Sanai Bauxite Mine (12.14ha) |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 16.08.2023 to 17.08.2023 : 19.08.2023 |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | ± 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mm | Hg) : 735 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| 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.

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****End of Report****

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

Page 1 of 1

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ENGINEERING SERVICES PYT. LTD

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

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



TO 8459

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3386 | Report Release Date | : 09.09.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | + TC883923000002154F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | ; Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2953 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 16.08,2023 to 17.08,2023 : 19.08,2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08,2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|----------------------------|-----------------|
| | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mmHg) | : 735 |
| _ | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited Discipline: | Chemical | Group | Atmospheri | e Pollution |
|--------------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | 1S 5182 (Part-23): 2006; RA2022 | 44 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 20 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | 1S 5182 (Part-2): 2001; RA2022 | 6.5 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 16,7 | 80 (24hrs) |
| Ozone (O _i) | μg/m ³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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****End of Report****

Dr. Deependra Kumar Sinha

Ph. D. Environmental Fond.

Page 1 of 1 ELES Pvi. Ltd, Technical Manager

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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/2023/3386 | 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/2953 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai Bauxite Mine (12,14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 16.08.2023 to 17.08.2023 ; 19.08.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|--------------------------|-----------------|
| 1 | Average Temperature (°C) ; 24 | 2 | Barometric Pressure (mml | Hg) : 735 |
| | Relative Humidity (%) : 66 | -4 | Weather Condition | : Partly Cloudy |

| 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/m² | IS;5182 (Part-12): 2004;RA2019 | <0.5 | 01(Annual) | |

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

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****End of Report****

Authorised Signatory
Dr. Deependra Kumar Sinha
Ph. D. Ewironmental Engy.
ELES Pvi. Ltd. Technical Manager

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ENGINEERING SERVICES PVT. ATD

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

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



TO BILLY

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3387 | Report Release Date | : 09.09.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | ± 21.04.2023 | |
| ULR No. | : TC883923000002155F | | | |

| CUSTOMER DET | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2954 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 16.08.2023 to 17.08.2023 : 19.08.2023 : Ambient Air | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|----------------------------|-----------------|
| L | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mmHg) | : 735 |
| | Relative Humidity (%) ; 66 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited Discipline: | Chemical | Group : | Atmospheri | c Pollution |
|--------------------------------------|----------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 48 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 19 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5,7 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | µg/m³ | IS 5182 (Part-6); 2006; RA2022 | 12.2 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



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Authorised Signatory

Authorised Signatory or Deependra Kumar Sinha

Ph D Environmental Enon

Page 1 of 1

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3387 | 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/2954 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 16.08.2023 to 17.08.2023 : 19.08.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|-----|--------------------------|-----------------|
| 1 | Average Temperature (°C) : 24 | 1.2 | Barometric Pressure (mmF | lg) : 735 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

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

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

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

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

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



TEST REPORT

| Test Report No. | : ELES/RNC/2023/3388 | Report Release Date | : 09.09,2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | = 21.04.2023 |
| ULR No. | : TC883923000002156F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2955 : Near Colony; Jalim & Sansi Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 16.08.2023 to 17.08.2023 : 19.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|----|--------------------------|-----------------|
| 1 | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mml | lg) : 735 |
| _ | Relative Humidity (%) : 66 | -4 | Weather Condition | : Partly Cloudy |

| NABL Accredited Discipline: | Chamical | Group : | Atmospheri | c Pollution |
|--------------------------------------|-------------------|---------------------------------|------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 47 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | 1S 5182 (Part- 24): 2019 | 19 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5.9 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m ³ | 1S 5182 (Part-6): 2006; RA2022 | 19.1 | 80 (24hrs) |
| Ozone (O ₁) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | 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/m³ | 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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Page 1 of 1

ELES PVL Ltd. Technical Manager

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



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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3388 | 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/2955 : Near Colony; Jalim & Sanai Bauxite Mine (12.14ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 16.08.2023 to 17.08.2023 : 19.08.2023 | |
| Mines Status | : Operational | Type of Sample Sampling Procedure Sample Drawn By | : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mm | Hg) : 735 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| 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.

Reviewed by

****End of Report****

Authorised Signatory
Dr. 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/2023/3381 | Report Release Date | : 09.09.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002149F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2948 : Near Banjari Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 15,08,2023 to 16,08,2023 : 19,08,2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | : Operational | Sample Drawn By | ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|--------------------------|-----------------|
| Ī | Average Temperature (°C) : 26 | 2 | Barometric Pressure (mmH | g) : 735 |
| _ | Relative Humidity (%) : 64 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | . #/.mamai |
|--------------------------------------|-------------------|---------------------------------|------------|------------------|
| Discipline: | Chemical | Group : | Atmospheri | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 43 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 19 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₁) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | 1S 5182 (Part-6): 2006; RA2022 | 10.7 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | 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 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



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| Test Report No. | : ELES/RNC/2023/3381 | 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 | : ELES/RNC/2023/AA/2948 : Near Banjari Village Screngdag-A Bauxite Mines | |
| Address | ; Lohardaga, Jharkhand-835302 : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 15.08.2023 to 16.08.2023 : 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 | |
| Mines Status | | Sample Drawn By | : ELES Pvi. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| VIII | ETEOROLOGICAL INFORMATION | | | |
|------|-------------------------------|---|-------------------------|-----------------|
| I | Average Temperature (°C) : 26 | 2 | Barometric Pressure (mm | Hg) : 735 |
| | Relative Humidity (%) : 64 | 4 | Weather Condition | : Partly Cloudy |

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

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

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Page 1 of 1

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| Test Report No. | : ELES/RNC/2023/3382 | Report Release Date | : 09.09.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002150F | | |

| CUSTOMER DETAILS | | SAMPLE DETAILS | | |
|----------------------|--|---|--|--|
| Customer Name | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/2949 : Near Pauri Village Serengdag-A Bauxite Mines : 15.08.2023 to 16.08.2023 | |
| Address Mines Status | ; Lonardaga, Inarkhand-835302 ; Operational | Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 19.08.2023 :: Ambient Alt : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | Sealed & Preserved | |

| MI | ETEOROLOGICAL INFORMATION | | | |
|----|-------------------------------|---|---------------------------|-----------------|
| 1 | Average Temperature (°C) : 25 | 2 | Barometric Pressure (mml- | 3g) : 735 |
| 3 | Relative Humidity (%) : 64 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | |
|-------------------------------------|-------------------|---------------------------------|--------|------------------|
| Discipline : | Atmospheri | c Panution | | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 50 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 27 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | 1S 5182 (Part-2): 2001; RA2022 | 6.8 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO2) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 14.4 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m ³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.008 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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| Test Report No. | : ELES/RNC/2023/3382 | 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/2949 : Near Pauri Village Screngdag-A Bauxite Mines |
| Address | ; Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 15.08.2023 to 16.08.2023 : 19.08.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. |
| Period of Analysis | : 19,08,2023 to 29,08,2023 | Sample Condition | : Sealed & Preserved |

| MI | ETEOROLOGICAL INFORM | ATION | | | |
|----|----------------------------|-------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) : | 26 | 2 | Barometric Pressure (mmHg) | : 735 |
| 3 | Relative Humidity (%) : | 64 | 4 | Weather Condition | : Partly Cloudy |

| Discipline | : Chemical | Group : Atmospheric Pollution | | | |
|-------------------|-------------------|--------------------------------|------|--------------------|--|
| varametei | Conta | Test Profocul | 75 | the star of the la | |
| Benzene* | μg/m² | 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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| Test Report No. | : ELES/RNC/2023/3383 | Report Release Date | : 09.09,2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002151F | | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|----------------------|--|--|---|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2950 : Near Harup Village Serengdag-A Bauxite Mines | |
| Address Mines Status | : Lohardaga, Jharkhand-835302 : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 16.08.2023 to 17.08.2023 : 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| Æ | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mmHg) | : 735 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | |
|--------------------------------------|----------|---------------------------------|------------|------------------|
| Discipline : | Chemical | Group | Atmosphere | с гонцион |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 43 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 19 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5.4 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 10.5 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₂) | µg/m³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | 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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| Test Report No. : ELES/RNC/2023/3383 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/2950 : Near Harup Village Serengdag-A Bauxite Mines | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | : 16.08.2023 to 17.08.2023 : 19.08.2023 : Ambient Air | |
| Mines Status | : Operational | Sampling Procedure Sample Drawn By | : ELES/DOC/SMPL/02 : ELES Pvt. Ltd. | |
| Period of Analysis | : 19,08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| MI | TEOROLOGICAL INFOR | MATION | | | |
|----|--------------------------|--------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | : 24 | 2 | Barometric Pressure (mmHg) | : 735 |
| 3 | Relative Humidity (%) | : 66 | 4 | Weather Condition | ; Partly Cloudy |

| Discipline | : Chemical | Group : Atmospheric Pollution | | | | |
|-------------------|------------|--------------------------------|--------|------------------|--|--|
| Farameter | Linii | Test Fromen | Resuit | Regulatory Limit | | |
| Benzene* | μg/m³ | IS:5182 (Part-11): 2006;RA2017 | <1.0 | 05(Annual) | | |
| Benzo (a) Pyrene* | ng/m³ | 1S:5182 (Part-12): 2004;RA2019 | < 0.5 | 01(Annual) | | |

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

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| Test Report No. | : ELES/RNC/2023/3384 | Report Release Date | : 09.09.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 |
| ULR No. | : TC883923000002152F | | |

| CUSTOMER DET. | AILS | SAMPLE DETAILS | | | |
|--------------------|-------------------------------|---|---|--|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/2951 : Near Paintoli Village Serengdag-A Bauxite Mines | | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 16.08,2023 to 17.08.2023 : 19.08,2023 : Ambient Air : ELES/DOC/SMPL/02 | | |
| Mines Status | : Operational | Sample Drawn By | = ELES Pvi. Ltd. | | |
| Period of Analysis | : 19.08,2023 to 29.08,2023 | Sample Condition | Sealed & Preserved | | |

| METEOROLOGICAL INFORMATION | | | |
|---------------------------------|---|---------------------------|-----------------|
| 1 Average Temperature (°C) 24 | 2 | Barometric Pressure (mmH) | g) : 735 |
| 3 Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| NABL Accredited | | | | 4. 11. 11 |
|--------------------------------------|-------------------|---------------------------------|-----------|------------------|
| Discipline : | Chemical | Group . | Amuspheri | |
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 45 | 100 (24hrs) |
| Particulate Matter (PM2.5) | µg/m³ | IS 5182 (Part- 24): 2019 | 22 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m ³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 16.7 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₁) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m² | IS 5182 (Part-22): 2004; RA2019 | 0.005 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | < 6.0 | 20 (Annual) |
| Arsenic (As) | ng/m² | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |



****End of Report****

Authorised Signatory

Page 1 of 1 ELES PAT LIGHT

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| Test Report No. | : ELES/RNC/2023/3384 | 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 Sampling Date | : ELES/RNC/2023/AA/2951 : Near Paintoli Village Serengdag-A Bauxite Mines : 16.08.2023 to 17.08.2023 | |
| Address Mines Status | :: Lohardaga, Jharkhand-835302 :: Operational | Sample Received Date Type of Sample Sampling Procedure Sample Drawn By | : 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt. Ltd | |
| Period of Analysis | : 19.08.2023 to 29.08.2023 | Sample Condition | : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) : 24 | 2 | Barometric Pressure (mm | Hg) : 735 |
| 3 | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline | : Chemical | Group : Atmospheric Pollution | | | |
|-------------------|------------|--------------------------------|--------|-------------------|--|
| Phinnelle | Unite | Tart Protocol | Docult | Regulatory I imit | |
| 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.

Reviewed by

****End of Report****

Authorised Signatory

n dayeron rumar bring

ELECTIC LETTER COLUMN TOUR

Page 1 of 1

The Document stured as Test Report, it issued by the Laboratory under General Terms and Condinents, unly on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory in the time of orwals ement only and within the limbs of client's instruction. The Laboratory in responsible for all the information or data provided on the report, except the information which is prayeded by the client. The Report emmos by reproduced except in fall and stry part of the report is not taken out of context, without print version approval of the Laboratory. The Report is fall or in part shall set be published, adventise, used for any legal actions indies 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 & faisificant of the content of appropriate of the Test Report is analysisfication by the protected to the filliest extent of the law. All the samples are retained for Jüdays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be returned as specified. Any type of Observations or Complaints ingarding the Reports shall be done within 15days from the Date. of Test Report released/issued. After the time period amed hefore, no complaints will be accepted. The entire Time selectable measured in Test Report is or 24hours format. Abbreviation used. N/A (Nat Applicable): BDL (Below Detection Limity), LDL (Limiter Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

Website: www.elespl.co.in

TEST REPORT

| Test Report No. | : ELES/RAN/2023/1727 | Report Release Date | : 10.09.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DET | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------|---------------------------|--|
| Customer Name | : Hindalco Industries Limited | Sample Ref. No. | : ELES/RAN/2023/DW/1614 | |
| | | Sampling Date | : 11.08.2023 | |
| | | Sample Received Date | : 28.08.2023 | |
| Address | : Lohardaga, Jharkhand-835302 | Type of Sample | : Drinking Water | |
| | | Source/Location of Sample | : Jalim & Sanai (12.14ha) | |
| | | | Bauxite Mine | |
| | | Sampling Procedure | : ELES/DOC/SMPL/01 | |
| Mines Status | : Operational | Sample Collected By | : ELES Pvt. Ltd. | |
| Period of Analysis | : 28.08.2023 to 09.09.2023 | Sample Condition | : Sealed & Preserved | |

| Discipline : Chem | ical | Group : Water | | | ory Limit 10500:2012 |
|--|-------|--|---------------------|---------------------|-------------------------|
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit |
| pH (at 24.8 °C) | 2 | APHA 23 rd Ed.2017, 4500-H | 7.08 | 6.5-8.5 | No Relaxation |
| Turbidity | NTU | APHA 23 rd Ed.2017, 2130 B | 0.42 | 1.0 | 5.0 |
| Taste | | 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 | 308 | 500 | 2000 |
| Chloride (as Cl) | mg/L | APHA 23 rd Ed.2017, 4500 Cl B | 60.8 | 250 | 1000 |
| Fluoride (as F) | mg/L | APHA 23 rd Ed.2017, 4500 F-D | BDL (DL: 0.1) | 1.0 | 1.5 |
| Total Alkalinity (as CaCO ₃) | mg/L | APHA 23 rd Ed.2017, 2320 B | 108 | 200 | 600 |
| Total Hardness (as CaCO ₃) | mg/L | APHA 23 rd Ed.2017, 2340 C | 138 | 200 | 600 |
| Sulphate (as SO ₄) | mg/L | APHA 23rd Ed.2017, 4500 SO ₄ -2-E | 30.8 | 200 | 400 |
| Nitrate (as NO ₃) | mg/L | APHA 23 rd Ed.2017, 4500 NO ₃ -B | 2.48 | 45 | No Relaxation |
| Phenolic Compound (as C ₆ H ₅ OH) | mg/L | IS 3025 (Part-43):1992;RA2019 | BDL (DL: 0.0005) | 0.001 | 0.002 |

Page 1 of 4

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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

1

TEST REPORT

 Test Report No.
 : ELES/RAN/2023/1727
 Report Release Date
 : 10.09.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

| Discipl | ine: Che | mical Group: V | Vater | | ory Limit 10500:2012 |
|---------------------------------|----------|--|--------------------|---------------------|-------------------------|
| Parameter | Unit | Test Protocol | Result | Acceptable Limit | Permissible Limit |
| Cyanide (as CN) | mg/L | APHA 23 rd Ed.2017, 4500 CN-E | BDL (DL: 0.012) | 0.05 | No Relaxation |
| Residual Free Chlorine (RFC) | mg/L | IS 3025 (Part-26):2021 | BDL (DL: 0.1) | 0.02 | 1.0 |
| Calcium (as Ca) | mg/L | APHA 23 rd Ed.2017, 3500 Ca B | 33.6 | 75 | 200 |
| Discipl | ine: Che | mical Group | : Residues in | Water | |
| Aluminum (as Al) | mg/L | IS 3025 (Part-55): 2003; RA2019 | BDL (DL: 0.02) | 0.03 | 0.2 |
| Arsenic (as As) | mg/L | IS 3025 (Part 37): 2022 | BDL (DL: 0.005) | 0.01 | No Relaxation |
| Boron (as B) | mg/L | IS 3025(Part-57): 2005; RA2021 | BDL (DL: 0.2) | 0.5 | 1.0 |
| Cadmium (as Cd) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.003) | 0.003 | No Relaxation |
| Total Chromium (as Cr) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | No Relaxation |
| Copper (as Cu) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.03) | 0.05 | 1.5 |
| Iron (as Fe) | mg/L | APHA 23rd Ed.2017, 3111B | 0.198 | 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 23 rd Ed.2017, 3111B | BDL (DL: 0.05) | 0.1 | 0.3 |
| Mercury (as Hg) | mg/L | IS 3025 (Part-48): 1994; RA2019 | BDL (DL: 0.001) | 0.001 | No Relaxation |
| Selenium (as Se) | mg/L | IS 3025 (Part-56): 2003; RA2019 | BDL (DL: 0.01) | 0.01 | No Relaxation |
| Zinc (as Zn) | mg/L | APHA 23 rd Ed.2017, 3111B | BDL (DL: 0.1) | 5 | 15 |

Remarks: 1. pH & RFC done at Lab.

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

ENGINEERING SERVICES PVT. LTD.

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Website: www.elespl.co.in

TEST REPORT

 Test Report No.
 : ELES/RAN/2023/1727
 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 | APHA | 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 | APHA | BDL (DL: 0.01) | 0.04 | |
| 2,4 dichlorophenoxyacetic acid* | μg/L | APHA | BDL (DL: 10) | 30 | |
| DDT(o,p and p,p-isomers of DDT,DDE and DDD)* | μg/L | APHA | BDL (DL: 0,5) | 1 | |
| Endosulfan (alpha, beta, and sulphate)* | μg/L | АРНА | BDL (DL: 0.1) | 0.4 | |
| Ethion* | μg/L | APHA | BDL (DL: 0.5) | 3 | |
| Gamma HCH (Lindane)* | μg/L | APHA | BDL (DL: 0.5) | 2 | |
| Isoproturon* | μg/L | APHA | BDL (DL: 0.5) | 9 | |

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

ENGINEERING SERVICES PVT. LTD.

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

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TEST REPORT

 Test Report No.
 : ELES/RAN/2023/1727
 Report Release Date
 : 10.09.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

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

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

****End of Report***

B. Sc, M. Sc. (Botany)
Director
ELES Pvt. Ltd.

Page 4 of 4

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ENGINEERING SERVICES PVT. LTD.

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/3985 | 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 (C ₆ H ₆)* | μg/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m ¹ | 1S 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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

Reviewed by

****End of Report****

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

Page 2 of 2

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

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/3986 | Report Release Date | : 28.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|-----------------------|-------------------------------|---|---|
| Customer Name Address | : Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3403 : Nava Prathmik Vidyalay (Dhanka Toli) Jalim & Sanai |
| radicess | ; Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date Type of Sample | Bauxite Mine (12.14ha) : 11.09.2023 to 12.09.2023 : 29.09.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure | : ELES/DOC/SMPL/02 |
| Period of Analysis | : 29.09.2023 to 10.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

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

| Discipline : Chemica | ıl | Group: Atmospheric Pollution | | |
|--------------------------------------|-------------------|---------------------------------|---------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 38 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 17 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5.3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 14.1 | 80 (24hrs) |
| Ozone (O ₃) | μg/m ¹ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m² | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | µg/m³ | IS 5182 (Part-22); 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | JS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | 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

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/2023/3986 | 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/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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

Reviewed by

****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. ELES Pvi. Liu. Technical Manager

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3987 | 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/3404 : Mine Pit Quarry No 3 Jalim & Sanai Bauxite Mine |
| Address | t Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12.14ha) : 11.09,2023 to 12.09,2023 : 29.09,2023 |
| Mines Status : Operational | | Type of Sample Sampling Procedure | : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | ; 29.09,2023 to 10.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

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

| Discipline: Chemica | al | Group: Atmospheric Pollution | | |
|--------------------------------------|-------------------|---------------------------------|---------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23): 2006; RA2022 | 42 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24); 2019 | 15 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 10.8 | 80 (24hrs) |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | μg/m ³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

Page 1 of 2

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TEST REPORT

| Test Report No. | : ELES/RNC/2023/3987 | Report Release Date | : 28.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

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

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

Reviewed by

****End of Report****

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

Page 2 of 2

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

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3988 | 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/3405 : Near Colony; Jalim & Sanai Bauxite Mine | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | (12,14ha) : 11.09.2023 to 12.09.2023 : 29.09.2023 | |
| Mines Status Operational | | Type of Sample Sampling Procedure | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | : 29.09.2023 to 10.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

| M | ETEOROLOGICAL INFO | RMATION | | | |
|----|--------------------------|---------|---|-------------------------|-----------------|
| J. | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mm | Hg) : 736 |
| 3 | Relative Humidity (%) | : 64 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemica | al | Group: Atmospheric Pollution | | | |
|--------------------------------------|-------------------|---------------------------------|--------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 41 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 16 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5.1 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO ₂) | µg/m³ | IS 5182 (Part-6): 2006; RA2022 | 16.4 | 80 (24hrs) | |
| Ozone (O ₃) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH ₃) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m [†] | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | <0.002 | 1 (24hrs) | |
| Nickel (Ni) | ng/m³ | IS 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

Page 1 of 2

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ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3988 | 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 ₈ H ₆)* | μg/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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

Reviewed by

****End of Report****

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

Page 2 of 2

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NGINEERING SERVICES FUT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3981 | Report Release Date | : 28.10.2023 | 1 |
|-----------------|----------------------|---------------------|--------------|---|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | | |
|--------------------|-------------------------------|---------------------------------------|---|--|
| Customer Name | 2 Hindalco Industries Limited | Sample Ref. No. Location | : ELES/RNC/2023/AA/3398 : Near Banjañ Village Serengdag-A Bauxite Mines (155.81ha) | |
| Address | : Lohardaga, Jharkhand-835302 | Sampling Date Sample Received Date | : 10.09.2023 to 11.09.2023 : 29.09.2023 | |
| Mines Status | ; Operational | Type of Sample Sampling Procedure | : Ambient Air : ELES/DOC/SMPL/02 | |
| Period of Analysis | ±29.09.2023 to 10.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved | |

| M | ETEOROLOGICAL INFORMATION | | | |
|---|-------------------------------|---|-------------------------|-----------------|
| I | Average Temperature (°C) : 25 | 2 | Barometric Pressure (mm | Hg) : 736 |
| | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline: Chemica | ıl | Group: | tmospheric) | Pollution |
|--------------------------------------|-------------------|---------------------------------|--------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 37 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m ³ | IS 5182 (Part- 24); 2019 | 15 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | 1S 5182 (Part-6): 2006; RA2022 | 12.4 | 80 (24hrs) |
| Ozone (O ₃) | µg/m³ | IS 5182 (Pari-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 | 1S 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | 1 (24hrs) |
| Nickel (Ni) | ng/m ^x | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) |

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE971301Z4 ENGINEERING SERVICES PUT. LTD.

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Website: www.elesal.co.in

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3981 | 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 (C ₆ H ₆)* | μg/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA NATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130124 Emall: Info@elespl.co.in , eles ranchi@gmall.com

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3982 | Report Release Date | : 28.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DETA | AILS | SAMPLE DETAILS | |
|-----------------------|--|---|--|
| Customer Name Address | : Hindalco Industries Limited : Lobardaga, Jharkhand-835302 | Sample Ref. No. Location | : ELES/RNC/2023/AA/3399 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha) |
| | | Sampling Date Sample Received Date Type of Sample | : 10.09.2023 to 11.09.2023 : 29.09.2023 : Ambient Air |
| Mines Status | : Operational | Sampling Procedure | : ELES/DOC/SMPL/02 |
| Period of Analysis | : 29.09,2023 to 10,10.2023 | Sample Drawn By Sample Condition | : ELES Pvl. Ltd. : Sealed & Preserved |

| M | ETEOROLOGICAL INFORMATION | | A | |
|---|-------------------------------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) : 25 | 2 | Barometric Pressure (mm | Hg) : 736 |
| _ | Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline: Chemica | il | Group: A | Atmospheric | Pollution |
|--------------------------------------|-------------------|---------------------------------|-------------|------------------|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 43 | 100 (24hrs) |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part- 24): 2019 | 21 | 60 (24hrs) |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | 5.3 | 80 (24hrs) |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 11.8 | 80 (24hrs) |
| Ozone (O _z) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) |
| Ammonia (NH ₃) | µg/m³ | IS 5182 (Part- 25); 2018 | <10.0 | 400 (24hrs) |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | 0.005 | t (24hrs) |
| Nickel (Ni) | ng/m³ | 1S 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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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97130124

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

Test Report No. : ELES/RNC/2023/3982 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/m³ | IS 5182 (Part-11)2006;RA2017 | <1,0 | 05(Annual) |
| Benzo-(a)-Pyrene* | ng/m³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) |

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

Reviewed by

****End of Report****

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

Page 2 of 2

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TW: U74968W/WIRTCOLLES

ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-26A4ECEF130124 CHOINTERING SERVICES FOT, LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3983 | 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 : Lohardaga, Jharkhand-835302 | Sample Ref. No. Location | : ELES/RNC/2023/AA/3400 : Near Harup Village Serongdag-A Bauxite Mines (155.81ha) |
| Mines Status | : Operational | Sampling Date Sample Received Date Type of Sample Sampling Procedure | : 10.09,2023 to 11.09,2023 : 29.09,2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 29.09.2023 to 10.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

| M | ETEOROLOGICAL INFORM | IATION | | | |
|---|--------------------------|--------|---|-------------------------|-----------------|
| 1 | Average Temperature (°C) | 25 | 2 | Barometric Pressure (mm | Hg) : 736 |
| 3 | Relative Humidity (%) | 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline : Chemics | il | Group : Atmospheric Pollution | | | |
|--------------------------------------|-------|---------------------------------|---------|------------------|--|
| Parameter | Unit | Test Protocol | Result | Regulatory Limit | |
| Particulate Matter (PM10) | μg/m³ | IS 5182 (Part-23): 2006; RA2022 | 38 | 100 (24hrs) | |
| Particulate Matter (PM2.5) | μg/m³ | IS 5182 (Part-24): 2019 | 17 | 60 (24hrs) | |
| Sulphur Di-Oxide (SO ₂) | μg/m³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) | |
| Nitrogen Di-Oxide (NO ₂) | µg/m³ | IS 5182 (Part-6); 2006; RA2022 | 11.7 | 80 (24hrs) | |
| Ozone (O ₃) | µg/m³ | IS 5182 (Part-9); 1974; RA2019 | <20.0 | 100 (8hrs) | |
| Ammonia (NH ₂) | µц/m³ | (\$ 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | |
| Lead (Pb) | μg/m³ | IS 5182 (Part-22): 2004; RA2019 | < 0.002 | (24hrs) | |
| Nickel (Ni) | ng/m³ | 1S 5182 (Part-26):2020 | <6.0 | 20 (Annual) | |
| Arsenic (As) | ng/m³ | ELES/AIR/SOP/01 | <2.0 | 06 (Annual) | |

Page 1 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3983 | 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/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) | |
| Benzo-(a)-Pyrene* | ng/m³ | IS 5182 (Part-12)2004;RA2019 | < 0.5 | 01(Annual) | |

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

Reviewed by

****End of Report****

Authorised Signatory

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

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, HANCHI-834003 [JHARKHAND] GST NO: 20A45CE9713D124 Email: Info@elespl.co.in , eles ranchi@amail.com

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3984 | Report Release Date | : 28.10.2023 |
|-----------------|----------------------|---------------------|--------------|
| Work Order No. | : 13612310218 | Work Order Date | ; 21.04.2023 |

| CUSTOMER DET | AILS | SAMPLE DETAILS | |
|--------------------------|--|--|---|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhund-835302 | Sample Ref. No. Location Sampling Date | : ELES/RNC/2023/AA/3401 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81ha) : 10.09.2023 to 11.09.2023 |
| Mines Status | : Operational | Sample Received Date Type of Sample Sampling Procedure | : 29,09,2023 : Ambient Air : ELES/DOC/SMPL/02 |
| Period of Analysis | : 29.09.2023 to 10.10.2023 | Sample Drawn By Sample Condition | : ELES Pvt. Ltd. : Sealed & Preserved |

| METEOROLOGICAL INFORMATION | | | |
|---------------------------------|---|----------------------------|-----------------|
| 1 Average Temperature (°C) : 25 | 2 | Barometric Pressure (mmHg) | : 736 |
| 3 Relative Humidity (%) : 66 | 4 | Weather Condition | : Partly Cloudy |

| Discipline: Chemica | d . | Group : A | Group: Atmospheric Pollution | | | |
|--------------------------------------|-------------------|---------------------------------|------------------------------|------------------|--|--|
| Parameter | Lait | Test Protocol | Result | Regulatory Limit | | |
| Particulate Matter (PM10) | µg/m³ | IS 5182 (Part-23); 2006; RA2022 | 40 | 100 (24hrs) | | |
| Particulate Matter (PM2.5) | μg/m³ | 1S 5182 (Part- 24): 2019 | 20 | 60 (24hrs) | | |
| Sulphur Di-Oxide (SO ₂) | µg/m³ | IS 5182 (Part-2): 2001; RA2022 | <5.0 | 80 (24hrs) | | |
| Nitrogen Di-Oxide (NO ₂) | μg/m³ | IS 5182 (Part-6): 2006; RA2022 | 15.2 | 80 (24hrs) | | |
| Ozone (O _x) | μg/m³ | IS 5182 (Part-9): 1974; RA2019 | <20.0 | 100 (8hrs) | | |
| Ammonia (NH ₄) | μg/m³ | IS 5182 (Part- 25): 2018 | <10.0 | 400 (24hrs) | | |
| Carbon Monoxide (CO) | mg/m³ | IS 5182 (Part-10): 1999; RA2019 | <1.0 | 2 (8hrs) | | |
| Lead (Pb) | μg/m³ | 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) | | |

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PLOT NO-3D, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT

| Test Report No. | : ELES/RNC/2023/3984 | 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/m³ | IS 5182 (Part-11)2006;RA2017 | <1.0 | 05(Annual) | |
| Benzo-(a)-Pyrene* | ng/m³ | IS 5182 (Part-12)2004;RA2019 | <0.5 | 01(Annual) | |

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

Reviewed by

****End of Report****

Dr. Deependra Kumar Sinha Pb. D. Environmental Engg. ELES Pvt. Ut. Technical Manager

Page 2 of 2

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713DJZ4

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/2023/4133 | 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 | : 11.09.2023 to 12.09.2023 : 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 | |

| M | ETEOROLOGICAL INFO | RMATION | | | |
|---|--------------------------|---------|---|----------------------------|-----------------|
| Ţ | Average Temperature (°C) | : 26 | 2 | Barometric Pressure (mmHg) | : 734 |
| 3 | Relative Humidity (%) | : 64 | 4 | Weather Condition | : Partly Cloudy |

| Location | Unit | Test Protocol | Res | Regulatory Limit (Industrial Zone) | |
|--|-------|--------------------------|------------|---------------------------------------|---------------------------|
| | 10.01 | | Time | Leq | |
| Jalim & Sanai Bauxite Mines (12.14ha) | dB(A) | IS 9989:1981, RA 2020 | Day Time | 67 | 75 dB(A) Day Time & |
| Sample ID: ELES/RNC/2023/AN/3525 | | | Night Time | 49 | 70 dB(A) Night Time |

Reviewed by

****End of Report****

Authorised Signatory

Or. Deependra Kumar Sinha Ph. O. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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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/2023/4155 | Report Release Date | : 31.10.2023 | |
|-----------------|----------------------|---------------------|--------------|--|
| Work Order No. | : 13612310218 | Work Order Date | : 21.04.2023 | |

| CUSTOMER DE | TAILS | SAMPLE DETAILS | | | |
|-----------------------|--|--|--|--|--|
| Customer Name Address | : Hindalco Industries Limited : Lohardaga, Jharkhand-835302 | Sampling Date Sampling Received Date Type of Sample Sampling procedure Sample Drawn By | : 11.09.2023 : 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 | | |

| M | ETEOROLOGICAL INFO | RMATION | | | |
|---|--------------------------|---------|---|----------------------------|-----------------|
| 1 | Average Temperature (°C) | :27 | 2 | Barometric Pressure (mmHg) | : 734 |
| 3 | Relative Humidity (%) | : 63 | 4 | Weather Condition | : Partly Cloudy |

| Location | Unit | Test Protocol | Result | | Regulatory Limi (Industrial Zone) | |
|---|-------|--------------------------|----------|-------------|--------------------------------------|--|
| Near Loader - | | | Time | Leq | | |
| Jalim & Sanai Bauxite Mine (12.14ha) | dB(A) | IS 4758:1968; RA 2017 | Day Time | Day Time 78 | 90 dB (A) | |
| Sample ID: ELES/RNC/2023/WN/3547 | | | Day Time | | | |

Reviewed by

****End of Report****

Or. Deependra Kulmar Sinha
Ph. D. Environmental Engg.
ELES Pvi. Lld. Technical Manager

Page 1 of 1

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Annexure 3

Date - 28.10.2023

Office Order

Environmental Cell has been re-constituted at Jalim & Sanai Bauxite Mine (Area 12.14 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. Tripurari Singh (Coordinator)
- 2. Mr. Debjyoti Das (Geologist)
- 3. Ms. Abhilasha Singh- Environment Engineer
- 4. Mr. Anand Prakash Tiwari Environment Engineer

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

Basudev Gangopadhyay
AVP (Planning, Environment & Compliance)

Annexure 4

| | Production, Mil | ned Out, Ba | ck Filled and | Over Burden | removal fron | n April'23 to | September ⁴ | 23 |
|------|--------------------------------|------------------------------|---------------------------------|-----------------------------|--------------------|------------------------|--------------------------|-----------------------|
| 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) | | | 28.04.1965 to | 80.00 | 0.00 | 0.00 | 0.00 |
| | | 15.58 | 60000 | 31.03.2030 | | 0.00 | 0.00 | 0.00 |
| 17 | Pakhar (109.507) | | | 26.07.2008 to | 97720.00 | | | |
| | | 109.507 | 280000 | 25.07.2058 | | 1.93 | 0.71 | 237280.85 |
| 18 | Bimarla Bauxite Mine | | | 18.07.2009 to | | | | |
| | | 134.37 | 300000 | 17.07.2059 | 39550 | 2.21 | 0.8 | 64913.65 |
| 19 | Amtipani Chirodih | | | 11.01.2017 to | | | | |
| | Bauxite Mines | 130.01 | 450000 | 10.01.2067 | 84678 | 3.96 | 1.15 | 98519.66 |

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



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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.

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