

HIL/LHD/ENV/MoEF/420

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 Shrengdag (155.81 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Gumla, for the period April'23 to September'23.

Ref: Environmental Clearance letter no J-11015/125/2006-IA II(M) dated 13th April 2007

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Shrengdag (155.81 ha)** 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
155.81	260000	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>

Hindalco Industries Limited Mines Division, Court Road, Lohardaga 835302, Jharkhand, India T: +91 6526 224112/224015/223113 | E: hindalco@adityabirla.com | W: www.hindalco.com Registered Office: Ahura Centre, 1st Floor, B Wing, Mahakali Caves Road, Andheri (East), Mumbai 400 093, India T: +91 22 6691 7000 | F: +91 22 6691 7001 Corporate ID No.: L27020MH1958PLC011238

Name of the Project	: Sherengdag Bauxite Mine (155.81 ha) M/s Hindalco Industries Limited
Environment Clearance No. & date	: J-11015/125/2006-IA.II (M), dated 13.04.2007
Period of compliance Report	: From 1 st April 2023 to 30 th September 2023

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 existing consent to operate is valid up to 31/12/2023.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 nonagricultural 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: - The exploration shall be completed within 2.5 years and thereafter the proponent shall come up with a firm proposal for mining, based on the estimated reserves. The reclamation plan, post mine land use and progressive greenbelt development plan shall also be prepared and submitted with the revised proposal.

Reply: - Required exploration is already done. Mining plan/ Mining Scheme based on current reserves/resource estimate is duly approved by IBM. The reclamation plan, post mine land use and progressive greenbelt development plan have been covered in Mining Plan/Mining scheme which is approved by IBM. The current mining scheme is valid till 31.03.2025.

Condition iv: - 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: - Mining is being done at shallow depth. Thus, there is no chance to intersect ground water table during mining operation. Working zone restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.

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

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

Condition vi: - Topsoil 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.

Condition vii: - 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: - Overburden and waste rock from the mining pit are being used for back filling. Backfilling and plantation detail provided in Annexure – 4. No external OB dump is in the project area. Monitoring and management of rehabilitated areas is continuous through supervision.

Condition viii: - 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. Photo is attached below.Sump of adequate capacity is being provided and maintained as required.



Garland Drain

Siltation Pond

Condition ix: - Plantation shall be raised in an area of 70.68 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 in and around the ML area. Total 5000 no sapling have been planted during the period April'23 to September'23. Total 27.12 ha areas have been planted till date. In addition to this agricultural activity is going on reclaimed land as per the consent from landowners.





Plantation at Mines

Condition x: - 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 has been prepared for conservation to augment ground water measures and suitable conservation measures as directed in plan and also as directed in NOC granted by CGWB e.g. Constructing Rain water harvesting pond, catch drain, garland drain etc is being undertaken. The drainage system and backfilling are being done in such manner that water gets recharged with in mine lease area itself and do not flow outside mine lease area.

Condition xi: - 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 – premonsoon (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, mining is being done at shallow depth. Thus, there is no chance to intersect ground water table during mining operation. We are not using ground water for any mining purpose.

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 xii: - Prior permission from the competent authority should be obtained for drawl of water from the surface water bodies.

Reply: - Rainwater harvested during rainy season is being used for sprinkling on haul roads and raising plantation. No water from natural sources is being used for mining purposes. However, we have obtained NOC for extraction of ground water from CGWB.

There is absolutely no way for intersection of ground water table during mining operation as total mining depth is around 20m (maximum).

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NOC for extraction of ground water from CGWB

Condition xiii: - Water monitoring both for quality and quantity shall be carried out at four locations namely one spring and three streams. Six monthly report should be submitted to the Ministry of Environment and Forest and its Regional Office located at Bhubneshwar.

Reply: - Spring and stream are being monitored; Analysis report is attached as Annexure 2.

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: - To keep vehicular emissions under control, company vehicles are periodically checked and repaired as and when required. All the transporters have been instructed to obtain PUC for their vehicles from the competent authority and submit it to the concerned officer for verification. Vehicles are covered with tarpaulin and are being properly loaded while transportation.



Truck covered with Tarpaulin cover

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. Ground vibration study has been conducted by IIT, Kharagpur. All efforts are being done 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 as of now.

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

Reply: - The sewage water from domestic uses is being collected through individual Septic Tank and Soak Pits. Effluent treatment mechanism (Oil-grease trap) is installed at mine site.



Washing Ramp and Oil and Grease Trap

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>, <u>Melsurus ursinus</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: - No endangered species of Flora and Fauna have been reported in the project area. Suitable conservation measures to protect endangered flora & fauna implemented as under

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

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.



Approval 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: - Final Mine Closure Plan of surrendered (part) area duly approved by Indian Bureau of Mines. The final mine closure plan along with details of corpus fund for entire life of the mine will be submitted to MoEF in due time as per applicable guildeline and timelines mentioned in MCDR/IBM guildeline who are competent authority to approve the same. Based on the present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.

General Conditions: -

Condition i: - No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & 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 scheme. Report is attached herewith 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, NO_x) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central pollution Control Board once in six months.

Reply: - Monitoring Reports are enclosed 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: - Two nos. of water tankers have been provided for sprinkling of water on haul roads and are generally being engaged at the places where active mining is in progress to contain fugitive dust. Water spraying at loading, unloading, and transfer points is being done.



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 being done regularly at various locations of the work zone area. Workers engaged in the operation of HEMMs, etc have been provided with PPEs such as earplug and earmuffs.

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 traps 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 pit is installed at mine site.

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. All the mine workers are regularly and periodically sent to our own hospital for health checkup for any contraction of diseases due to exposure in dusty and noisy areas. Training on safety, health and environmental aspects of mining is being regularly imparted through VT centre and through various other training programmes conducted by the State Government, recognized agencies, etc.

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 in order to create more awarenessat 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: - Not applicable, as this is an operating mine.

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 budgetary provision and actual expenses for the year 2022-23 for environmental protection measure is enclosed. Separate funds earmarked for environmental protection measures annexed as **Annexure -5**. Now The Regional Office is at Ranchi.

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. Currently, Regional office is at Ranchi.

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 Officer, Bhubaneshwar, 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.

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: - Displayed.

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

Reply: - Complied. Copies of the advertisement made in the local newspapers, have already been submitted to the Regional Office.

	Annexure 1						
Piezo	Piezometer Reading - Shrengdag-A (155.81)						
S No	S No Month Depth (meter)						
1	Apr-23	31.10					
2	May-23	31.50					
3	Jun-23	31.45					
4	Jul-23	31.15					
5	Aug-23	31.55					
6	Sep-23	31.10					



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

ENGINEERING SERVICES PVT, LTD.

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

	TE	ST REPORT		
Test Report No.	3 ELES/RNC/2023/1940	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1367 : Near Weigh Bridge Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.04.2023 to 14.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

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

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

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



****End of Report****

Authorized Signatory Dr. Deepecdra Kunter Sinhu Ph. D. Environmental Engl. ELES PvL Ltd. Tecmical Managet

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

GINEERING SERVICES PVT. L

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



	14.5.	REPORT	
Test Report No.	: ELES/RNC/2023/1941	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC88392300000902F		
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1368 : BKB Quarry Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	= 13.04.2023 to 14.04.2023 = 10.05.2023 = Ambient Air
Plant Status	Operational	Sample Drawn By	: ELES/DOC/SMPL/02

TEST DEPORT

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Period of Analysis	: 10.05.2023 to 08.06.2023	Sam	ple Condition	: Sealed & Preserved
METEOROLOGIC	AL INFORMATION			
1 Average Temper				ssure (mmHg) : 743

 Average Temperature ("C) : 32 	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
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006: RA2022	67	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	35	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	14.6	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9); 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.013	1 (24hrs)
Nickel (Ni)	ng/m ³	15 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Ligu Reviewed by

Authorized Signatory

****End of Report****

Dr. Deependra Kumer Sinha Ph. D. Environme In Engl.

Page 1 of 1 ELF

The Dominant stated is Test Report, is issued by the Laboratory under Genoral Terms and Conditions, only on Company littler head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reportiated except in full and only part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for my legal actions unless prior permission has been sensed from the Management of the Laboratory. Attention is drawn to the limitation of liability, compression and jurisdiction issues. Any unsubcrized alteration & falsification of the comment or appearance of the Test Report is unleaved and offending may be prosecuted to be fullent extent of the two. All the samples are retained for 30days from the Date of release/assae of the Test Report. The Samples from Regulatory bodies are to be stated us specified. Any type of Observations or Complaint regurding the Report shall be done within 15days from the Date of Test Report released/assued. After the time period stated hefore, no compliants will be accepted. The entire Time schedule mentional in Test Report in a 24nuar format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit)).

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	; ELES/RNC/2023/1941	Report Release Date	: 12.06.2023	
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/1368 : BKB Quarry Serengdag-A Bauxite Mines		
Address	: Lohardaga, Лıarkhand-835302	Sampling Date Sample Received Date	: 13.04.2023 to 14.04.2023 : 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		

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3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

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

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



****End of Report****

Authorized Signatory Sinha Dr. Deependra Kt 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.- 20AAFCE97130174

SERVICES FFT, LTD.

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



	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1942	Report Release Date	: 12.06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC88392300000903F			

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1369 : Mine Pit Quarry No.2A Screngdag-A Bauxite Mines		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.04.2023 to 14.04.2023 : 10.05.2023 : Ambient Air		
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02		
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved		

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

NABL Accredited Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24); 2019	36	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	19.5	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	jµg/m²	IS 5182 (Part-22): 2004; RA2019	0.015	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)

7170 Reviewed by.

Authorized Signatory

Dr. Deependur Auron Sinha

****End of Report****

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1942	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/1369 : Mine Pit Quarry No.2A Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 13.04.2023 to 14.04.2023 : 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 (4C) : 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*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorized Signatory Dr. Decc. Ph. D. Environment E. Co. ELES Pvi. LM. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 204450597130174

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Test Report No.	: ELES/RNC/2023/1943	Report Release Date	: 12.06.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000000904F		

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1370 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mines
Address	Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.04.2023 to 14.04.2023 : 10.05.2023 : Ambient Air
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 32	2	Barometric Pressure (mm	Hg) 743
3	Relative Humidity (%) : 60	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	58	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	32	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS-5182 (Part-2): 2001; RA2022	7,4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.5	80 (24hrs)	
Ozone (O3)	μg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ⁸	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)	$\mu g/m^3$	IS 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)	
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenie (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

14.03 Reviewed by

Authorized Signatory

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Ph. D. Envi

Dr. Deepend

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	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1943	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/1370 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.04.2023 to 14.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION		the second s	
1	Average Temperature (°C) = 32	2	Barometric Pressure (mm	iHg) : 743
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear

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

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



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

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

GINEERING SERVICES P VT. 1.TD

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



	TE	ST 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	t 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 Type of Sample	: 14.04.2023 to 15.04.2023 : 10.05.2023 : Ambient Air	
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02	
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

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

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 (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	19.1	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	ug/m ²	18 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m1	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	ug/m°	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Authorized Signatory Dr. Desuende Kumar Sinha

Page 1 of 1

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- ZOAAECE9713DIZA

ENGINEERING SERVICES PVT. LTD.

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	TE	ST 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 DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	2 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		

MI	ETEOROLOGICAL INFOR	MATION			
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*	µg/m ³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m'	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



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Authorized Signatory Dr. Deepondon Kumar Sinha Ph. D. Environmiento' Engg. ELES PVI, Ltd. Technical Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97110124

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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 DET.	AILS	SAMPLE DETAILS	
Customer Name	= Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1372
		Location	: Near Pauri Village Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 14.04.2023 to 15.04.2023
		Sample Received Date	: 10.05.2023
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 10.05,2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

Cineta Ci	Average Temperature (°C) = 32	2	Barometric Pressure (mm	Hg) :743	
3	Relative Humidity (%) = 60	4	Weather Condition	: Clear	

NABL Accredited					
Discipline :	Discipline : Chemical Gro				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.6	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.4	80 (24hrs)	
Ozone (O3)	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 (8hrs)	
Lead (Pb)	µg/m²	IS 5182 (Part-22): 2004; RA2019	0.015	1 (24hrs)	
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	2.2	06 (Annual)	

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METEOROLOGICAL INFORMATION

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****End of Report****

ELES Pvt. Ltd. Technical Manager

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Page 1 of 1 The Decament stated as Test Report, is stated by the Laboratory under General Terms and Conditions, sinly on Company latter 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 unformation stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of eccepta, without prior written approval of the Laboratory. The Report in full or in part shull not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthurized alteration & falsification of the content of appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for Mdays from the Date of release/ssue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall he done within L5days from the Date of Test Report released/smed. After the time period stated before, no compliaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbroviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

NGINEERING SERVICES PVT, LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/1945	Report Release Date	: 12,06.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	USTOMER DETAILS		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 Type of Sample	: 14.04.2023 to 15.04.2023 : 10.05.2023 : Ambient Air		
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02		
Period of Analysis	: 10.05.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved		

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

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

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



****End of Report****

Authorized Signatory Dr. Deependra Korrac Sinh-Ph. D. Environmonal Engo ELES Pvt. Ltd. Technicsi Managur

Page 1 of 1

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

SERVICES FVT. LTD

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



: ELES/RNC/2023/1946	Report Release Date	: 12.06.2023
: 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/1373 Near Harup Village Serengdag-A Bauxite Mines 		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 14.04.2023 to 15.04.2023 : 10.05.2023 : Ambient Air		
Plant Status	: Operational	Sample Drawn By	: ELES/DOC/SMPL/02		
Period of Analysis	: 10.05.2023 to 08.06,2023	Sample Condition	: Sealed & Preserved		

1	Average Temperature (°C)	: 32	2	Barometric Pressure (mm	Hg) : 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/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	11.8	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9)) 1974: RA2019	<20,0	100 (8hrs)
Ammonia (NH3)	µg/m³	IS 5182 (Part- 25): 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ⁴	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ¹	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorized Signatory Dr. Deepen 11101

**** End of Report****

Page 1 of 1

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

VGINEERING SERVICES PVT. LTD.

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

	TE	ST 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	AILS	SAMPLE DETAILS		
Customer Name	- Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1373 : Near Harup 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	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Benzene*	µg/m³	IS:5182 (part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



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Authorized Signatory Dr. Deependical Ph. D. Environment ELES Pvt. Ltd. Theraper Manager

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCH-834003 (JHARKHAND) GST NO:- 204AEEE97130124

ADDREERING REPORTS PVT. LI

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/2023/1947	Report Release Date	: 12.06.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		
ULR No.	: TC883923000000908F				

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

1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmH	g) : 743	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

NABL Accredited Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	15 5182 (Part-23): 2006; RA2022	63	100 (24hrs)	
Particulate Matter (PM2.5)	μg/m ³	1S 5182 (Part- 24): 2019	34	60 (24hrs)	
Sulphur Di-Oxide (SO ₇)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.8	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.2	80 (24hrs)	
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ¹	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.012	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

Authorized Signatory Dr.

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

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

NGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/1947	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 Paintoli 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	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (*C)	: 32	2	Barometric Pressure (mmHg)	: 743
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

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

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



****End of Report****

Dr. Deeperized Signatory Pb. D. Emvironment of Engo ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

NGINEERING SERVICES PYT. LTR

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

TEST REPORT

Test Report No.	: ELES/RAN/2023/0506	Report Release Date	: 06.05.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Flindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RAN/2023/DW/0391 : 10.04.2023
		Sample Received Date	: 26.04 2023
Address	: Lohardaga, Jharkhand-835302	Type of Sample	: Drinking Water
	1-1	Source/Location of Sample	: Serengdag-A Bauxite Mines (155.81ha)
		Sampling Procedure	: ELES/DOC/SMPL/01
Mines Status	: Operational	Sample Collected By	ELES Pvt. Ltd.
Period of Analysis	: 26.04.2023 to 05.05.2023	Sample Condition	: Sealed & Preserved

Discipline : Chem	ical	Group : Water		Regulatory Limit as per 1S 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
pH (at 25.2 °C)		APHA 23 rd Ed.2017, 4500-H	6.83	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23 rd Ed.2017, 2130 B	0.28	1.0	5.0
Taste	1.1	APHA 23rd Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour		IS 3025 (Part-5) :2018	Agreeable	Agreeable	Agreeable
Colour	Hazen	APHA 23rd Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23 rd Ed.2017, 2540B,C&D	358	500	2000
Chloride (as Cl)	mg/L	APHA 23rd Ed.2017, 4500 CI B	60.4	250	1000
Fluoride (as F)	mg/L	APHA 23'd Ed.2017, 4500 F-D	BDL (DL: 0.1)	1.0	1.5
Total Alkalinity (as CaCO3)	mg/L	APHA 23rd Ed.2017, 2320 B	121	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 23 rd Ed.2017, 2340 C	172	200	600
Sulphate (as SO4)	mg/L	APHA 23rd Ed.2017, 4500 SO4-2-E	18.8	200	400
Nitrate (as NO3)	mg/L	APHA 23nt Ed.2017, 4500 NO3-B	3.08	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

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPLIDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124 GINEERING SERVICES PVT. LTP.

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

TEST REPORT				
Test Report No.	: ELES/RAN/2023/0506	Report Release Date	: 06.05.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipl	ine : Che	mical Group : W	Vater		ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible Limit
Cyanide (as CN)	mg/L	APHA 23 ^{td} 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	45.6	75	200
Discipl	ine : Che	mical Group	: Residues in	Water	
Aluminum (as Al)	mg/L	1S 3025 (Part-55): 2003; RA2019	BDL (DL: 0.02)	0.03	0.2
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.01	No Relaxation
Boron (as B)	mg/L	IS 3025(Part-57): 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	No Relaxation
Copper (as Cu)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	15
Iron (as Fe)	mg/L	APHA 23rd Ed.2017, 3111B	0.224	1.0	1.0
Lead (as Pb)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23" 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
Zine (as Zn)	mg/L	APHA 23 nd 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:- 20AAECE9713D124

GINEERING SERVICES PVT, LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RAN/2023/0506	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				
Alachlor*	μg/L	APHA	BDL (DL: 1.0)	20
Atrazine*	µg/L	АРНА	BDL (DL: 1.0)	2
Aldrin/Dieldrin*	µg/L	АРНА	BDL (DL: 0.01)	0.03
Alpha HCH*	µg/L	APHA	BDL (DL: 0.001)	0.01
Beta HCH*	µg/L	АРНА	BDL (DL: 0.01)	0.04
Butachlor*	µg/L	АРНА	BDL (DL; 10)	125
Chlorpyriphos*	μg/L	АРНА	BDL (DL: 10)	30
Delta HCH*	µg/L	АРНА	BDL (DL: 0.01)	0.04
2,4 dichlorophenoxyacetic acid*	µg/L	АРНА	BDL (DL: 10)	30
DDT(0,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	АРНА	BDL (DL: 0.5)	í.
Endosulfan (alpha, beta, and sulphate)*	µg/L	АРНА	BDL (DL: 0.1)	0.4
Ethion*	µg/L	АРНА	BDL (DL: 0.5)	3
Gamma HCH (Lindane)*	µg/L	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 ND:- 20AAECE9713D1Z4

GINEERING SERVICES PVT, LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RAN/2023/0506	Report Release Date	: 06.05.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline : Biological		Group : Water		Regulatory Limit as per 1S 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable Limit	Permissible
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	01-0-2-1	-
Escherichia Coli (E. Coli)	Per 100 mL	00 mL IS 15185:2016; RA 2021 Not Detec		Shall not	be detected
Discipline :	Chemical	Group :	Water	and the second sec	ory Limit 10500:2012
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	BDL (DL; 0.1)	0.2	1.0
Mineral Oil*	mg/L	CL-6, 1S: 3025 (P-39)	BDL (DL: 0.1)	1.0	No relaxation
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23rd Edition	BDL (DL: 0.0001)	0.0001	No relaxation
Polychlorinated Biphenyls (PCB)*	mg/L	APHA 23 rd Edition	BDL (DL: 0.0005)	0.0005	No relaxation

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



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Kekha Saxen

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Page 4 of 4

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE97130120

ENGINEERING SERVICES FVT. LTD.



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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2271	Report Release Date	: 01.07.2023	-
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	-
ULR No.	: TC883923000001193F			_

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1744 : Near Weigh Bridge Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.05.2023 to 13.05.2023 : 06.06.2023	
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C) : 35	2	Barometric Pressure (mmH	747	
	Relative Humidity (%) : 59		Weather Condition	: Clear	

Discipline :	Chemical	Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limi
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	70	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	43	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	11.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	25.1	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.025	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Dr. Deependra Signatory Sinha

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

ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2271	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/1744 : Near Weigh Bridge Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12.05.2023 to 13.05.2023 : 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 (mmH	Ig) : 743
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

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

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



****End of Report****

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

Page 1 of 1

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ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G5T NO:- 20AAECE9713D124

ENGINEERING SERVICES PTT. LTD.



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

	TES	TREPORT	
Test Report No.	: ELES/RNC/2023/2272	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001194F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1745 : BKB Quarry

Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Serengdag-A Bauxite Mines : 12.05.2023 to 13.05.2023 : 06.06.2023
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C) : 35	2	Barometric Pressure (mmHg	743
3	Relative Humidity (%) : 59		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	64	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	7.9	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.9	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ¹	IS 5182 (Part-22): 2004; RA2019	0.017	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m	ELES/AIR/SOP/01	<2.0	06 (Annual)



METEODOLOCICAL INFORMATION

Authorized Signatory ****End of Report**** Dr. Deependra Kumar Sinha

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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

Test Report No.	: ELES/RNC/2023/2272	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/1745 : BKB Quarry Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.05.2023 to 13.05.2023 : 06.06.2023
Plant Status	: Operational	Type of Sample Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved

MI	TEOROLOGICAL INFORMA	TION		
1	Average Temperature (°C) : 35	2	Barometric Pressure (mml	Hg) : 743
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear

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

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



****End of Report****

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

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:-204AECE9713D124 ENGINEERING SERVICES PVP. LTD.



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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2273	Report Release Date	: 01.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001195F			_

CUSTOMER DET.	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1746 : Mine Pit Quarry No.2A Serengdag-A Bauxite Mine:	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 12.05.2023 to 13.05.2023 : 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	

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

Discipline :	Chemical	Group :	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS \$182 (Part-2): 2001; RA2022	7.7	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.8	80 (24hrs)
Ozone (O3)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



Authorized Signatory Sinha Dr. Deependra Kumar Sinha

Page 1 of 1

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ELES Pvt. Lld. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713DI24 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/2023/2273	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.	: ELES/RNC/2023/AA/1746	
		Location	: Mine Pit Quarry No.2A	
		1	Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	± 12.05.2023 to 13.05.2023	
	a service de concerne recorde rece	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	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 35	2	Barometric Pressure (mml	Hg) : 743
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

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

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



****End of Report****

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

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 6ST NO> 20AAECE9713D174

ENGINEERING SERVICES FFT, LTD.



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

	TES	ST REPORT	
Test Report No.	: ELES/RNC/2023/2274	Report Release Date	: 01.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001196F		

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1747 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mine:
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.05.2023 to 13.05.2023 : 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

L.	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 743	
3	Relative Humidity (%) : 59		Weather Condition	: Clear	

NABL Accredited				
Discipline :	Discipline : Chemical Group			
Parameter	Uait	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	11.8	80 (24hrs)
Ozone (O ₃)	µg/m ³	-IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	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/m ²	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Authorized Signatory Sinha Dr. Deependra Kumar

****End of Report****

ELES Pyt. 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

In the second second	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2274	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/1747 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mines	
Address	: Lohardaga; Jharkhand-835302	Sampling Date Sample Received Date	: 12.05.2023 to 13.05.2023 : 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	

ME	TEOROLOGICAL INFOR	MATION	The Market		a second as
1	Average Temperature (°C)	: 35	.2.	Barometric Pressure (mmHg	() : 743
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

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

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



****End of Report****

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

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PLOT NO-30, MANSAROVAN ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) EST NO:- 20AAFCE9713D124

ENCINEERING SERVICES PVT. LTD.



Email: info@elespl.co.in , eles.ranchi@gmail.com Phone no.: 0651-2290103 Website : www.elexpl.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	
ULR No.	: TC883923000001197F			

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1748 : Near Banjari Village Serengdag-A Bauxite Mine:		
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	: 13.05,2023 to 14.05,2023 : 06.06,2023		
Plant Status	Operational	Sample Drawn By	: Ambient Air : ELES/DOC/SMPL/02		
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved		

	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) :743
3	Relative Humidity (%) : 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	59	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	13.5	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Engli Reviewed by

Authorized Signatory Dr. Deependra Kumar Sinha

Page 1 of 1

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Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999JH2018PTC011125

	TE	ST 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 DET/	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 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	

MF	ETEOROLOGICAL INFOR	MATION		2	and the second se	
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/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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



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Authorized Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engg. 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.elespl.co.in

	TE	ST 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 DET/	AILS	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	

1	Average Temperature (°C)	:35	2	Barometric Pressure (mmHg)	: 743	
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear	

NABL Accredited						
Discipline :	Discipline : Chemical Group : A					
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	57	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)		
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS \$182 (Part-2): 2001; RA2022	6.8	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	13.3	80 (24hrs)		
Ozone (O3)	µg/m ²	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.10	1 (24hrs)		
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	2.2	06 (Annual)		



Authorized Signatory Deependra Kumar

Sinha

****End of Report****

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Dr.

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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.

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

<u>TEST REPORT</u>					
Test Report No.	: ELES/RNC/2023/2276	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.	: ELES/RNC/2023/AA/1749		
	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	Location	: Near Pauri Village		
			Serengdag-A Bauxite Mines		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 13.05.2023 to 14.05.2023		
	Real Annual Section of the section o	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	: Scaled & Preserved		

MF	TEOROLOGICAL INFOR	MATION			
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/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorized Signatory Dr. Deependra Rumar Sinha Ph. D. Environmental Enga. ELES Pvt. Ltd. Technical Manager

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

ENGINEERING SERVICES PTT. LTD.



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

	TES	ST 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.	CUSTOMER DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	:ELES/RNC/2023/AA/1750
		Location	: Near Harup Village
		1.11	Serengdag-A Bauxite Mines
Address	: Lohardaga, 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

	Average Temperature (°C) : 35	2	Barometric Pressure (mm	Hg) : 743
3	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	59	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	31	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.2	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonía (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	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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Engines E IST AUTO Reviewed by

Authorized Signatory Deependra Kuma Sinha

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Dr. Deependra Kumar Sir Ph. D. Environmental Engo

Page 1 of 1

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

CWI: U749993H2018PTC011125

ENGINEERING SERVICES PVT. LTD.

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

	TES	ST 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 Mine:	
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	

MI	ETEOROLOGICAL INFORMATION		2	
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/m ¹	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ²	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.



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



	TES	T 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 DET.	AILS	SAMPLE DETAILS	(
Customer Name	· Hindales Industrias Limited	Commin Dar Ma	. EL DEIDNIC/2022/LAUSER

Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1751
		Location	: Near Paintoli Village
			Serengdag-A Bauxite Mines
Address	t Lohardaga, 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

ME	TEORC	DLOGICAL	INFOR	MATION	
					-

	Average Temperature (°C) : 35	2 Barometric Pressure (mmH	g) : 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/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	29	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part-2): 2001; RA2022	7.5	80 (24hrs)
Nitrogen Di-Oxide (NO _i)	µg/m ³	18 5182 (Part-6): 2006; RA2022	12.5	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.016	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)
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****End of Report****

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Tackmeal Manager ELES PVt Ltd

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74399/H2018P7C011125

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/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2023/AA/1751	
	a second second second	Location	: Near Paintoli Village	
			Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 13.05.2023 to 14.05.2023	
	Contraction of the second second second	Sample Received Date	: 06.06.2023	
		Type of Sample	: Ambient Air	
Plant Status	: Operational	Sample Drawn By	RELES/DOC/SMPL/02	
Period of Analysis	: 06.06.2023 to 08.06.2023	Sample Condition	: Sealed & Preserved	

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

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

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



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Test Report No. Work Order No.

ULR No.

ENVIRONMENTAL LABORATORIES &

FLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-334003 (IHARKHAND) GST NO:- 20AAECE97130124

: TC883923000001648F

ENGINEERING SERVICES PVT. LTD.



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

TE	ST REPORT		
: ELES/RNC/2023/2783	Report Release Date	: 29.07.2023	
: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/1963 : Near Weigh Bridge Serengdag-A Bauxite Mines : 12.06.2023 to 13.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02
writes status	and the second se	Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

2

4

Barometric Pressure (mmHg)

Weather Condition

METEOROLOGICA	L INFOR	MATION	
	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	14.0	

Average Temperature (*C) : 32
 Relative Humidity (%) : 60

3 Relative Humidity (76)

Discipline :	Discipline : Chemical Group : Atmosph			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	75	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ²	IS 5182 (Part- 24): 2019	46	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ⁴	1S 5182 (Part-2): 2001; RA2022	13.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	27.5	80 (24hrs)
Ozona (O3)	µg/m ^x	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.022	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

: 742

: Clear

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

Page 1 of 1

****End of Report****

ELES Pvt. Ltd. Technical Manager

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

NGINEERING 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/2023/2783	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/1963 : Near Weigh Bridge Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	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		
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: ELES Pvt. Ltd. : Scaled & Preserved	

MI	ETEOROLOGICAL INFORM	MATION	-		
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg) :742
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear

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

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



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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-R34003 (JHARKHAND) GST NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.



CIN: U749990H2018FTC011125

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



Test Report No.	: ELES/RNC/2023/2784	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	+ 21.04.2023	
ULR No.	: TC883923000001649F			

TEST REPORT

CUSTOMER DET/	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/1964 t BKB Quarry Serengdag-A Bauxite Mines : 12.06.2023 to 13.06.2023	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02	
		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	= 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 742	
3	Relative Humidity (%)	: 60	4	Weather Condition	: Clear	

NABL Accredited						
Discipline :	Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2022	68	100 (24hrs)		
Particulate Matter (PM2,5)	µg/m ³	IS 5182 (Part- 24); 2019	37	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.4	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	16.2	80 (24hrs)		
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)		
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)		
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		



Authorised Signatory Jr. Deependra Kumar Sinhu

**** End of Report****

ELES Pvt. Ltd., Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

CINC U74RRSUH2018PTC011125

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2784	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/1964 : BKB Quarry 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	: Sealed & Preserved	

MI	METEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 32	2	Barometric Pressure (mm	Hg) : 742	
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 ⁸	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



****End of Report****

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

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PLOT NO-3G, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) G5T NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.





CIN: U74999/H2018PTC011125

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2785	Report Release Date	: 29.07.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001650F			_

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1965 : Mine Pit Quarry No.2A Screngdag-A Bauxite Mine:		
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	: Sealed & Preserved		

1	Average Temperature (°C) :	32	2	Barometric Pressure (mmHg)	: 742
3	Relative Humidity (%)	60	4	Weather Condition	: Clear

NABL Accredited		100		200
Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	59	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	8.3	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	20.3	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed/by

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

****End of Report****

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



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

NGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2785	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	2 ELES/RNC/2023/AA/1965 2 Mine Pit Quarry No.2A Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 12.06.2023 to 13.06.2023 : 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 INFORMATIO	N			
1	Average Temperature (°C) : 32	2	Barometric Pressure (mm	1Hg) : 742	
3	Relative Humidity (%) : 60		Weather Condition	: Clear	_

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

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



**** End of Report****

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 70AAECE9713D124

ENGINEERING SERVICES PVT. LTD Email: info@elespl.co.in , eles.ranchi@amail.com



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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2786	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No:	: TC883923000001651F		

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1966 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mine:
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	: Sealed & Preserved

	Average Temperature (°C) : 32	2	Barometric Pressure (mm	Hg) : 742	
3	Relative Humidity (%) : 60	4	Weather Condition	: Clear	

NABL Accredited				
Discipline #	Chemical	Group	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ²	IS 5182 (Part-23): 2006; RA2022	58	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	33	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part-2): 2001; RA2022	7.4	80 (24hrs)
Nitrogen Di-Oxide (NO ₂)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	16.1	80 (24hrs)
Ozone (O3)	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 (8hrs)
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.009	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by ****End of Report****

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

Page 1 of 1

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2786	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 Sampling Date	: ELES/RNC/2023/AA/1966 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mines : 12.06.2023 to 13.06.2023	
Address Mines Status	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 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	TEOROLOGICAL INFORM	AATION			
	Average Temperature (°C)	: 32	2	Barometric Pressure (mmH	g) :742
3	Relative Humidity (%)	: 60	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/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



****End of Report****

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

ENGINEERING SERVICES PTT. LTD.



CINI: U789593H201827C011125

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2787	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 Mines Status	: Lohardaga, Jharkhand-835302	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.	
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

1	Average Temperature (°C)	: 33	2	Barometric Pressure (mmHg) : 742
3	Relative Humidity (%)	: 59	4	Weather Condition	: Clear

NABL Accredited					
Discipline :	Chemical	Group	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	55	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	28	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.1	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	11.2	80 (24hrs)	
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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Ph. D. Environmental Engg.

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

ENGINEERING SERVICES PVT. LTD.

Email: info@elespl.co.in , eles.ranchi@gmail.com Phane no.: 0651-2290103 Website : www.elespl.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 Sampling Date	: ELES/RNC/2023/AA/1967 : Near Banjari Village Serengdag-A Bauxite Mines : 12.06.2023 to 13.06.2023	
Address Mines Status	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure Sample Drawn By	: 17.06.2023 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 INFOR	MATION			
1	Average Temperature (°C)	: 33	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/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m³	1S:5182 (Pari-12): 2004;RA2019	<0.5	01(Annual)

****End of Report****

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



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ENVIRONMENTAL LABORATORIES ENGINEERING SERVICES PVT. LTD.

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 204AECE97130124

CIN: U74959UN2018PTC011125



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

	110	TREFORT	
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 DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/1968 : Near Pauri Village

TEST DEPODT

Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Serengdag-A Bauxite Mines : 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	: Sealed & Preserved

1	Average Temperature (°C) : 33	2	Barometric Pressure (mm	Hg) : 742
3	Relative Humidity (%) : 59	4	Weather Condition	t Clear

NABL Accredited						
Discipline :	Chemical	Group	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	60	100 (24hrs)		
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	36	60 (24hrs)		
Sulphur Di-Oxide (SO2)	µg/m³	IS 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)		
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.5	80 (24hrs)		
Ozone (O ₃)	µg/m ³	15 5182 (Part-9): 1974; RA2019	<20,0	100 (8hrs)		
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)		
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)		
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.10	1 (24hrs)		
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)		
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)		

En Reviewed b

Authorised Signatory Dr. Deependra Kumar Sinha ****End of Report**** Ph. D. Environmontal Enge

Page 1 of 1

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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

	TE	ST 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 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 : ELES Pvt. Ltd.	
Mines Status	: Operational	Sampling Procedure Sample Drawn By		
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFORMATION			a second	
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/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinn. 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:- 20AAECE9713D124

CWI: U74399/H2018FTC011125

ENGINEERING SERVICES PVE. LTP.





	TE	ST 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 DET/	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302 : Operational	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/1969 : Near Harup Village Serengdag-A Bauxite Mines : 13.06.2023 to 14.06.2023 : 17.06.2023 : Ambient Air : ELES/DOC/SMPL/02
	and a subscription of the	Sample Drawn By	: ELES Pvt, Ltd.
Period of Analysis	: 17.06.2023 to 27.06.2023	Sample Condition	: Sealed & Preserved

- 1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 742
3	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	51	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.3	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	1S 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Reviewed by

Authorised Signatory Or. Deependra Kumar Sinha ****End of Report**** Ph. D. Environmental Engg

Page 1 of 1

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Mines Status

ENVIRONMENTAL LABORATORIES &

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

ENGINEERING SERVICES PVT. LTD.

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

: ELES/DOC/SMPL/02

: 29.07.2023

27.2	TES	T REPORT	
Test Report No.	: ELES/RNC/2023/2789	Report Release Date	1

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/1969 : Near Harup Village
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample	Serengdag-A Bauxite Mines : 13.06.2023 to 14.06.2023 : 17.06.2023 : Ambient Air

Sampling Procedure

Period of Analysis	: 17.06.2023 to 27.06.2023		mple Drawn By mple Condition	: ELES Pvt. Ltd. : Sealed & Preserved
METEOROLOGIC	CAL INFORMATION			
1 Annasas Tamas		1.0	Descention Descent	11 A 11 A 11 A

1	Average Temperature (%C) : 32	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/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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

Onerational



****End of Report****

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

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

ENGINEERING SERVICES PVT. LTD



CIN: U74999M/2018PTC011125

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2790	Report Release Date	: 29.07.2023
Work Order No.	: 13612310218	Work Order Date	r 21.04.2023
ULR No.	: TC883923000001655F		

CUSTOMER DET/	AILS	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 : ELES/DOC/SMPL/02
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

1	Average Temperature (°C) : 32	2	Barometric Pressure (mm	(Hg) : 742	
3	Relative Humidity (%) : 59	4	Weather Condition	: Clear	

Discipline ±	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	54	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	25	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.7	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.9	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ¹	1S 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



Authorised Signatory Jr. Deependra Kumar Sinh Ph. D. Environmental Enco ELES Pvt. Ltd., Technical Manager

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****End of Report****

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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74995/H2018#7C011125

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 DET,	AILS	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	TEOROLOGICAL INFORM	IATION		and the second sec		
1	Average Temperature (°C)	: 32	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/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

Authorised Signatory

Dr. Deependra Kumar Sinh 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) G57 NO:- 20AAECE97130124

CIN: UTM000/W201/FTT111125

ENGINEERING SERVICES PTT. 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/2023/2756	Report Release Date	: 29.07.2023			
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023			
ULR No.	: TC883923000001621F					

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2023/EF/2227 : 14.06.2023 : 26.06.2023
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample	 Effluent Water Serengdag-A Bauxite Mines (155.81 ha)
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES PvL Ltd
Period of Analysis	: 26.06.2023 to 12.07.2023	Sample Condition	: Sealed & Preserved

NABL	Accredited

Discipline: Chemical		Group: Pollution & Env	Discharge Limits - CP EPR, 1986 Schedule V		
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land of Irrigation
Sulphide (as S)	mg/L	IS 3025 (Part-29) :1986; RA2019	0.43	2.0	
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.381	2.0	
Dissolved Oxygen (as DO)	mg/L	IS 3025 (Part-38):1989; RA2019	3.9		-
Discipline: Chem	ical	Group: Resid	dues in Wate	r	
Nickel (as Ni)	mg/L	APHA 23 rd Ed.2017; 3111 B & 3500 Ni,	<0.01	3.0	
Manganese (as Mn)	mg/L	APHA 23 nd Ed.2017; 3111 B & 3500 Mn B	<0.05	2.0	
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017; 3111 B & 3500 Pb B	<0.01	0.1	1.00
Mercury (as Hg)	mg/L	1S 3025 (Part-48) :1994; RA2019	<0.001	0.01	

Kemarks: 1. pH

Reviewed by

Authorized Signatory ****End of Report**** Jr. Deependra Kumar Sinhe 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

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

ENGINEERING SERVICES PVT. LTD.



	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2922	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001769F		

CUSTOMER DET.	ALS	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/2593 Near Weigh Bridge Serengdag-A Bauxite Mines 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

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

NABL Accredited				Test in the second second
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	68	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	12.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	24.1	80 (24hrs)
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.016	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha

ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D IZ4

ENGINEERING SERVICES PVT. LTD.

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

0749990#2018#10/11125

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2922	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	AILS	SAMPLE DETAILS	and the second second second second
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2593 : Near Weigh Bridge 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

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

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

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



****End of Report****

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

Page 1 of 1

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Sales Earlingment, Sale Earlier



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

	TI	ST REPORT		
Test Report No.	: ELES/RNC/2023/2923	Report Release Date	; 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001770F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2594 : BKB Quarry Serengdag-A Bauxite Mine: : 15.07.2023 to 16.07.2023	
Address Mines Status	: Lohardaga, Jharkhand-835302	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	

METEOROLOGICAL INFORMATION

: 738 2 Barometric Pressure (mmHg) Average Temperature (°C) :27 Ľ : Partly Cloudy 4 Weather Condition Relative Humidity (%) : 66 3

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	57	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	28	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.4	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10,0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8ins)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by 16.7

Authorised Signatory

Dr. Deependra Kumar Sinha

- Environmental Eriog

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

****End of Report****



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 No.	: ELES/RNC/2023/2923	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/2594 : BKB Quarry Serengdag-A Bauxite Mine:	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.07.2023 to 16.07.2023 : 25.07.2023 : Ambient Air : ELES/DOC/SMPL/02 : ELES Pvt, Ltd,	
Mines Status	: Operational	Type of Sample Sampling Procedure Sample Drawn By		
Period of Analysis	: 25.07.2023 to 02.08.2023	Sample Condition	: Sealed & Preserved	

MI	TEOROLOGICAL INFOR	MATION			
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/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)

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



End of Report*

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

Page 1 of 1

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

ENGINEERING SERVICES PVF. LTD.



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

	TI	ST REPORT		
Test Report No.	: ELES/RNC/2023/2924	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	
ULR No.	: TC883923000001771F			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2595 : Mine Pit Quarry No.2A Serengdag-A Bauxite Mine:	
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	

1 A	verage Temperature (°C)	±27	2	Barometric Pressure (mmHg)	: 738
3 R	elative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

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	46	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.2	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.5	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1,0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Dr. Deependra Kumar Sinha Ph. D. Environmental Engo BLES FVI. Ltg. rectinical Manager

****End of Report****

Page 1 of 1. The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Cumpany letter head in gre-approved formul. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the elsent. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price written approval of the Laboratory. Attention is drawn to the instantion of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is onlowful and offenders may be prosecuted to the fullest extent of the samples are retained for 30days fram the Date of release/issue of the Test Report. The sumples from Regulatory bodies are to be retained as specified. Any type of Observations of Compliants regarding the Reports shall be done within [5days from the Date of Test Report released/issued. After the time perind stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is onlow full And ON (Not Applicable); BDL (Below Detection Limit), LDL (Lewer Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/2924	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/2595 Mine Pit Quarry No.2A Serengdag-A Bauxite Mine: 	
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	

METEOROLOGICAL 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/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



End of Report*

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Page 1 of 1

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

ENGINEERING SERVICES PST. LTD.



CME UTARMIMIZEDBPTCG11125

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

	TE	ST REPORT	
Test Report No.	: ELES/RNC/2023/2925	Report Release Date	: 08.08.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000001772F		

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2023/AA/2596 Mine Pit Quarry No.2B 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

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

NABL Accredited	Charded.	Crown	Asimonthant	Delivelas	
Discipline :			Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	50	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.4	80 (24hrs)	
Ozone (O3)	µg/m ³	15 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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Page 1 of 1

****End of Report****

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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.ranchl@gmall.com Phone no.: 0651-2290103 Website : www.elespl.co.in

CIN: U749999/H2018P1C011125

TEST REPORT				
Test Report No.	: ELES/RNC/2023/2925	Report Release Date	: 08.08.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET.	AILS	SAMPLE DETAILS	- Anna - Anna - Anna
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2596 : Mine Pit Quarry No.2B 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	and the second second		
1	Average Temperature (°C) : 27	2	Barometric Pressure (mm	Hg) : 738
3	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

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

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



End of Report*

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Enga ELES PvI. Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PVY, LYD.



CIN: UT4995IH202BPTC012125

Email: Info@elespl.co.in , eles_ranchi@gmall.com Phane no.: 0651-2290103 Website: www.elespl.co.in

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

CUSTOMER DETA	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2597 : Near Banjari Village Serengdag-A Bauxite Mines : 15.07.2023 to 16.07.2023
Address	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 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

2 Barometric Pressure (mmHg) : 738 Average Temperature ("C) :27 1 : Partly Cloudy 4 Relative Humidity (%) : 66 Weather Condition 3

Discipline :	Chemical	Group :	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	15 5182 (Part-23): 2006; RA2022	49	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	23	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ¹	1S 5182 (Part-2): 2001: RA2022	5.5	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	1S 5182 (Part-6): 2006; RA2022	9.2	80 (24hrs)	
Ozone (O3)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)	
Ammonia (NH ₂)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



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****End of Report****

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



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

ENGINEERING SERVICES PVT. LTD.

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

CIN: U74999/H2018/7CD11125

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 DET.	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	: 15.07.2023 to 16.07.2023 : 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	AATION			
L	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/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



**** End of Report****

Dr. Dautherised SignalarSinha Ph. D. Environmental Engg. ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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PLOT ND-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST ND:- 20AAECE9713D124 ENGINEERING SERVICES PTT. LTD.



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

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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 DET/	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/2598 : Near Pauri Village Serengdag-A Bauxite Mines : 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		

1 Average Temperature (°C) : 27	2	Barometric Pressure (mml	Hg) : 738
3 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/m ³	IS 5182 (Part-23): 2006; RA2022	54	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	8.1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.2	80 (24hrs)
Ozone (O3)	µg/m ³	1S 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part-25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.10	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Dr. Deependra Kumar Sinha

Ph. D. Environmental Enon ELCS PVC Lio. Technical Manager

Page 1 of 1

****End of Report****

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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 No.	: ELES/RNC/2023/2927	Report Release Date	: 08.08.2023
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/2598 : Near Pauri Village Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.07.2023 to 16.07.2023 : 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

MB	TEOROLOGICAL INFORMATION		And the second second second	
1	Average Temperature (°C) : 27	2	Barometric Pressure (mn	nHg) : 738
3	Relative Humidity (%) : 66	4	Weather Condition	: Partly Cloudy

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

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



*End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmenial Engo. ELES Pvt. Lid. Technical Manager

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

ENGINEERING SERVICES PVF. LTD.



CIN: U74295/H2018PTC011125

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

TC-8839

: 21.04.2023

TEST REPORT

CUSTOMER DET.	AILS	SAMPLE DETAILS	View of the other and the set
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	: Sealed & Preserved

	METEOROLOGICAL INFORMATION					
0	1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 738
	3	Relative Humidity (%)	:67	4	Weather Condition	: Partly Cloudy

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	47	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	23	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6,1	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.7	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH ₃)	µg/m ¹	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ¹	IS 5182 (Part-22): 2004; RA2019	< 0.002	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)



Authorised Signatory

Dr. Despendra Kumar Sinha

Page 1 of 1

****End of Report****

ELES PVI. Ltd. Technical Manager

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

ENGINEERING SERVICES PVT. LTD.

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

	TES	ST 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 DETAILS		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 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	: Sealed & Preserved	

ME				
1	Average Temperature (°C) : 28	2	Barometric Pressure (mmH	(g) : 738
3	Relative Humidity (%) : 67	.4	Weather Condition	: Partly Cloudy

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

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



****End of Report****

Ph. D. Environmental Engl. ELES PVI. Ltd. Technical Manager

Page 1 of 1

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

ENGINEERING SERVICES PVT, LTD.



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

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 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	Elohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.07.2023 to 17.07.2023 : 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.

I.	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%)	: 67	4	Weather Condition	: Partly Cloudy

Discipline :	Chemical	Group :	Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m³	IS 5182 (Part-2); 2001; RA2022	5.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.2	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed b úg. *

Dr. D. Environmental Engg.

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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.

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/2023/2929	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/2600 : Near Paintoli Village Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 16.07.2023 to 17.07.2023 : 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) : 28	2	Barometric Pressure (mmH	g) :738
3	Relative Humidity (%) : 67	4	Weather Condition	: Partly Cloudy

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

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



**** End of Report****

Dr. Deependra Kumar Sinha Ph. D. 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

NGINEERING SERVICES FVT. LTI

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/2023/3377
 Report Release Date
 : 09.09.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

 ULR No.
 : TC883923000002145F

 CUSTOMER DETAILS

 SAMPLE DETAILS

CUSIOMERDEN	111.0	STATE LIG DE L'ALLO	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2944 : Near Weigh Bridge Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.08.2023 to 16.08.2023 : 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 INFORM	ATION			
1	Average Temperature (°C) :	26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%) :	64	4	Weather Condition	: Partly Cloudy

NABL Accredited				
Discipline :	Chemical	Group :	: Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	62	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	37	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	10.8	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	26.3	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.011	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



Authorised Signatory Dr. Deependra Kumar Sinha

**** End of Report****

Ph. D. Environmental Engla. ELES Pvt. Ltd. Technicar Manag

Page 1 of 1

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-R34003 (IHARKHAND) GST ND:- 20AAECE9713D124

FOINEERING 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/2023/3377	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/2944 : Near Weigh Bridge Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	: 15.08.2023 to 16.08.2023 : 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 INFORM	IATION	14.1		
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg	s) : 734
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Engl. ELES Pvi. Ltd. Technical Menager

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

NGINEERING SERVICES PVT. LTD

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



 TEST REPORT

 Test Report No.
 : ELES/RNC/2023/3378
 Report Release Date
 : 09.09.2023

 Work Order No.
 : 13612310218
 Work Order Date
 : 21.04.2023

 ULR No.
 : TC883923000002146F

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2945 : BKB Quarry Serengdag-A Bauxite Mine: : 15.08.2023 to 16.08.2023
Address	: Lohardaga, Jharkhand-835302 : Operational	Sample Received Date Type of Sample Sampling Procedure	: 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02
Mines Status		Sample Drawn By	: ELES Pvt. Ltd.
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Scaled & Preserved

1	Average Temperature (°C) : 26	2	Barometric Pressure (mm)	Hg) :734
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

NABL Accredited					
Discipline :	Discipline : Chemical				
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	52	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	26	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	6.4	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.1	80 (24hrs)	
Ozone (O3)	µg/mª	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	ug/m*	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	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/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)	



Authorised Signatory Dr. Deependra Kumar Sinha

****End of Report****

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

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-R34003 (IHARKHAND) GST NO:- 20AAECE9713D124

VOINEERING SERVICES PYT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/3378	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/2945 : BKB Quarry 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	2 Operational	Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (%C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

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

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



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

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ING SERVICES PVT. LTD.

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



TE	ST REPORT	
LES/RNC/2023/3379	Report Release Date	: 09.09.2023
612310218	Work Order Date	: 21.04.2023
C883923000002147F		
	SAMPLE DETAILS	
	ES/RNC/2023/3379 612310218	612310218 Work Order Date 2883923000002147F

COSTOMER DEL/	ALLS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	:: ELES/RNC/2023/AA/2946 :: Mine Pit Quarry No.2A Serengdag-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	3 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	

	M	ETEOROLOGICAL INFO	RMATION		
1	1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)
1	3	Relative Humidity (%)	: 64	4	Weather Condition

3	Relative Humidity (%	5) : 64

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	42	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	22	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	15 5182 (Part-2); 2001; RA2022	5.7	80 (24hrs)
Nitrogen Di-Oxide (NO1)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	18.1	80 (24hrs)
Ozone (O1)	µg/m ²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m ²	1S 5182 (Part-26);2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



Authorised Signatory Sinha

: 734

: Partly Cloudy

****End of Report****

Ph. D. Environmental Engg 1175

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/3379	Report Release Date	: 09.09.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location Sampling Date	: ELES/RNC/2023/AA/2946 : Mine Pit Quarry No.2A Serengdag-A Bauxite Mines : 15.08.2023 to 16.08.2023	
Address Mînes Status	: Lohardaga, Jharkhand-835302	Sample Received Date Type of Sample Sampling Procedure	: 19.08.2023 : Ambient Air : ELES/DOC/SMPL/02	
Constant August		Sample Drawn By	: ELES Pvt. Ltd.	
Period of Analysis	± 19,08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFORMATIO	N		
1	Average Temperature (°C) : 26	2	Barometric Pressure (mm	1Hg) : 734
3	Relative Humidity (%) : 64	4	Weather Condition	: Partly Cloudy

Discipline	: Chemical	Group : Atmospheric Pollution				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ³	1S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ⁸	1S:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinita Ph. D. Environmental Engo ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D324

CONTINUES SERVICES PYT. LT



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

Test Report No.	: ELES/RNC/2023/3380	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002148F		

CUSTOMER DET/	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2947 : Mine Pit Quarry No.2B Serengdag-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

1.001	ELEOROLOGICAL INFOR	CHEAT TOTAL			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

NABL Accredited Discipline :	Chemical	Group	Atmospheri	e Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	1S 5182 (Part-23): 2006; RA2022	46	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	24	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	5.5	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.8	80 (24hrs)
Ozone (O ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ^T	1S 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)
Nickel (Ni)	ng/m?	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)



Dr. Deepend Signification Sinha Ph. D. Environmental Engg

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Page 1 of 1

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

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

	TE	ST REPORT	and the second	
Test Report No.	: ELES/RNC/2023/3380	Report Release Date	: 09.09.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DET/	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindaleo Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/2947 : Mine Pit Quarry No.2B 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		

MI	TEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 734
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

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

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



****End of Report****

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Page 1 of 1

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

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



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			

TEST REPORT

CUSTOMER DET/	AILS	SAMPLE DETAILS	and the second se
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	: 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 PvL Ltd.
Period of Analysis	: 19.08.2023 to 29.08.2023	Sample Condition	: Sealed & Preserved

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

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	43	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	19	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2); 2001; RA2022	<5,0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	10.7	80 (24hrs)
Ozone (O1)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	15 5182 (Pari-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m ³	1S 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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

WOINTERING 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/2023/3381	Report Release Date	: 09.09.2023	1	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: ELES/RNC/2023/AA/2948 : Near Banjari Village Serengdag-A Bauxite Mines : 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	

MI	ETEOROLOGICAL INFORM	MATION			
1	Average Temperature (*C)	: 26	2	Barometric Pressure (mmH)	g) : 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

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

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



****End of Report****

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

Page 1 of 1

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

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



	TES	T REPORT	
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	Sample Ref. No.	: ELES/RNC/2023/AA/2949

Address	: Lohardaga, Jharkhand-835302	Location Sampling Date Sample Received Date Type of Sample Sampling Procedure	: Near Pauri Village Serengdag-A Bauxite Mines : 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

MI	ETEOROLOGICAL INFOR	MATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	±735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

NABL Accredited		Group :	A America Brand	Dellution
Discipline :	Atmospheri			
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	50	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	27	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	6.8	80 (24hrs)
Nitrogen Di-Oxide (NO1)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	14.4	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (Shrs)
Ammonia (NH3)	µg/m ³	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.008	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)



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

****End of Report****

Page 1 of 1

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

VUINEERING SERVICES PVT. LTD.

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

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	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	Serengdag-A Bauxite Mines : 15.08.2023 to 16.08.2023 : 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 INFO	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHj	g) : 735
3	Relative Humidity (%)	: 64	4	Weather Condition	: Partly Cloudy

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene*	µg/m ²	1S:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)	
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

Page 1 of 1

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Period of Analysis

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

: 19.08.2023 to 29.08.2023

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/2023/3383	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002151F		
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name Address	er Name : Hindalco Industries Limited Sample Ref. No. Location : Lohardaga, Jharkhand-835302 Sampling Date Sample Received Date Type of Sample	Location Sampling Date Sample Received Date	: ELES/RNC/2023/AA/2950 : Near Harup Village Serengdag-A Bauxite Mines : 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.

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

Sample Condition

NABL Accredited				
Discipline :	Chemical	Group	: Atmospheri	c Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	1S 5182 (Part- 24): 2019	19	60 (24hrs)
Sulphur Di-Oxide (SO ₂)	µg/m ³	1S 5182 (Part-2): 2001; RA2022	5.4	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	10.5	80 (24hrs)
Ozone (O3)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	< 0.002	1 (24hrs)
Nickel (Ni)	ng/m ¹	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Reviewed by

Authorised Signatory Dr. Deependra Kumar Sinha

: Sealed & Preserved

****End of Report****

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

Page 1 of 1

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

GINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/3383	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/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 (mmH	g) :735
3	Relative Humidity (%)	: 66	4	Weather Condition	: Partly Cloudy

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. O. Environmental Ergg ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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

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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/2023/3384	Report Release Date	: 09.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
ULR No.	: TC883923000002152F		
CUSTOMER DET	AILS	SAMPLE DETAILS	1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 /
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	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

1	Average Temperature (°C) : 24	2	Barometric Pressure (mm	Hg) :735
3	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/m ¹	IS 5182 (Part-23): 2006; RA2022	45	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ¹	IS 5182 (Part- 24): 2019	22	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	IS 5182 (Part-6): 2006; RA2022	16.7	80 (24hrs)
Ozone (O ₃)	µg/m ²	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.005	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

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Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Enga ELES Pvt. Ltd. Technical Wanage

****End of Report****

Page 1 of 1

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

NGINEERING SERVICES PVT. LTD.

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

TEST REPORT					
Test Report No.	: ELES/RNC/2023/3384	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/2951 Near Paintoli Village Serengdag-A Bauxite Mines
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 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				
Parameter	Unit	Test Protocol	Result	Regulatory Limit		
Benzene*	µg/m ³	IS:5182 (Part-11): 2006;RA2017	<1.0	05(Annual)		
Benzo (a) Pyrene*	ng/m ³	IS:5182 (Part-12): 2004;RA2019	<0.5	01(Annual)		

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



**** End of Report****

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

Page 1 of 1

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

NOINCERING SERVICES PYT. 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/2023/1728	Report Release Date	: 10.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DE	TAILS	SAMPLE DETAILS	
Customer Name	Hindalco Industries Limited	Sample Ref. No. Sampling Date	: ELES/RAN/2023/DW/1615 : 10.08 2023

: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date Type of Sample Source/Location of Sample Sampling Procedure Sampling Collected By	: 10.08.2023 : 28.08.2023 : Drinking Water : Serengdag-A Bauxite Mines (155.81ha) : ELES/DOC/SMPL/01 : ELES Pvt. Ltd.
: Operational	Sample Collected By	
: 28.08.2023 to 09.09.2023	Sample Condition	: Sealed & Preserved
	: Lohardaga, Jharkhand-835302 : Operational : 28.08.2023 to 09.09.2023	: Lohardaga, Jharkhand-835302 : Operational Sample Received Date Type of Sample Source/Location of Sample Sampling Procedure Sample Collected By

Discipline : Chem	ical	Group : Water		Regulatory Limit as per IS 10500:2012	
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible Limit
pH (at 24.7°C)	-	APHA 23rd Ed.2017, 4500-H*	6.76	6.5-8.5	No Relaxation
Turbidity	NTU	APHA 23rd Ed.2017, 2130 B	0.38	1.0	5.0
Taste	1.4	APHA 23" Ed.2017, 2160 C	Agreeable	Agreeable	Agreeable
Odour	-	IS 3025 (Part-5) :2018	Agrecable	Agreeable	Agreeable
Colour	Hazen	APHA 23 nd Ed.2017, 2120B&D	1.0	5	15
Total Dissolved Solids (TDS)	mg/L	APHA 23rd Ed.2017, 2540B,C&D	332	500	2000
Chloride (as Cl)	mg/L.	APHA 23rd Ed.2017, 4500 Cl B	72.8	250	1000
Fluoride (as F)	mg/L	APHA 23'd Ed.2017, 4500 F-D	BDL (DL: 0.1)	0,1	1.5
Total Alkalinity (as CaCO3)	mg/L	APHA 23rd Ed.2017, 2320 B	108	200	600
Total Hardness (as CaCO ₃)	mg/L	APHA 23rd Ed.2017, 2340 C	156	200	600
Sulphate (as SO4)	mg/L	APHA 23rd Ed.2017, 4500 SO42-E	24.4	200	400
Nitrate (as NO3)	mg/L	APHA 23 rd Ed.2017, 4500 NO ₃ -B	2.48	45	No Relaxation
Phenolic Compound (as C ₀ 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 (JHARKHAND) GYT ND:- 20AAECE9713D124

NGENEERING SERVICES PVT. LTB.

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

CIN: U749990420189TC011125

	TES	TREPORT	
Test Report No.	: ELES/RAN/2023/1728	Report Release Date	: 10.09.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipl	ine : Che	mical Group : W	ater		ory Limit
mach	I SHE	and the second sec	1	as per IS Acceptable	10500:2012 Permissible
Parameter	Unit	Test Protocol	Result	Limit	Limit
Cyanide (as CN)	mg/L	APHA 23rd 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	37.8	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	1S 3025(Part-57): 2005; RA2021	BDL (DL: 0.2)	0.5	1.0
Cadmium (as Cd)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.003)	0.003	No Relaxation
Total Chromium (as Cr)	mg/L	APHA 23 ⁴⁴ Ed.2017, 3111B	BDL (DL: 0.03)	0,05	No Relaxation
Copper (as Cu)	mg/L	APHA 23rd Ed.2017, 3111B	BDL (DL: 0.03)	0.05	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017, 3111B	0.224	1.0	1.0
Lead (as Pb)	mg/L	APHA 23** Ed.2017, 3111B	BDL (DL: 0.01)	0.01	No Relaxation
Manganese (as Mn)	mg/L	APHA 23 nd 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 2310 Ed.2017, 3111B	BDL (DL: 0.1)	5	15

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97110124

VEINEERING SERVICES PVT. LTD.

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CIN: U749999H20287TC012125

TEST REPORT				
Test Report No.	: ELES/RAN/2023/1728	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 1S 10500:2012
Pesticides		and the second second second		
Alachlor*	µg/L	APHA	BDL (DL: 1.0)	20
Atrazine*	µg/L	АРНА	BDL (DL: 1.0)	2
Aldrin/Dieldrin*	µg/L	АРНА	BDL (DL: 0.01)	0.03
Alpha HCH*	µg/L	APHA	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	АРНА	BDL (DL: 10)	30
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	АРНА	BDL (DL: 0.5)	í.
Endosulfan (alpha, beta, and sulphate)*	µg/L	АРНА	BDL (DL: 0.1)	0.4
Ethion*	μg/L	АРНА	BDL (DL: 0.5)	3
Gamma HCH (Lindane)*	µg/L	АРНА	BDL (DL: 0.5)	2
Isoproturon*	µg/L	АРНА	BDL (DL: 0.5)	9

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE97150124

NOINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RAN/2023/1728	Report Release Date	: 10.09.2023	
Work Order No.	: 13612310218	Work Order Date	± 21.04.2023	

Discipline : Bi	iological	Group : V	Water	And the second sec	ory Limit
succession and a second second		oroup .	as per IS 10500:2012		
Parameter	Unit	Test Protocol	Result	Acceptable	Permissible Limit
Total Coliform	Per 100 mL	IS 15185:2016; RA 2021	Not Detected	Shall not	he 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	
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****

Authorised Signatory Rekha Saxena B. Sc. M. Sc. (Botany) Director (F) T S Pht. Ltd.

Page 4 of 4

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

GINEERING SERVICES PVT. LTD.

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	<u>11</u>	EST REPORT		
Test Report No.	: ELES/RNC/2023/3977	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, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2023/AA/3394 : Near Weigh Bridge Serengdag-A Bauxite Mines (155.81ha)	
	a source angel and the source of	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 Pvt. Ltd. : Scaled & Preserved	

I.	Average Temperature (°C) : 26	2	Barometric Pressure (mm	Hg) 1736
3	Relative Humidity (%) : 65	4	Weather Condition	: Partly Cloudy

Discipline : Chemics	al	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	51	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	30	60 (24hrs)	
Sulphur Di-Oxide (SO2)	μg/m ³	IS 5182 (Part-2): 2001; RA2022	7.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	15 5182 (Part-6): 2006; RA2022	20.8	80 (24hrs)	
Ozone (Q ₁)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ²	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m²	ELES/AIR/SOP/01	<2.0	06 (Annual)	

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

NGINEERING SERVICES PVT. LTD.

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

	TES	T REPORT	
Test Report No.	: ELES/RNC/2023/3978	Report Release Date	: 28,10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET.	AILS	SAMPLE DETAILS	
Contains de Manue	1 (197) a distance the descent of the Part of	C L D C M	The state is the second state of the second

a state that a state of the sta	the second se	the set was report to set a table to the	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3395 : BKB Quarry
Address	: Lohardaga, Jharkhand-835302		Serengdag-A Bauxite Mines (155.81ha)
		Sampling Date	: 10.09.2023 to 11.09.2023
	1. A	Sample Received Date Type of Sample	: 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

	Average Temperature (°C) :	26	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	.65	4	Weather Condition	: Partly Cloudy

Discipline : Chemica	il .	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	44	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	23	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	14.1	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH ₃)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)	
Arsenic (As)	ng/m'	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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

NGINEERING SERVICES PVT. LTD.

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

- PPP	Contra 1	$\mathbf{D} \mathbf{E}$	DO	
- 1 B	ST	кв.	PU 2	кг
	Sec. 81.		a	

Test Report No.	: ELES/RNC/2023/3978	Report Release Date	: 28.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

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

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



****End of Report****

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

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

CINEERING SERVICES PVT. LTD.

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	TES	T REPORT	
Test Report No.	: ELES/RNC/2023/3979	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/3396 : Mine Pit Quarry No.2A Screngdag-A Bauxite Mines

Address	: Lohardaga, Jharkhand-835302		(155.81ha)
		Sampling Date	: 10.09.2023 to 11.09.2023
		Sample Received Date	: 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

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

Discipline : Chemica	at	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	34	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	17	60 (24hrs)	
Sulphur Di-Oxide (SO ₂)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	13.8	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m*	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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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20AAECE9713D124

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TECT	DP	DAD	ч
TESI	KE.	ruk	з

Test Report No.	: ELES/RNC/2023/3979	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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



****End of Report****

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

Page 2 of 2

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

ENGINEERING SERVICES PVT. LTD.

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

	<u>11</u>	ST REPORT		
Test Report No.	: ELES/RNC/2023/3980	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3397 : Mine Pit Quarry No.2B Serengdag-A Bauxite Mines (155.81ha)
	: 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

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

Discipline : Chemic:	al	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	39	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	12.5	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25); 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m3	IS 5182 (Part-22): 2004; RA2019	0.004	1 (24hrs)
Nickel (Ni)	ng/m ³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ²	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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

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TEST REPORT				
Test Report No.	: ELES/RNC/2023/3980	Report Release Date	: 28.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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



****End of Report****

Authorised Signatory Dr. Deependra Kumar Sinha Ph. D. Environmental Erigg, ELES Pyt. Ltd. Technical Manager

Page 2 of 2

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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	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3398 : Near Banjari Village Serengdag-A Bauxite Mines	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(155.81ha) : 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	

METEOROLOGICAL INFORMATION

Average Temperature (°C) : 25	2	Barometric Pressure (mm	Hg) : 736
3 Relative Humidity (%) : 66	.4.	Weather Condition	: Partly Cloudy

Discipline : Chemics	ıl	Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m ³	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 (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5,0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m³	IS 5182 (Part-6): 2006; RA2022	12.4	80 (24hrs)
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)
Ammonia (NH3)	µg/m [®]	1S 5182 (Part- 25): 2018	<10.0	400 (24hrs)
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m [#]	IS 5182 (Part-22): 2004; RA2019	<0.002	J (24brs)
Nickel (Ni)	ng/m³	IS 5182 (Part-26):2020	<6.0	20 (Annual)
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01	<2.0	06 (Annual)

Page 1 of 2

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

Discipline : Chemical		Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	µg/m ¹	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



****End of Report****

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

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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 DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2023/AA/3399 : Near Pauri Village Serengdag-A Bauxite Mines (155.81ha)	
right 55	: 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	

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

Discipline : Chemics	al	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	43	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	21	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2); 2001; RA2022	5.3	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ¹	15 5182 (Part-6): 2006; RA2022	11.8	80 (24hrs)	
Ozone (O ₃)	µg/m ³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m?	IS 5182 (Part- 25): 2018	<10.0	-400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	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)	ng/m ¹	ELES/AIR/SOP/01	<2.0	06 (Annual)	

Page 1 of 2

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

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



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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	Sample Ref. No. Location	: ELES/RNC/2023/AA/3400 : Near Harup Village Serengdag-A Bauxite Mines
Address	: Lohardaga, Jharkhand-835302	Sampling Date Sample Received Date	(155.81ha) : 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

1	Average Temperature (°C)	:25	2	Barometric Pressure (mmHg)	: 736
3	Relative Humidity (%)	: 66		Weather Condition	: Partiy Cloudy

Discipline : Chemics	al	Group : A	Atmospheric	Pollution
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m³	1S 5182 (Part-23): 2006; RA2022	38	100 (24hrs)
Particulate Matter (PM2.5)	µg/m ³	IS 5182 (Part- 24): 2019	17	60 (24hrs)
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)
Nitrogen Di-Oxide (NO2)	µg/m ¹	15 5182 (Part-6): 2006; RA2022	11.7	80 (24hrs)
Ozone (O3)	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/m [#]	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	<0.002	1 (24hrs)
Nickel (Ni)	ng/m ⁷	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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	TE	ST 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 : Chemi	cal	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Benzene (C ₆ H ₆)*	µg/m ³	IS 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	IS 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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

Reviewed by

****End of Report****

Authorised Signatory

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

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	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 Mines Status	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Sample Received Date Type of Sample	: ELES/RNC/2023/AA/3401 : Near Paintoli Village Serengdag-A Bauxite Mines (155.81fta) : 10.09.2023 to 11.09.2023 : 29.09.2023 : Ambient Air
Period of Analysis	: 29.09.2023 to 10.10.2023	 Sampling Procedure Sample Drawn By Sample Condition 	: ELES/DOC/SMPL/02 : ELES Pvt. Ltd. : Sealed & Preserved

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

Discipline : Chemica	d	Group : Atmospheric Pollution			
Parameter	Unit	Test Protocol	Result	Regulatory Limit	
Particulate Matter (PM10)	µg/m ³	IS 5182 (Part-23): 2006; RA2022	40	100 (24hrs)	
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	20	60 (24hrs)	
Sulphur Di-Oxide (SO2)	µg/m ³	IS 5182 (Part-2): 2001; RA2022	<5.0	80 (24hrs)	
Nitrogen Di-Oxide (NO2)	µg/m ³	IS 5182 (Part-6): 2006; RA2022	15.2	80 (24hrs)	
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2019	<20.0	100 (8hrs)	
Ammonia (NH3)	µg/m ³	IS 5182 (Part- 25): 2018	<10.0	400 (24hrs)	
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	<1.0	2 (8hrs)	
Lead (Pb)	µg/m ³	IS 5182 (Part-22): 2004; RA2019	0.007	1 (24hrs)	
Nickel (Ni)	ng/m ⁸	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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ENGINEERING SERVICES PVT. LTD.

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

	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/3984	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 (C6H6)*	µg/m³	1S 5182 (Part-11)2006;RA2017	<1.0	05(Annual)	
Benzo-(a)-Pyrene*	ng/m ³	1S 5182 (Part-12)2004;RA2019	<0.5	01(Annual)	

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



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

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	<u>T</u>	EST REPORT		
Test Report No.	: ELES/RNC/2023/4131	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	: 10.09.2023 to 11.09.2023 : 30.09.2023 : Ambient Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 30.09.2023 to 10.10.2023	

METEOROLOGICAL INFORMATION				
1	Average Temperature (°C) : 26	2	Barometric Pressure (mmHg)	: 738
3	Relative Humidity (%) : 65		Weather Condition	: Partly Cloudy

Location	Location Unit Test Protocol Result		ult	Regulatory Limit (Industrial Zone)	
Near Mine Office			Time	Leq	
Serengdag- A Bauxite Mines (155.81ha)	dB(A)	IS 9989:1981, RA 2020	Day Time	Day Time 62 Day	75 dB(A) Day Time &
Sample ID: ELES/RNC/2023/AN/3523		NA 2020	Night Time	49	70 dB(A) Night Time

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	TE	ST REPORT		
Test Report No.	: ELES/RNC/2023/4153	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	: 10.09.2023 : 30.09.2023 : Workzone Noise : ELES/DOC/SMPL/03 : ELES Pvt. Ltd.	
Mines Status	: Operational	Period of Analysis	: 30.09.2023 to 11.10.2023	

METEOROLOGICAL INFORMATION 1 Average Temperature (°C) : 25 2 Barometric Pressure (mmHg) : 734 3 Relative Humidity (%) : 66 4 Weather Condition : Partly Cloudy

Location	Unit	Test Protocol	Rest	ult	Regulatory Limit (Industrial Zone)
Near Poclain -			Time	Leq	
Serengdag-A Bauxite Mines (155.81ha)	dB(A)	IS 4758:1968; RA 2017	Destination		90 dB (A)
ample ID: LES/RNC/2023/WN/3545			Day Time	73	



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Test Report No.	: ELES/RNC/2023/4101	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	 Hindalco Industries Limited Lobardaga, Jharkhand-835302 Operational 	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Sampling Procedure	: ELES/RNC/2023/EF/3489 : 10.09.2023 : 29.09.2023 : Effluent Water : Serengdag-A Bauxite Mines (155.81 ha) : ELES/DOC/SMPL/01
Period of Analysis	29.09.2023 to 06.10.2023	Sample Collected By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved

TEST REPORT

Discipline: Chemical		Group: Pollution & E	invironment	Discharge Limits - C EPR, 1986 Schedule	
Parameter	Unit	Test Protocol	Result	Inland Surface Water	Land for Irrigation
Dissolved Oxygen (as DO)	mg/L	IS 3025 (Part-38):1989; RA2019	5.8	-	-
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.168	2.0	-
Sulphide (as S)	mg/L	IS 3025 (Part-29) :1986; RA2019	0.24	2.0	- 40
Discipline: Chemical		Group: Residues in Water			
Lead (as Pb)	mg/L	APHA 23rd Ed.2017; 3111 B	BDL (DL: 0.01)	0.1	
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017; 3111 B	BDL (DL: 0.05)	2.0	÷
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	0.01	·
Nickel (as Ni)	mg/L	APHA 23 rd Ed.2017; 3111 B	BDL (DL: 0.01)	3.0	щ

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4104	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

CUSTOMER DET.	AILS	SAMPLE DETAILS	
Customer Name	: Hindaleo Industries Limited	Sample Ref. No. Sampling Date Sample Received Date	: ELES/RNC/2023/SW/3496 : 10.09.2023 : 29.09.2023
Address	: Lohardaga, Jharkhand-835302	Type of Sample Source of Sample Location of Sample	Surface Water Spring Water Serengdag-A Bauxite Mines (155.81ha)
Mines Status	: Operational	Sampling Procedure Sample Collected By	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd.
Period of Analysis	: 29.09.2023 to 17.10.2023	Sample Condition	1 Sealed & Preserved

Discipline : Chemic	cal	Group	: Water	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 24.9 °C)		IS 3025 (Part 11): 2022	6.55	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) : 2021	4.0	300
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	-
Taste		APHA 23rd Ed.2017, 2160 C	N/A	-
Turbidity	mg/L	IS 3025 (Part-10) :1984;RA2017	0.76	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	186	1500
Total Alkalinity (as CaCO ₃)	mg/L	IS 3025 (Part-23) :1986; RA2019	48.9	
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2009; RA2019	75.6	
Sulphate (as SO4)	mg/L	IS 3025 (Part 24) : 1986; RA2019	3.9	400
Nitrate (as NO ₃)	mg/L	APHA 23rd Ed.2017, 4500 NO3 -B	1.16	50
Chloride (as Cl)	mg/L	IS 3025 (Part-32) :1988; RA2019	7.6	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	BDL (DL: 0.1)	1.5
Cyanide (as CN)	mg/L	APHA 23rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05
Phenols Compounds (as C ₆ H ₅ OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.0005)	0.005

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4104	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipline: C	Chemical	Group: Wate	er	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per 1S 2296-1992 Class C (Inland Surface Water
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991;RA2019	20	-
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0.1)	
Discipline: Cl	hemical	Group: Residu		
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	τ
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	
Cadmium (as Cd)	mg/L	APHA23 rd Ed.2017; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)	4
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017; 3111B	0.331	50
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 23 rd Ed.2017; 3111 B	BDL (DL: 0.05)	1
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0,001)	7
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 23 nd Ed.2017, 3111 B	BDL (DL: 0.1)	15
Discipline: Bi	ological	Group: Wat	the second descent of the second descent of the second descent desc	
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	1.36×10 ²	5000
Escherichia Coli	CFU/100 mL	IS 15185:2016; RA2021	9.0	

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4104	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

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

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

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****End of Report****

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

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Test Report No.	: ELES/RNC/2023/4113	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address Mines Status	 Hindalco Industries Limited Lohardaga, Jharkhand-835302 Operational 	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample Sampling Procedure	: ELES/RNC/2023/SW/3505 : 10.09.2023 : 29.09.2023 : Surface Water : Up Stream : Kanchki Nadi, Serengdag-A Bauxite Mines (155.81 ha) : ELES/DOC/SMPL/01
Period of Analysis	: 29.09.2023 to 17.10.2023	Sample Collected By Sample Condition	ELES Pvt. Ltd. Sealed & Preserved

Discipline: Chemics	al	Group: Water	G	Tolerance Limits
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
pH (at 25.1 °C)	1.4	IS 3025 (Part 11) : 2022	6.96	6.5-8.5
Colour	Hazen	IS 3025 (Part -4) : 2021	8.0	300
Odour	100	IS 3025 (Part-5) : 2018	Unobjectionable	
Taste	10	APHA 23rd Ed.2017, 2160 C	N/A	-
Turbidity	mg/L	IS 3025 (Part-10) :1984;RA2017	11.3	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	188	1500
Total Alkalinity (as CaCO3)	mg/L	IS 3025 (Part-23) :1986; RA2019	69.3	
Total Hardness (as CaCO ₃)	mg/L	18 3025 (Part-21) : 2009; RA2019	79.0	-
Sulphate (as SO4)	mg/L	IS 3025 (Part 24) : 1986; RA2019	9.2	400
Nitrate (as NO3)	mg/L	APHA 23rd Ed.2017, 4500 NO3-B	1.18	50
Chloride (as Cl)	mg/L	IS 3025 (Part-32) :1988; RA2019	24.7	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.142	1.5
Cyanide (as CN)	mg/L	APHA 23 rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) G5T NO:- 20AAECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

		TEST	REPORT		
Test Report No. :	ELES/RNC/202	3/4113	Report Release Da	ite : 31.10.	2023
Work Order No.	13612310218		Work Order Date	: 21.04.	2023
Discipline:	Chemical		Group: Wat	ér	Tolerance Limits
Parameter	Unit	1	"est Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
Phenols Compounds (as C ₆ H ₃ OH)	mg/L	IS 3025 (P	art-43): 1992;RA2019	BDL (DL: 0.0005)	0.005
Calcium (as Ca)	mg/L	IS 3025 (P	art-40): 1991;RA2019	21	-
Free Residual Chlorine (RFC)	mg/L	IS 302	25 (Part-26) :2021	BDL (DL: 0.1)	-

Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0.1)	-
Discipline: C	hemical	Group: Residu	the reader of the second se	
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003: RA2019	BDL (DL: 0.02)	-
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	*
Cadmium (as Cd)	mg/L	APHA23 rd Ed.2017; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)	**
Copper (as Cu)	mg/L	APHA 23 ^{nt} Ed.2017; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 23 rd Ed.2017; 3111B	0.269	50
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL (DL: 0.01)	.0.1
Manganese (as Mn)	mg/L	APHA 23 nd Ed.2017; 3111 B	BDL (DL: 0.05)	4
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	*
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 23 ^{ed} Ed.2017, 3111 B	BDL (DL: 0.1)	15
Discipline: Bi	ological	Group: Wate	er -	
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	9.27×10 ²	5000
Escherichia Coli	CFU/100 mL	JS 15185:2016; RA2021	9.0	-

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

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TEST REPORT				
Test Report No.	: ELES/RNC/2023/4113	Report Release Date	: 31.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline: Chemical		Group:	Water
Parameter	Unit	Test Protocol	Result
Anionic Surfactants (as MBAS)*	mg/L	IS 3025 Part 68	<0.1
Mineral Oil*	mg/L	CL-6, 1S: 3025 (P-39)	<0.1
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23rd Edition	<0.0001
Pesticides			
Alachlor*	µg/L	APHA	<1.0
Atrazine*	µg/L	АРНА	<1.0
Aldrin/Dieldrin*	µg/L	APHA	<0.01
Alpha HCH*	µg/L	APHA	<0.001
Beta HCH*	µg/L	APHA	<0.01
Butachlor*	µg/L	APHA	<10
Chlorpyriphos*	µg/L	АРНА	<10
Delta HCH*	µg/L	АРНА	< 0.01
2,4 dichlorophenoxyacetic acid*	µg/L	APHA	<10
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	АРНА	<0.5
Endosulfan (alpha, beta, and sulphate)*	µg/L	АРНА	<0.1
Ethion*	µg/L	АРНА	<0.5
Gamma HCH (Lindane)*	µg/L	APHA	<0.5
Isoproturon*	µg/L	APHA	<0.5

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

Nume Reviewed by

****End of Report****

Dr. O. Environmental Engg.

ELES Pvt. Ltd. Technical Manager

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ENGINEERING SERVICES PVT. L

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	TES	T REPORT	
Test Report No.	: ELES/RNC/2023/4114	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2023/SW/3506 : 10.09.2023 : 29.09.2023 : Surface Water : Up Stream : Serengdag Nadi, Serengdag-A Bauxite Mines (155.81 ha)
Mines Status Period of Analysis	: Operational : 29.09.2023 to 17.10.2023	Sampling Procedure Sample Collected By Sample Condition	: ELES/DOC/SMPL/01 : ELES Pvt. Ltd. : Sealed & Preserved

Discipline: Chemical		Group: Water	Group: Water	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water)
pH (at 25.1 °C)	1.1	IS 3025 (Part 11) : 2022	6.54	6,5-8,5
Colour	Hazen	IS 3025 (Part -4) : 2021	10	300
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable	
Taste		APHA 23rd Ed.2017, 2160 C	N/A	
Turbidity	mg/L	IS 3025 (Part-10) :1984;RA2017	8.16	
Total Dissolved Solids (TDS)	mg/L	1S 3025 (Part 16):1984; RA2017	174	1500
Total Alkalinity (as CaCO3)	mg/L	IS 3025 (Part-23) :1986; RA2019	61.2	-
Total Hardness (as CaCO ₃)	mg/L	IS 3025 (Part-21) : 2009; RA2019	71.1	-
Sulphate (as SO ₄)	mg/L	IS 3025 (Part 24) : 1986; RA2019	5.4	400
Nitrate (as NO3)	mg/L	APHA 23rd Ed.2017, 4500 NO3-B	1.43	50
Chloride (as Cl)	mg/L	IS 3025 (Part-32) :1988; RA2019	20.9	600
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.144	1.5
Cyanide (as CN)	mg/L	APHA 23 st Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05

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TEST REPORT

Test Report No.	: ELES/RNC/2023/4114	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023
The office of the	1 15012510218	work Order Date	: 21.04.2023

Discipline: Chemical		Group: Wat	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
Phenols Compounds (as C ₆ H ₃ OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.0005)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991;RA2019	18.9	- 2-
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0.1)	
Discipline: C	hemical	Group: Residu		
Aluminium (as Al)	.mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	-
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	
Cadmium (as Cd)	mg/L	APHA23 rd Ed.2017; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/1.	APHA 23rd Ed.2017; 3111B	BDL (DL: 0.03)	-
Copper (as Cu)	mg/L.	APHA 23rd Ed.2017; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017; 3111B	0.412	50
Lead (as Pb)	mg/L	APHA 23 rd Ed.2017, 3111 B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017; 3111 B	BDL (DL: 0.05)	*
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	44
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0.05
Zine (as Zn)	mg/L	APHA 23 ^{cd} Ed.2017, 3111 B	BDL (DL: 0.1)	15
Discipline: Bio		Group: Wate	r	
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	1.72×10 ³	5000
Escherichia Coll emarks: 1. pH & RFC done a	CFU/100 mL	IS 15185:2016; RA2021	BDL (DL: 1.0)	÷

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

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/2023/4114	Report Release Date	: 31.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

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

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****End of Report****

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

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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/2023/4120	Report Release Date	: 31.10.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		
CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2023/SW/3512 : 10.09.2023 : 29.09.2023 : Surface Water : Down Stream : Kanchki Nadi, Serengdag-A Bauxite Mines (155.81 ha)		
Mines Status	: Operational	Sampling Procedure	: ELES/DOC/SMPL/01		
Period of Analysis	: 29.09.2023 to 17.10.2023	Sample Collected By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

Discipline: Chemical		Group: Water		Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Wate	
pH (at 24.7 °C)	-	IS 3025 (Part 11) : 2022	6.50	6,5-8,5	
Colour	Hazen	IS 3025 (Part -4) : 2021	13	300	
Odour	1	IS 3025 (Part-5) ; 2018	Unobjectionable		
Taste	-	APHA 23rd Ed.2017, 2160 C	N/A	++	
Turbidity	mg/L	IS 3025 (Part-10) :1984;RA2017	5.6		
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part 16):1984; RA2017	314	1500	
Total Alkalinity (as CaCO3)	mg/L	IS 3025 (Part-23) :1986; RA2019	108		
Total Hardness (as CaCO3)	mg/L	IS 3025 (Part-21) : 2009; RA2019	124	++	
Sulphate (as SO4)	mg/L	1S 3025 (Part 24) : 1986; RA2019	7.4	400	
Nitrate (as NO3)	mg/L	APHA 23rd Ed.2017, 4500 NO3-B	1.74	50	
Chloride (as Cl)	mg/L	IS 3025 (Part-32) :1988; RA2019	38.9	600	
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.148	1.5	
Cyanide (as C <mark>N)</mark>	mg/L	APHA 23rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	

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TEST DEPODT

PLOT NO-30, MANSARDVAR ENCLAVE, TUPUDANA HATIA, RANCHI-R34003 (IHARKHAND) 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 No. : I	ELES/RNC/2023	/4120	Report Release Da	te : 31.10.	2023
Work Order No. : 13612310218			Work Order Date : 21.04.2023		
Discipline: C	Chemical		Group: Wat	er	Tolerance Limits
Parameter	Unit	Te	st Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
Phenols Compounds (as C6H5OH)	mg/L	IS 3025 (Par	1-43): 1992;RA2019	BDL (DL: 0.0005)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Par	t-40): 1991;RA2019	33	
Free Residual Chlorine (RFC)	mg/L	IS 3025	(Part-26) :2021	BDL (DL: 0.1)	-
Discipline: Cl	hemical		Group: Residu	es in Water	
Aluminium (as Al)	mg/L	IS 3025 (Part	1-55) :2003; RA2019	BDL (DL: 0.02)	241
Arsenic (as As)	mg/L	IS 3025	(Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021		BDL (DL: 0.2)	-
Cadmium (as Cd)	mg/L	APHA23 rd Ed.2017; 3111B		BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 23rd Ed.2017; 3111B		BDL (DL: 0.03)	÷
Copper (as Cu)	mg/L	APHA 23	^d Ed.2017; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 23	⁴ Ed.2017; 3111B	0.240	50
Lead (as Pb)	mg/L	APHA 23"	Ed.2017, 3111 B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 23 ⁿ	Ed.2017; 3111 B	BDL (DL: 0.05)	4
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019		BDL (DL: 0.001)	-
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019		BDL (DL: 0.01)	0.05
Zine (as Zn)	mg/L	APHA 23rd	Ed.2017, 3111 B	BDL (DL: 0.1)	15
Discipline: Bie			Group: Wate	er	
Total Coliform	CFU/100 mL	IS 15185	: 2016, RA2021	63	5000
Escherichia Coli emarks:1. pH & RFC done a	CFU/100 mL	IS 15185	:2016; RA2021	BDL (DL: 1.0)	

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

ENGINEERING SERVICES PVT. LTD.

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

TEST REPORT				
Test Report No.	: ELES/RNC/2023/4120	Report Release Date	: 31.10.2023	
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023	

Discipline: Che	emical	Group: Water		
Parameter	Unit	Test Protocol	Result	
Anionic Surfactants (as MBAS)*	mg/L	1S 3025 Part 68	<0.1	
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	<0.1	
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23 nd Edition	<0.0001	
Pesticides				
Alachlor*	µg/L	APHA	<1.0	
Atrazine*	µg/L	APHA	<1.0	
Aldrin/Dieldrin*	µg/L	АРНА	<0.01	
Alpha HCH*	µg/L	APHA	<0.001	
Beta HCH*	µg/L	АРНА	<0.01	
Butachlor*	µg/L	АРНА	<10	
Chlorpyriphos*	µg/L	АРНА	<10	
Delta HCH*	µg/L	APHA	<0.01	
2,4 dichlorophenoxyacetic acid*	µg/L	АРНА	<10	
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	АРНА	<0.5	
Endosulfan (alpha, beta, and sulphate)*	µg/L	APHA	<0.1	
Ethion*	µg/L	АРНА	<0.5	
Gamma HCH (Lindane)*	µg/L	APHA	<0.5	
Isoproturon*	µg/L	APHA	<0.5	

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

m Reviewed by

****End of Report****

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

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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/2023/4125	Report Release Date	: 31.10.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		
CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name Address	: Hindalco Industries Limited	Sample Ref. No. Sampling Date Sample Received Date Type of Sample Source of Sample Location of Sample	: ELES/RNC/2023/SW/3517 : 10.09.2023 : 29.09.2023 : Surface Water : Down Stream : Serengdag Nadi, Serengdag-A		
Mines Status	: Operational	Sampling Procedure	Bauxite Mines (155.81 ha) : ELES/DOC/SMPL/01		
Period of Analysis	: 29.09.2023 to 17.10.2023	Sample Collected By Sample Condition	: ELES Pvt. Ltd. : Sealed & Preserved		

Discipline: Chemica	d -	Group: Water		Tolerance Limits	
Parameter Unit		Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Wate	
pH (at 24.8°C)		IS 3025 (Part 11) : 2022	6.59	6.5-8.5	
Colour	Hazen	IS 3025 (Part -4) : 2021	4.0	300	
Odour	-	IS 3025 (Part-5) : 2018	Unobjectionable		
Taste	2	APHA 23rd Ed.2017, 2160 C	N/A	+	
Turbidity	mg/L	IS 3025 (Part-10) :1984;RA2017	6.8		
Total Dissolved Solids (TDS)	mg/L	1S 3025 (Part 16):1984; RA2017	264	1500	
Total Alkalinity (as CaCO3)	mg/L	IS 3025 (Part-23) :1986; RA2019	81.6		
Total Hardness (as CaCO3)	mg/L	IS 3025 (Part-21) : 2009; RA2019	120		
Sulphate (as SO4)	mg/L	IS 3025 (Part 24) : 1986; RA2019	6.3	400	
Nitrate (as NO3)	mg/L.	APHA 23rd Ed.2017, 4500 NO1-B	1.78	50	
Chloride (as Cl)	mg/L	IS 3025 (Part-32) :1988; RA2019	30.4	600	
Fluoride (as F)	mg/L	IS 3025 (Part-60) :2008; RA2019	0.174	1.5	
Cyanide (as CN)	mg/L	APHA 23 rd Ed.2017, 4500 CN-E	BDL (DL: 0.012)	0.05	

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

TEST REPORT

Test Report No.	: ELES/RNC/2023/4125	Report Release Date	: 31.10.2023
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023

Discipline: (Chemical	Group: Wat	Tolerance Limits	
Parameter	Unit	Test Protocol	Result	as per IS 2296-1992 Class C (Inland Surface Water
Phenols Compounds (as C ₆ H ₂ OH)	mg/L	IS 3025 (Part-43): 1992;RA2019	BDL (DL: 0.0005)	0.005
Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991;RA2019	32,1	-
Free Residual Chlorine (RFC)	mg/L	IS 3025 (Part-26) :2021	BDL (DL: 0,1)	-
Discipline: C	hemical	Group: Residu	the second se	
Aluminium (as Al)	mg/L	IS 3025 (Part-55) :2003; RA2019	BDL (DL: 0.02)	1.4
Arsenic (as As)	mg/L	IS 3025 (Part 37): 2022	BDL (DL: 0.005)	0.2
Boron (as B)	mg/L	IS 3025 (Part-57) :2021	BDL (DL: 0.2)	-
Cadmium (as Cd)	mg/L	APHA23 ^{sd} Ed.2017; 3111B	BDL (DL: 0.003)	0.01
Total Chromium (as Cr)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)	-
Copper (as Cu)	mg/L	APHA 23 rd Ed.2017; 3111B	BDL (DL: 0.03)	1.5
Iron (as Fe)	mg/L	APHA 23rd Ed.2017; 3111B	0.258	50
Lead (as Pb)	mg/L	APHA 23rd Ed.2017, 3111 B	BDL (DL: 0.01)	0.1
Manganese (as Mn)	mg/L	APHA 23rd Ed.2017; 3111 B	BDL (DL: 0.05)	
Mercury (as Hg)	mg/L	IS 3025 (Part-48) :1994; RA2019	BDL (DL: 0.001)	4
Selenium (as Se)	mg/L	IS 3025 (Part-56) :2003; RA2019	BDL (DL: 0.01)	0.05
Zinc (as Zn)	mg/L	APHA 23rd Ed.2017, 3111 B	BDL (DL: 0.1)	15
Discipline: Bi	ological	Group: Wate		
Total Coliform	CFU/100 mL	IS 15185: 2016, RA2021	9.27×10 ²	5000
Escherichia Coli	CFU/100 mL	IS 15185:2016; RA2021	81	**

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) 65T NO:- 200AECE9713D124

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/2023/4125	Report Release Date	: 31.10.2023		
Work Order No.	: 13612310218	Work Order Date	: 21.04.2023		

Discipline: Cho	emical	Group:	Group: Water		
Parameter	Unit	Test Protocol	Result		
Anionic Surfactants (as MBAS)*	mg/L	1S 3025 Part 68	<0.1		
Mineral Oil*	mg/L	CL-6, IS: 3025 (P-39)	<0.1		
Polynuclear Aromatic Hydrocarbons (PAH)*	mg/L	APHA 23rd Edition	<0.0001		
Pesticides					
Alachlor*	μg/L	APHA	<1.0		
Atrazine*	µg/L	APHA	<1.0		
Aldrin/Dieldrin*	µg/L	APHA	<0.01		
Alpha HCH*	µg/L	APHA	<0.001		
Beta HCH*	μg/L	APHA	<0.01		
Butachlor*	μg/I.	APHA	<10		
Chlorpyriphos*	µg/L	APHA	<10		
Delta HCH*	µg/L	АРНА	<0.01		
2,4 dichlorophenoxyacetic acid*	µg/L	АРНА	<10		
DDT(o,p and p,p-isomers of DDT,DDE and DDD)*	µg/L	АРНА	<0.5		
Endosulfan (alpha, beta, and sulphate)*	µg/L	АРНА	<0.1		
Ethion*	µg/L	АРНА	<0.5		
Gamma HCH (Lindane)*	µg/L	APHA	<0.5		
Isoproturoa*	µg/L	APHA	<0.5		

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

Small 1 Reviewed by

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

****End of Report****

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Annexure 3

Date - 28.10.2023

Office Order

Environmental Cell has been re-constituted at Sherengdag Bauxite Mine (Area 155.81 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. Shambhu Basisth (Coordinator)
- 2. Mr. Abhishek Kumar (Geologist)
- 3. Ms. Abhilasha Singh– Environment Engineer
- 4. Mr. Anand Prakash Tiwari Environment Engineer

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

Basudev Gangopadhyay AVP (Planning, Environment &Compliance)

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

Annexure 4

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

*Static information about the mines included in the above table



Basudev Gangopadhyay AVP (Planning, Environment and Compliance)

Annexure-5

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

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

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

**Part of OB removed cost.

Basudev Gangopadhyay AVP (Planning, Environment & Compliance)