

HIL/LHD/ENV/MoEF/383

Date: 25.11.2022

To, The Additional Principal Chief Conservator of Forest (C) Ministry of Environment, Forests and Climate Changes Regional Office (ECZ), Ranchi-834002.

Sub: Compliance Report of EC conditions for Bagru (75.41 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Lohardaga District of Jharkhand for the period April'22 to September'22.

Ref: Environmental Clearance letters no J-11015/585/2007-IA. II (M) dated 04th Feb 2011

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Bagru (75.41 ha)** Bauxite Mining project of **M/s Hindalco Industries Limited**, located in Lohardaga District of Jharkhand for the period April'22 to September'22. The lease detail is as below.

Lease area (ha)	Production Capacity (MT)	Lease Period
75.41	85000	22.01.1974 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours Sincerely FOR M/s Hindalco Industries Limited,

(Basudev Gangopadhyay)

AVP (Planning, Environment & Compliance)

Enclosure: - As Above

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

Name of the Project

: Bagru Bauxite Mine (75.41 ha) M/s Hindalco Industries Ltd

Environment Clearance No & date

: J-11015/585/2007-IA.II (M), dated 04.02.2011

Period of compliance Report

: From 1st April 2022 to 30th September 2022

S No	Conditions	Compliance Status
Specif	ic Conditions	
1	All the conditions stipulated by the State Pollution Control Board in their NOC should be effectively implemented.	Implementations of stipulated conditions in NOC are fulfilled post which consent to operate has been obtained from time to time when mine was operational. Presently Mine is not in operation since November 2013.
2	The environmental clearance is subject to grant of forestry clearance for diversion of 19.56 ha forestland.	Compensatory land for forest diversion has been identified and NOC from DFO, AC and Registrar has already been obtained. Registration and Mutation in favor of State Forest Department for CA land have been completed. Obtaining forest clearance is under process (Bagru FC proposal has been recommended by the DFO and CF and has been forwarded to Nodal for further needful action). Presently Mine is not in operation since November 2013.
3	The mining operation shall be restricted to above ground water table and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment & Forest and Central Ground Water Authority shall be obtained for which a detailed hydro-geological study shall be carried out.	No mining operation has been carried out during above period. The Mine is not in operation since November 2013. We undertake that no mining was carried out below ground water table and the same status will be maintained in future also.
4	The project proponent shall ensure that no natural water course and/or water resources	No mining operation was being carried out during above period. Mine is not in operation since

	shall be abstracted due to any mining	November 2013
	shall be obstructed due to any mining operations.	
	operations.	No natural water course /water resource was obstructed /will be obstructed due to mining operation.
5	Topsoil should be temporarily stacked with proper slope at earmarked site(s) only with adequate measures and it should not be kept unutilized for a period of more than 3 years. The topsoil shall be used for land reclamation and rehabilitation of mined out areas.	Sequential backfilling and reclamation of mined out area were exercised when mine was operational. No mining operation was being carried out during above period and as on date. Mine is not in operation since November 2013.
6	The entire waste generated shall be backfilled and there shall be no external over burden dump left at the end of the mine life. The entire backfilled area shall be reclaimed by plantation. The backfilling	No mining operation was being carried out during above period and as on date. Cumulative 32.05 ha areas have been planted till date.
	should be carried out in such a manner that it is restored to the normal ground level. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest and its Regional Office, Bhubaneshwar on six monthly basis.	Monitoring and management of rehabilitated areas is in progress through supervision. There is no active external dump. Old dumps are stabilized.
7	The void left unfilled in an area of 1.76 ha shall be converted into water body. The higher benches of excavated void/mining pit shall be traced and plantation done to stabilize the slopes. The slopes of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area.	The earlier mined out area converted into water body which still exist. No mining operation has been carried out during above period and as on date. Mine is not in operation since November 2013.
8	Catch drains and siltation ponds of appropriate size shall be constructed around the working pit, sub-grade dump, and	Mine is not in operation since November 2013. No mining operation was carried out during above period and as on date. Hence, no runoff was generated from mining activities. However, to

collect and manage rainwater during monsoon mineral dumps to arrest flow of silt and rains, pit sumps were made, part of mined out area sediment directly into Chanpi Nallah, Sukri were used as settling tank. Settled water was used Nadi and others water bodies. The water so for sprinkling of quarry, roads, green belt collected should be utilized for watering the development, etc. mine area, roads, green belt development etc. The drains should be regularly desilted, The compliance to this provision will further particularly after monsoon, and maintained continue post resumption of mining operation. properly. Garland drains settling tanks and Water harvesting pond and sump of adequate check dams of appropriate size, gradient capacity exist in lease area to harvest rainwater. and length shall be constructed for both around the mine pit and sub-grade dump to prevent run off of water and flow sediments directly into Chanpi Nallah, Sukri Nadi and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years date) and maximum discharge in the area adjoin the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals. The dimensions of retaining wall of OB dumps are Dimension of the retaining wall at the toe of based on average rain fall. The dump is stabilized. sub grade dump and OB benches within the The compliance to this provision was being mine to check run-off and siltation should practiced when mine was in operation and same be based on the rain fall data. will continue post resumption of mining operation. Mine is not in operation since November 2013. No active external dump exists in mine lease area. Plantation on Bagru plateau was carried out Plantation shall be raise in an area of 50.11 10 progressively. Till date 32.05 Ha areas is already ha including a 7.5m wide green belt in the planted. Total no of plantation is 83715 till date. safety zone around the mining lease by planting the native species around ML area, Bio park - A classic bio park (Birsa Upvan) has backfilled and reclaimed area, around water been created to validate that all species can grow. body, roads etc. in consultation with the We have also developed tea garden, strawberry local DFO/Agriculture Department. At least garden, spice garden, medicinal garden, Nakshatra

9

	1500 trees per year shall be planted with a tree density of 1000 trees per hectare.	Van, VR-DOME & butterfly garden to build unique Bio-diversity Park.
11	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the AAQ parameters conform to the norms prescribed by the central Pollution Control Board in this regard.	Water sprinkling is being carried out regularly. AAQ and water quality is monitored. Measured AAQ parameters reported are within permissible limit.
12	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.	System in place and same will continue in future post resumption of mining activity. Mine is not it operation since November 2013. Rainwater harvesting pond and sump is already it place as water conservation measures.
13	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, its Regional Office, Bhubaneshwar; Central Ground Water Authority and Central Ground Water Board.	We are not using ground water for any mining purpose. There is no chance of intersection ground water table during mining operation as it is much below mining horizon. Piezometer has been installed for monitoring or ground water level. Water quality and level report are attached herewith as Annexure 1 . Mine is not in operation since November 2013.

14	The project authority shall obtain necessary prior approval of the competent authority for drawl of requisite quantity of water (surface water and ground water) for the project.	Rainwater harvested during rainy season being used for sprinkling on haul roads and raising plantation. No surface water from natural resource was/is being/will be used for mining operation. Mine is not in operation since November 2013. We have obtained NOC for drinking water only from CGWB, Patna.
15	Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.	Mine is not in operation since November 2013. No mining operation was being carried out during above period and as on date.
16	Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented	Mine is not in operation since November 2013. No mining operation was carried out during above period and as on date. However, Blasting time is fixed during Lunch Time i.e. 1.00 PM -2.00 PM (whenever will be done post resumption of mining operation). Controlled blasting method will be practiced once mine becomes operational. All efforts will be taken to mitigate impact of blasting post resumption of mining activities.
17	Drills should either be operated with dust extractors or should be equipped with water injection system	Mine is not in operation since November 2013. No mining operation was being carried out during above period and as on date.
18	Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated from mining operations.	The sewage water from domestic uses is collected and treated in Sewage Treatment Plant. No effluent is generated. However, Effluent treatment mechanism (Oil grease separator) has been constructed at suitable site in Bagru plateau.
19	Consent to operate should be obtained from SPCB prior to start of production of mine.	No mining operation was being carried out during the above period and as on date. Mine will be operative post obtaining renewed consent to operate and other clearances as

		applicable.
20	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project	System is already in place.
21	The critical parameters such as RSPM (Particulate matter with size less than 10micron (i.e., PM10, PM2.5) and NOX in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closed shall be monitored periodically. Further, quantity of discharged water shall also be monitored [TDS,DO, PH and TSS} The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-IA.II (M) dated 27.05.2009 issued by Ministry of Environment and Forest, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	Being carried out. Monitoring report is attached as Annexure-2. Data is being uploaded on company website regularly as required.
22	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Progressive mine closure plan along with mining scheme has been approved by IBM. FMCP (part area) also has been approved by IBM. Final mine closure plan (FMCP) for total lease area will be prepared in due time as per applicable guideline and timelines mentioned in MCDR/IBM guildeline who are competent authority to approve the same. Based on present resource estimate and peak rated

		production capacity, mining operation will be done.
Gener	ral Conditions	
S No	Conditions	Compliance Status
1	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Noted. The Mine is not in operation since November 2013.
2	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made	The Mine is not in operation since November 2013. No mining operation was being carried out during the above period and as on date. Report is attached as Annexure-4 . We agree to comply with provision stipulated
3	Conservation measures for protection of flora and fauna in the core and buffer zone should be drawn up in consultation with the local forest and wild life department.	herein post resumption of mining operations The Mine is not in operation since November 2013. Conservation plan was submitted to PCCF Wildlife. Suitable conservation measures were undertaken in past when mine was operational as per plan submitted and is being done continuously. However, Draft WLCP report has already been
·		prepared by EX PCCF in consultation with state forest department. The final report will be submitted soon for its approval. No mining operation was carried out during the above period and as on date.
4	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO2, NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution	We have already established four ambient air quality monitoring stations in core zone as well as buffer zone. Monitoring is being carried out and reported to concern authorities. Report is attached as Annexure 2.

	Control Board.	
5	Data on ambient air quality (RPM, SPM, SO2, and NOx) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.	Monitoring report is annexed as Annexure-2.
6	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date. We agree to comply with provision stipulated herein post resumption of mining operations.
7	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date. We agree to comply with provision stipulated herein post resumption of mining operation as complied in past.
8	Industrial wastewater (workshop and wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	The Mine is not in operation since November 2013. No mining operation was carried out during the above period and as on date. We agree to comply with provision stipulated herein post resumption of mining operation as complied in past.
9	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and	herein post resumption of mining operation as complied in past.

	take corrective measures, if needed.	
10	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	Environment management cell is already formed and attached as Annexure-3.
11	The project authorities should inform to the Regional Office located at Bhubaneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Mining Plan along with Progressive mine Closure Plan has been approved by IBM, Ranchi. This was an operating Mine, hence provision related to Financial closure is not applicable. Currently, the Regional Office is located at Ranchi.
12	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubaneshwar.	The funds earmarked for environmental protection measures is being budgeted. Annual expenditure is being reported to the Ministry as attached as Annexure 5.
13	The Regional Office of this Ministry located at Bhubaneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Being complied with. Now Regional office is at Ranchi.
14	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e mail) to the Ministry of Environment and Forests, its Regional office Bhubaneshwar, the respective Zonal office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload	and Forests, its Regional office Ranchi, the respective Zonal office of Central Pollution Control Board the State Pollution Control Board and uploaded in company's website.

	the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forest, Bhubaneshwar, the respective zonal office of Central Pollution Control Board and the State Pollution Control Board.	
15	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad / Municipal corporation, urban local body and the local NGO, if any, from whom and suggestions / representations if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	A copy of clearance letter has been sent to concerned Panchayat, Zila Parisad / Municipal corporation, urban local body and the local NGO.
16	State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.	Displayed.
17	The environment statement for each financial year ending 31st March in Form V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection)Rules,1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar by e-mail.	Being submitted.

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

18

Already done (Documents already submitted).

Signature

Bagru Bauxite Mines(75.41 Ha)



Cultivation at Bagru mines



New Plantation at Reclaimed area

Bagru Bauxite Mines(75.41 Ha)



Biodiversity Park





Water shed Management

Water treatment plant



Rainwater Harvesting pond at Bagru

Bagru Bauxite Mines(75.41 Ha)



Water Sprinkling at Bagru Mines



Green Belt Development along Road side

	Annexure 1			
F	Piezometer reading - Bagru Mines			
S No Month Depth (meter)				
1	Apr-22	32		
2	May-22	33.25		
3	Jun-22	33.12		
4	Jul-22	32.80		
5	Aug-22	32.1		
6	Sep-22	32.12		



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931A	Report Release Date	: 12.05.2022	
Work Order No.	; HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044A : Entrance Gate (Ropeway Loading	
Address	: Lohardaga, Jharkhand-835203	Sampling Date Type of Sample Sampling Procedure	Station) Bagru Bauxite Mine : 11/04/2022 to 12/04/2022 : Ambient Air : ELES/DOC/SMPL/02	
Plant Status	Non-Operational	Sample Condition	; Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION		F	
1	Average Temperature ("C)	: 32	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	±84°36'4.35"E	6	Latitude	: 23°28'30.95N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	73
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	40
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	6,6
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	12.9
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.032
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6,0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	3.6

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shawn 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 approved of the Laboratory. The Report in full or in part strall 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 & fabrication of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fallest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931A	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	2.3
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.29

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior 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 & full-finding 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/assoc 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/assoc. 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 ENCLAVÉ, 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/2022/0931B	Report Release Date	: 12.05.2022
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044E : Administrative Office	
Address	; Lohardaga, Jharkhand-835203	Sampling Date Type of Sample	Bagru Bauxite Mine : 11/04/2022 to 12/04/2022 : Ambient Air	
Plant Status	4 Non-Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 68	- 4	Weather Condition	: Clear
5	Longitude	: 84"35'46.49"E	6	Latitude	: 23°29'6.97N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m [‡]	IS 5182 (Part-23); 2006; RA2017	100 (24hrs)	66
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	29
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	8.8
Nitrogen Di-Oxide (NO ₃)	µg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	9,5
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	1S 5182 (Part-22): 2004	1 (24hrs)	0.015
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.5

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Teems and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the julyanalysis 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 cumust 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. American 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 infantial and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Althreviation used: N/A (Not Applicable): BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/0931B Report Release Date : 12.05.2022 Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	2.4
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.24

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

****End of Report****

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931C	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835203	Sample Ref. No. Location Sampling Date Type of Sample	: ELES/RNC/2022/AA/1044C : Near Shiv Temple Compound Bagru Bauxite Mine : 11/04/2022 to 12/04/2022 : Ambient Air	
Plant Status	: Non-Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	. 741
3	Relative Humidity (%)	: 68		Weather Condition	: Clear
5	Longitude	: 84°35'43.47"E	6	Latitude	: 23°29'.9.85N"

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	60
Particulate Matter (PM2.5)	μg/m³	1S 5182 (Part- 24): 2019	60 (24hrs)	26
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	8.8
Ozone (O ₃)	μg/m ²	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m ³	IS 5182 (Part-22); 2004	1 (24hrs)	0.012
Nickel (NI)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Cumpany letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jolulumalysis 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 use taken cut 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 feability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall he done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931C	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.7
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.25

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931D	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044D : Near Weigh Bridge	
Address	: Lohardaga, Jharkhand-835203	Sampling Date	Bagru Bauxite Mine : 11/04/2022 to 12/04/2022	
		Type of Sample	: Ambient Air	
Plant Status	Non-Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	132	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 68	4	Weather Condition	; Clear
5	Longitude	: 84°35'47.65"E	6	Latitude	: 23°28'.59.29"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	77
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	44
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	8.2
Nitrogen Di-Oxide (NO ₃)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	13.5
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.042
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ⁵	ELES/AIR/SOP/01:2021	6 (Annual)	3.3

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, unly on Company letter head in pre-approved format. The results shown in the Test Report 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 fallest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are in be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

: 01.04.2022

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/2022/0931D Report Release Date : 12.05.2022 Work Order No. : HIL/LHD/FY22-23/001

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m ³	ASTM D3687:2007	05(Annual)	2.6
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.37

Work Order Date

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

****End of Report*

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931E	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044E : Near Daldaliya Village	
Address	; Lohardaga, Jharkhand-835203	Sampling Date Type of Sample Sampling Procedure	: 11/04/2022 to 12/04/2022 : Ambient Air : ELES/DOC/SMPL/02	
Plant Status	; Non-Operational	Sample Condition	: Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 84°35'37.93"E	6	Latitude	: 23°29'4.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2017	100 (24hrs)	61
Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	21
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.6
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	9,8
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₅)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.009
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.2

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory andy. 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 & faisification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Comptaints regarding the Report shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BOL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

Website: www.elespl.co.in

ENGINEERING SERVICES PVT. LTD.

TEST REPORT

Test Report No. : ELES/RNC/2022/0931E Report Release Date : 12,05,2022 Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m ³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.24

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

****End of Report****

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAECE9713D124 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/2022/0931F	Report Release Date	: 12.05.2022	
Work Order No.	; HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044F ± Aditya School Gangupara	
Address	: Lohardaga, Jharkhand-835203			
		Sampling Date	: 11/04/2022 to 12/04/2022	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	: Non-Operational	Sample Condition	: Sealed & Preserved	

M	METEOROLOGICAL INFORMATION					
T	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 741	
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear	
5	Longitude	: 84°38'8.14"E	6	Latitude	: 23°27'46.28"N	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	58
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	27
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.0
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m ¹	IS 5182 (Part-22): 2004	1 (24hrs)	0.005
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931F	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	<0.20

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

****End of Report****

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931G	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044G : Ropeway Unloading Station	
Address	: Lohardaga, Jharkhand-835203			
		Sampling Date	: 11/04/2022 to 12/04/2022	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	Non-Operational	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 84°41'28.22"E	6	Latitude	: 23°26'45.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	69
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	60 (24hrs)	33
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	5.9
Nitrogen Di-Oxide (NO ₁)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.4
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	(S 5182 (Part-22): 2004	1 (24hrs)	0.013
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	3.1

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data growided 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 are in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is m 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931G	Report Release Date	: 12.05.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.9
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.29

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/0931H	Report Release Date	: 12.05.2022	
Work Order No.	; HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS	the product of the same
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044H : Ropeway Angle Station
Address	Lohardaga, Jharkhand-835203	Sampling Date Type of Sample	: 11/04/2022 to 12/04/2022 : Ambient Air
Plant Status	Non-Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 32	2	Barometric Pressure (mmHg)	÷ 741
3	Relative Humidity (%)	: 68	4	Weather Condition	† Clear
5	Longitude	: 84°37'18.22"E	6	Latitude	: 23°27'56.84N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	66
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	28
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	6.2
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	8.5
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22); 2004	1 (24hrs)	0.010
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenie (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.3

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head as pre-approved format. The results shown in the Test Report refer or relates only to the jeb/analysis 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 & fabrification of the content or approximace of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) 6ST NO:- 20A4ECE9713D1Z4 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/2022/0931H Report Release Date : 12.05.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.5
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to +13A	01(Annual)	0.28

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD

Page 2 of 2

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

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Bagru Bauxite Mine-Environmental Monitoring Report

May 2022



CONTENT

Hine	lalco Industries :Bagru Bauxite Mine	Environmental Monitoring Report	May2022
		Bagru Bauxite Mine	Hanya Vala
	AMBIENT AIR QUALITY- CORE	ZONE	
1	Entrance Gate (Ropeway Loading Stat	ion)	
2	Administrative Office		
3	Near Shiv Temple Compound		
4	Near Weigh Bridge		
	AMBIENT AIR QUALITY- BUFFE	R ZONE	
1	Near Daldaliya Village		
2	Aditya School Gangupara		
3	Ropeway unloading station		
4	Ropeway Angle Station		
	AMBIENT NOISE		
	WORKZONE/SPOT NOISE		
	WORKSHOP EFFLUENT		
	DRINKING WATER ANALYSIS		





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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343A	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1351A : Entrance Gate (Ropeway Loading
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Station) Bagru Bauxite Mine : 04/05/2022 to 05/05/2022
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Plant Status	Non-Operatonal	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 66		Weather Condition	; Clear
5	Longitude	: 84°36'4.35"E	6	Latitude	: 23°28'30.95N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	65
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	28
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5,8
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	10.8
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₁)	μg/m ³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ^x	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.027
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.8

Page 1 of 2

The Document stated as Test Report, is essued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report 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 & faisification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within I Sdays from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDI, (Below Detection Limit). LDL (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.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343A	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	2.4
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.25

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER

ELES PVT. LTD.

Page 2 of 2

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20145CE9713D124 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/2022/1343B	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	1 01.04.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1351B : Administrative Office	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bagru Bauxite Mine : 04/05/2022 to 05/05/2022	
William St.		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Plant Status	Non-Operatonal	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	± 741
3	Relative Humidity (%)	; 66	-4	Weather Condition	:: Clear
5	Longitude	184°35'46,49"E	6	Latitude	: 23°29'6.97N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	70
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	24
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.4
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6): 2001; RA2017	80 (24hrs)	12.3
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	ÍS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.027
Nickel (Ni)	ng/m ³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01;2021	6 (Annual)	2.3

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1343B Report Release Date : 14.06.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.1
Benzo (a) Pyrene*	ng/m ³	USEPA 8270 C to -13A	01(Annual)	0.21

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

Authorized Signatory

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

****End of Report****

Page 2 of 2

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343C	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	-

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	ELES/RNC/2022/AA/1351C Near Shiv Temple Compound	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Bagru Bauxite Mine : 04/05/2022 to 05/05/2022 : Ambient Air	
Plant Status	Non-Operatonal	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
T	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	; 84°35'43.47"E	6	Latitude	: 23°29',9.85N"

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	61
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	29
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	8.2
Ozone (O ₃)	µg/m³	1S 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.009
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343C	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m¹	ASTM D3687:2007	05(Annual)	2.4
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.22

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 2011AECE9713D124

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343D	Report Release Date	: 14.06.2022	
Work Order No.	; HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref, No. Location	: ELES/RNC/2022/AA/1351D : Near Weigh Bridge	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Bagru Bauxite Mine : 04/05/2022 to 05/05/2022 : Ambient Air	
Plant Status	: Non-Operatonal	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION		Section 1995	
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°35'47.65"E	6	Latitude	: 23°28'.59.29"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	72
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	33
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	9.8
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6): 2001; RA2017	80 (24hrs)	10.8
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	I (24hrs)	0.040
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.9

Page 1 of 2

The Document stated in Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test 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 fallest extent of the law. All the samples are retained for 30days from the Date of released issues of the Test Report. The samples from Regulatory budies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1343D Report Release Date : 14.06.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	3.2
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annuai)	0,58

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

Authorized Signatory

SANDIP BERA SENIOR MANAGER ELES PVT. LTO

****End of Report****

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343E	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	:: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1351E : Near Daldaliya Village	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	: 04/05/2022 to 05/05/2022 : Ambient Air	
Plant Status	Non-Operatonal	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 t Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	128	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°35'37.93"E	6	Latitude	: 23°29'4.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	52
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	28
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	9.2
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₅)	μg/m³	(S 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004	1 (24lirs)	< 0.002
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1343E Report Release Date : 14.06.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m ⁵	USEPA 8270 C to -13A	07(Annual)	<0.20

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report 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 of 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 stall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834603 (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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343F	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	; Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1351F : Aditya School Gangupara	
Address	: Lohardaga, Jharkhand-835302			
		Sampling Date	: 04/05/2022 to 05/05/2022	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	Non-Operatonal	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION		A	
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg	741
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°38'8.14"E	6	Latitude	: 23°27'46.28"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2017	100 (24hrs)	56
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	25
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.8
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.006
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only un Company letter head in pre-approved format. The remains shown in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report runnot 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 unsuaborized 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 releaso/issue of the Test Report. The samples from Regulatory hodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDI. (Below Detection Limit); LDI. (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1343F Report Release Date : 14.06.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	<0.20

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

3

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

****End of Report****

Page 2 of 2

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343G	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1044G : Ropeway Unloading Station	
Address	: Lohardaga, Jharkhand-835302		TO THE REAL PROPERTY.	
		Sampling Date	: 04/05/2022 to 05/05/2022	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	: Non-Operatonal	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°41'28.22"E	6	Latitude	: 23°26'45.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	62
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	60 (24hrs)	26
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.2
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.1
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004	1 (24hrs)	0.008
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.2

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343G	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.3
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.23

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

Authorized Signatory

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

****End of Report***

Page 2 of 2

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1343H	Report Release Date	: 14.06.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/1351H : Ropeway Angle Station	
Address	: Lohardaga, Jharkhand-835302			
		Sampling Date	: 04/05/2022 to 05/05/2022	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	Non-Operatonal	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 28	2	Barometric Pressure (mmHg)	± 741
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°37'18.22"E	6	Latitude	: 23°27'56.84N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	64
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	30
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.9
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.0
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.006
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1343H Report Release Date : 14.06.2022 Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.6
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.21

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

****End of Report***

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTO

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

ON PT YOUR TRANSPORT				
Test Report No.	: ELES/RNC/2022/1355A	Report Release Date	: 14.06.2022	

CUSTOMER DE	TAILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Date Type of Sample	: 05.05.2022 : Ambient Noise
Address Plant Status	: Lohardaga, Jharkhand-835203 : Non-Operatonal	Sampling procedure Sample Drawn By	: ELES/DOC/SMPL/03 : ELES Pvt. Ltd.

Location	Unit	Test Protocol	Res	ult	Regulatory Limi (Industrial Zone)
Near Mine Office			Time	Leg	
Bagru Bauxite Mines	dB(A) IS 9989:19	IS 9989:1981, RA 2020	Day Time	66	75 dB(A) Day Time &
Sample ID: ELES/RNC/2022/AN/1363A			Night Time		70 dB(A) Night Time

Authorized Signatory

****End of Report****

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/arralysis 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 poor written approval of the Laboratory. The Report in fall or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any insurbarseed alteration & falsalication 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/essue of the Fest Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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/2022/1356A Report Release Date : 14.06.2022

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sampling Date Type of Sample Sampling procedure	: 05,05,2022 : Workzone Noise : ELES/DOC/SMPL/03	
Plant Status	Non-Operatonal	Sample Drawn By	: ELES Pvt. Ltd.	

Location	Unit	Test Protocol	Result		Regulatory Limit (Industrial Zone)
Bagru Crusher Site -			Time	Leq	
Bagru Bauxite Mines	dB(A)	IS 9989:1981, RA 2020	Day Time	72	75 dB(A) Day Time
Sample ID: ELES/RNC/2022/AN/1364A			Day Time		

Authorized Signatory

****End of Report****

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the lumination of liability, comparisation and jurisdiction issues. Any unauthorized alteration & fastification of the content of nepturance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law All the samples are retained for 3 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints segarding 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 critic Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Nor Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1358	Report Release Date	: 14/06/2022	
-----------------	----------------------	---------------------	--------------	--

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/EF/1366 : STP Outlet (Bagru Bauxite Mines)	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	: 05/05/2022 : Effluent Water	
Plant Status	Non-Operatonal	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/01 : Sealed & Preserved	

Parameter	Unit	Test Protocol	Result	EPR,1986 & 1S2490 (Discharge into Inland Surface Water)
pH	*	APHA 23rd Edition 2017,4500-H+-B	7.8	5.5-9.0
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	79	100
Temperature	°C	IS 3025 (Part-9):1984; RA 2017	27.4	Shall not exceed 5°C above the receiving Water Temperature
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16):1984	1329	2100
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2006; RA 2017	42	250
Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part-44): 1993; RA 2019	13	30
Oil & Grease	mg/L	APHA 23 rd Ed.2017,5520B	2,9	10
Calcium (as Ca)	mg/L	APHA 23rd Edition 2017, 3500 B	12	-
Iron (as Fe)	mg/L	APHA 23rd Edition, 3111 B&C	1.72	3
Aluminum (as Al)	mg/L	APHA 23rd Edition, 3125 B	2.05	-

****End of Report***

Authorized Signatory
SANDIP BERA

Page 1 of 2

SENIOR MANAGER

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company let E.E.S. Particle I punt. 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 earned be reproduced except in full and any part of the report is not taken out of centext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The uniter Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1357A	Report Release Date	: 14/06/2022	
rear reclinit river	· CILICATION SOLVER AND	report recease trate		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/EF/1365A : Work Shop Effluent -	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bagru Bauxite Mines : 05/05/2022	
		Type of Sample Sampling Procedure	: Effluent Water : ELES/DOC/SMPL/01	
Plant Status	‡Non-Operatonal	Sample Condition	: Sealed & Preserved	

Parameter	Unit	Test Protocol	Result	CPCB Regulatory Limits EPR,1986: Schedule VI (Inland Surface Water)
pH	1.04	APHA 23rd Edition 2017,4500-H+-B	8.5	5.5-9.0
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	70	100
Temperature	°C	IS 3025 (Part-9):1984; RA 2017	29.6	Shall not exceed 5°C above the receiving Water Temperature
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16):1984	1766	
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2006; RA 2017	49	250
Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part-44): 1993; RA 2019	9	30
Oil & Grease	mg/L	APHA 23 rd Ed.2017,5520B	1.8	10
Calcium (as Ca)	mg/L	APHA 23rd Edition 2017, 3500 B	20	_
Iron (as Fe)	mg/L	APHA 23rd Edition, 3111 B&C	2.01	3
Aluminum (as Al)	mg/L	APHA 23rd Edition, 3125 B	2.16	-

****End of Report****

Authorized Signatory SANDIP BERA

Page 1 of 1

Page 1 of 1

ELES PVT. LTD.

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



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

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

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

TEST REPORT

	mystics -			
Test Report No.	; ELES/RNC/2022/1359A	Report Release Date	: 14/06/2022	

CUSTOMER DET	CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindulco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/DW/1367A : Drinking Water		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bagru Bauxite Mines : 05/05/2022		
Plant Status	Non Operational	Type of Sample Sampling Procedure Sample Condition	: Drinking Water : ELES/DOC/SMPL/01 : Sealed & Preserved		

Parameter	Unit	Test Protocol	Result	Regulatory Limit as per IS:10500:2012 Acceptable Limit
pH	~	APHA 23rd Edition 2017,4500-H+-B	7.1	6.5-8.5
Color	Hazen	IS 3025 (Part-04): 1983	<1.0	5
Odour	(6.17)	[S 3025 (Part-05): 1983	Agreeable	Agreeable
Taste	200	IS 3025 (Part-07): 1984	Agreeable	Agreeable
Turbidity	NTU	APHA 23rd Edition 2017,2130 B	0.11	1
Free Residual Chlorine	mg/L	IS 3025 (Part-26): 1986	<0.1	0.2
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16):1984	166	500
Monochloramines	mg/L	APHA 23rd Edition 2017, 4500 CI-G	<1.0	4
Dichloramines	mg/L	APHA 23rd Edition 2017, 4500 CI-G	<1.0	4
Total Hardness (as CaCO3)	mg/L	APHA 23rd Edition 2017, 2340 C	38.6	200
Total Alkalinity (as CaCO3)	mg/L	IS 3025 (Part-23):1986	26.2	200
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988: RA 2014	7.8	250

Page 1 of 4

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



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

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

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

TEST REPORT

Test Report No. ; ELES/RNC/2022/1359A Report Release Date : 14/06/2022

				Regulatory Limit
Parameter	Unit	Test Protocol	Result	as per IS:10500:2012
177 27 377 37				Acceptable Limit
Sulphate (as SO4)	mg/L	IS 3025 (Part-24):1986	5.2	200
Nitrate (as NO3)	mg/L	IS 3025 (Part-34): 1988	2.3	45
Fluoride (as F)	mg/L	APHA 23rd Edition 2017,4500-FD	0.1534	
Ammoniacal Nitrogen (as NH3-N)	mg/L	APHA 23rd Edition 2017, 4500 Norg-C	<0.1	0.5
Cyanide (as CN)	mg/L	IS 3025 (Part-27): 1986	< 0.0125	0.05
Phenolic Compounds (as C6H5OH)	mg/L	IS 3025 (Part-43): 1992	<0.00002	0.001
Sulphide (as S)	mg/L	IS 3025 (Part-29): 1986	< 0.04	0.05
Boron (as B)	mg/L	APHA 23rd Edition, 3125 B	<0.2	0.5
Calcium (as Ca)	mg/L	APHA 23rd Edition 2017, 3500 B	12.2	75
Magnesium (as Mg)	mg/L	IS 3025 (Part-46);1994	2.1	30
Iron (as Fe)	mg/L	APHA 23rd Edition, 3111 B&C	0.234	T
Manganese (as Mn)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.05	0.1
Aluminum (as Al)	mg/L	APHA 23rd Edition, 3125 B	<0.02	0.03
Cadmium (as Cd)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.003	0.003
Total Chromium (as Cr)	mg/L	APHA 23rd Edition, 3111 B&C	<0.03	0.05
Copper (as Cu)	mg/L	APHA 23rd Edition, 3111 B&C	<0.03	0.05
Lead (as Pb)	mg/L	APHA 23rd Edition, 3111 B&C	<0.01	0.01
Zinc (as Zn)	mg/L	APHA 23rd Edition, 3111 B&C	<0.1	5

Page 2 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved farmat. 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 seffects 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 mken 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 hability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/essue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stard 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:-20A4ECE9713D1Z4 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/2022/1359A Report Release Date : 14/06/2022

				Regulatory Limi
Parameter	Unit	Test Protocol	Result	as per IS:10500:2012
				Acceptable Limi
Arsenic (as As)	mg/L	APHA 23rd Edition, 3111 B&C	<0.005	0,01
Selenium (as Se)	mg/L	APHA 23rd Edition, 3125 B	<0.01	0.01
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2000	< 0.001	0.001
Nickel (as Ni)	mg/L	APHA 23rd Edition, 3111 B&C	<0.01	0.02
Mineral Oil*	mg/L	(\$ 3025 (Part-39): 1991	<0.01	0.5
Anionic Detergents (asMBAS)*	mg/L	Annex K of IS 13428:2005	<0.05	0.2
Polynuclear Aromatic Hydrocarbons (PAHs)*	mg/L	SO-IN-MUL-TE-023	<0.00005	0.0001
Polychlorinated Biphenyls (PCBs)*	mg/L	SO-IN-MUL-TE-022	<0.00005	0.0005
Total Coliforms	MPN/ 100ml	IS 15185:2016	Not Detected	Should Not Detected
Escheria Coli	MPN/ 100ml	IS 15185:2016	Not Detected	Should Not Detected
Pesticides				
Alachlor*	μg/L	SO-IN-MUL-TE-020	< 0.01	20
Atrazine*	pg/L	SO-IN-MUL-TE-020	<0.01	2
Aldrin/ Dieldrin*	μg/L	SO-IN-MUL-TE-020	<0.01	0.03
Alpha HCH*	µg/t	SO-IN-MUL-TE-020	<0.01	0.01
Beta HCH*	μg/L	SO-IN-MUL-TE-020	<0.01	0,04
Butachlor*	µg/L	SO-IN-MUL-TE-020	< 0.01	125

Page 3 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved formit. The results shown in the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of flability, compensation and prisidetion 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 Dute 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 Dute of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable): BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1359A

Report Release Date

: 14/06/2022

				Regulatory Limit
Parameter	Unit	Test Protocol	Result	as per IS:10500:2012
				Acceptable Limit
Chlorpyriphos*	μg/L	SO-IN-MUL-TE-020	<0.01	30
Delta HCH*	μg/L	SO-IN-MUL-TE-020	<0.01	0.04
2,4- Dichlorophenoxyacetic acid*	μg/L	SO-IN-MUL-TE-020	<0.01	30
DDT (o, p and p, p - Isomers of DDT)*	μg/L	SO-IN-MUL-TE-020	<0.01	t
Endosulfan (alpha, beta, and sulphate)*	μg/L	SO-IN-MUL-TE-020	<0.01	0.4
Ethion*	µg/L	SO-IN-MUL-TE-020	<0.01	3
Gamma — HCH (Lindane)*	µg/L	SO-IN-MUL-TE-020	<0.01	2
Isoproturon*	µg/L	SO-IN-MUL-TE-020	<0.01	9
Malathion*	μg/L	SO-IN-MUL-TE-020	<0.01	190
Methyl parathion*	µg/L	SO-IN-MUL-TE-020	<0.01	0.3
Monocrotophos*	μg/L	SO-IN-MUL-TE-020	< 0.01	1
Phorate*	μg/L	SO-IN-MUL-TE-020	<0.01	2
DDE (o, p and p, p - Isomers of DDE)*	μg/L	SO-IN-MUL-TE-020	<0.01	1
DDD (o, p and p, p - Isomers of DDD)*	μg/L	SO-IN-MUL-TE-020	<0.01	1

e outsourced to other Lab.

****End of Report****

Authorized Signatory

SANDIP BERA SENIOR MANAGER

Page 4 of 4

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

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Bagru Bauxite Mine-Environmental Monitoring Report

June 2022



CONTENT

Hind	alco Industries :Bagru Bauxite Mine Environmental Monitoring Report	June2022
	Bagru Bauxite Mine	U MILL DUZZ
	AMBIENT AIR QUALITY- CORE ZONE	
1	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	





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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610A	Report Release Date	: 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Type of Sample	: ELES/RNC/2022/AA/1798A : Entrance Gate (Ropeway Loading Station) Bagru Bauxite Mine : 27/06/2022 to 28/06/2022 : Ambient Air	
Plant Status	Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	:26	2	Barometric Pressure (mmHg)	0.741
3	Relative Humidity (%)	: 70		Weather Condition	: Clear
5	Longitude	: 84°36'4,35"E		Latitude	: 23°28'30.95N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2017	100 (24hrs)	63
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	31
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	6.1
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	11.4
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH _t)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	1S 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.019
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.9

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terror 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 Enboratory 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 logal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be presecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610A	Report Release Date	: 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.1
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.24

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

Authorized Signatory

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

****End of Report****

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610B	Report Release Date	: 15.07.2022
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	; ELES/RNC/2022/AA/1798B : Administrative Office Bagru Bauxite Mine
Plant Status	: Non Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 27/06/2022 to 28/06/2022 : Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
_	Average Temperature ("C)	: 26	12	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 70		Weather Condition	: Clear
5	Longitude	: 84°35'46.49"E	6	Latitude	: 23°29'6.97N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	52
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	23
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.2
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	10.2
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.012
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1610B Report Release Date : 15.07.2022 Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.2
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	<0.20

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

****End of Report**



Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610C	Report Release Date	± 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Type of Sample	: ELES/RNC/2022/AA/1798C : Near Shiv Temple Compound Bagru Bauxite Mine : 27/06/2022 to 28/06/2022 ; Ambient Air
Plant Status	: Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	- 741
3	Relative Humidity (%)	:70		Weather Condition	: Clear
5	Longitude	:: 84°35'43.47"E	6	Latitude	: 23°29'.9.85N"

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	57
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	25
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	8.7
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.008
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ⁵	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1610C Report Release Date : 15.07.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.3
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.24

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

****End of Report****

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shawn 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 alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610D	Report Release Date	: 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date Type of Sample Sampling Procedure	: ELES/RNC/2022/AA/1798D : Near Weigh Bridge Bagru Bauxite Mine : 27/06/2022 to 28/06/2022 : Ambient Air : ELES/DOC/SMPL/02
Plant Status	:Non Operational	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	- 741
3	Relative Humidity (%)	: 70		Weather Condition	: Clear
5	Longitude	: 84°35'47.65"E		Latitude	: 23°28'.59.29"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	70
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	35
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	8.1
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	11.9
Ozone (O ₁)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m ²	IS 5182 (Part-22): 2004	1 (24hrs)	0.033
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.8

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610D	Report Release Date	: 15.07,2022	
Work Order No.	; HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.8
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.32

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

****End of Report****

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Luboratory at the time of involvement only and within the limits of effect'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 consent or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable): BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610E	Report Release Date	: 15.07,2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/1798E : Near Daldaliya Village
(tuures)	/ Lonardaga, marknand-a55502	Sampling Date Type of Sample Sampling Procedure	: 27/06/2022 to 28/06/2022 : Ambient Air : ELES/DOC/SMPL/02
Plant Status	2 Non Operational	Sample Condition	: Sealed & Preserved

1	Average Temperature (°C)	: 26	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 70		Weather Condition	Clear
5	Longitude	: 84°35'37.93"E	6	Latitude	: 23°29'4.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	54
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	26
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₃)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	10.5
Ozone (O ₃)	μg/m ¹	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	<0.002
Nickel (Ni)	ng/m²	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610E	Report Release Date	: 15.07.2022
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report****

SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610F	Report Release Date	: 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/1798F : Aditya School Gangupara	
Plant Status	: Non Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 27/06/2022 to 28/06/2022 : Ambient Air : ELES/DOC/SMPL/02 : Scaled & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C) : 26		2	Barometric Pressure (mmHg) : 741	
3	Relative Humidity (%)	: 70		Weather Condition	: Clear
5	Longitude	: 84°38'8.14"E	6	Latitude	: 23°27'46.28"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	49
Particulate Matter (PM2.5)	μg/m³	4S 5182 (Part- 24); 2019	60 (24hrs)	21
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	6.9
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m ¹	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	<0.002
Nickel (Ni)	ng/m ¹	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1610F Report Release Date : 15.07.2022 Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m ³	USEPA 8270 C to -13A	01(Annual)	<0.20

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

****End of Report****

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT, LTD,

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610G	Report Release Date	: 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	± 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/1798G : Ropeway Unloading Station	
Plant Status	: Non Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 27/06/2022 to 28/06/2022 : Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
T	Average Temperature (°C)	: 26	12	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 70		Weather Condition	: Clear
5	Longitude	: 84°41'28.22"E	6	Latitude	: 23°26'45.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	64
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	28
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.4
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	8.4
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.007
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.4

Page 1 of 2

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 20A4ECE9713D124 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/2022/1610G	Report Release Date	: 15.07.2022
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.4
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.23

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

****End of Report****

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1610H	Report Release Date	: 15.07.2022	
Work Order No.	: HIL/LHD/FY22-23/001	Work Order Date	: 01.04.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/1798H : Ropeway Angle Station	
Plant Status	Non Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 27/06/2022 to 28/06/2022 : Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C')	: 26	2	Barometric Pressure (mmHg)	: 741
3	Relative Humidity (%)	: 70	4	Weather Condition	: Clear
5	Longitude	: 84°37′18.22"E	6	Latitude	: 23°27'56.84N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	56
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	23
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.7
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	9.4
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.007
Nickel (Ni)	ng/m ³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2,0

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1610H Report Release Date : 15.07.2022

Work Order No. : HIL/LHD/FY22-23/001 Work Order Date : 01.04.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.23

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

****End of Report****



Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/amalysis 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 assues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable): BDL (Below Detection Limit): LDL (Lower Detection Limit).

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Bagru Bauxite Mine-Environmental Monitoring Report

July 2022



CONTENT

HIRC	lalco Industries :Bagru Bauxite Mine Environmental Monitoring Report	July2022
	Bagru Bauvite Mine	July2022
	AMBIENT AIR QUALITY- CORE ZONE	
1	Entrance Gate (Ropeway Loading Station)	
2	Administrative Office •	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	
2	Aditya School Gangupara	
3	Ropeway unloading station	
4	Ropeway Angle Station	





PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 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/2022/1766A	Report Release Date	: 18.08.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/5198A : Entrance Gate (Ropeway Loading	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Stn); Bagru Bauxite Mine(75:41ha) : 11/07/2022 to 12/07/2022 : Ambient Air	
Plant Status	Non-Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 66	- 4	Weather Condition	; Clear
5	Longitude	: 84°36'4.35"E	6	Latitude	: 23°28'30.95N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	58
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	26
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	7.1
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	11.8
Ozone (O ₃)	μg/m ⁵	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m²	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.012
Nickel (Ni)	ng/m ³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.4

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766A Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.6
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.31

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 2 of 2

The Document stated at Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report. except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory 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 athedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



Test Report No.

ENVIRONMENTAL LABORATORIES &

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

: ELES/RNC/2022/1766B

: Lohardaga, Jharkhand-835302

ENGINEERING SERVICES PVT. LTD.

: 18,08,2022

Bagru Bauxite Mine (75.41ha)

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

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

TEST REPORT

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	: ELES/RNC/2022/AA/5198B
Address	Lohardaga Ibarkhand-835302	Location	: Administrative Office

Sampling Date : 11/07/2022 to 12/07/2022 Type of Sample : Ambient Air Sampling Procedure

Report Release Date

: ELES/DOC/SMPL/02 Plant Status Non-Operational Sample Condition Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 25	1.2	Barometric Pressure (mmHg)	2 740
3	Relative Humidity (%)	: 66		Weather Condition	: Clear
5	Longitude	: 84°35'46.49"E	6	Latitude	- 23°29'6.97N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2017	100 (24hrs)	55
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	20
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	5.8
Nitrogen Di-Oxide (NO ₁)	μg/m ³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.3
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lend (Pb)	μg/m³	IS 5182 (Part-22): 2004	(24hrs)	0.009
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.2

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766B Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information of 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 sociared from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any insouthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1766C	Report Release Date	: 18.08.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location Sampling Date	: ELES/RNC/2022/AA/5198C : Near Shiv Temple Compound Bagru Bauxite Mine (75.41ha) : 11/07/2022 to 12/07/2022	
Plant Status	: Non-Operational	Type of Sample Sampling Procedure Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°35'43.47"E	6	Latitude	: 23°29'.9.85N"

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	52
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	20
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.5
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	9.8
Ozone (O ₂)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₂)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m1	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.008
Nickel (Ni)	ng/m ³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Tea Report, is issued by the Laboratory under General Terms and Conditions, only an Campany letter head in pre-approved farmat. 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 an 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 Miningement of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/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: NA (Not Agelicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766C Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.22

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 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

	- menos	NO TO SERVICE AND ADDRESS OF THE PARTY OF TH		
Test Report No.	: ELES/RNC/2022/1766D	Report Release Date	: 18.08.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/5198D : Near Weigh Bridge	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bagru Bauxite Mine (75.41ha) : 11/07/2022 to 12/07/2022	
Plant Status	Non-Operational	Type of Sample Sampling Procedure Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	± 740
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°35'47.65"E	6	Latitude	: 23°28'.59.29"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	62
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24); 2019	60 (24hrs)	34
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	8.8
Nitrogen Di-Oxide (NO ₂)	μg/m³	1S 5182 (Part-6); 2001) RA2017	80 (24hrs)	10,4
Ozone (O ₁)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m ³	1S 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lend (Pb)	µg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.027
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenie (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	3.2

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766D Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.5
Benzo (a) Pyrene*	ng/m³.	USEPA 8270 C to -13A	01(Annual)	0.30

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

Authorized Signatory

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

****End of Report****

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1766E	Report Release Date	: 18.08.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/5198E Near Daldaliya Village	
riudiess.	. Lonardaga, markiland-6555302	Sampling Date	: 11/07/2022 to 12/07/2022	
Plant Status	Non-Operational	Type of Sample Sampling Procedure Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	TEOROLOGICAL INFO	RMATION			
Ţ:	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	5 740
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°35'37.93"E	6	Latitude	: 23°29'4.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	52
Particulate Matter (PM2,5)	μg/m ³	IS 5182 (Part- 24): 2019	60 (24hrs)	20
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	6.3
Ozone (Oy)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	< 0.002
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766E Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

Remarks: (*) Parameters are outsourced to other Lab

****End of Report****

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

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

	- Mystoria			
Test Report No.	; ELES/RNC/2022/1766F	Report Release Date	: 18.08.2022	

CUSTOMER DET	CUSTOMER DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/5198F : Aditya School Gangupara
Plant Status	Non-Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 11/07/2022 to 12/07/2022 : Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature ("C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°38'8.14"E	6	Latitude	: 23°27'46.28"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	44
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	20
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.0
Ozone (O ₂)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/ni³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004	f (24hrs)	<0.002
Nickel (Ni)	ng/m ³	1S 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible fine 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 cauted in appearance of the Test Report is unlawful and offenders may be presecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report is unlawful and offenders may be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24bours format. Abbreviation used, N/A (Net Applicable); BDL/Below Detection Limit); LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHANO) 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/2022/1766F Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

Authorized Signatory

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

****End of Report****

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report 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 of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit). LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766G	Report Release Date	: 18.08.2022
---------------------------------------	---------------------	--------------

CUSTOMER DET	AILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/5198G : Ropeway Unloading Station
Address	7 Lohardaga, Jharkhand-835302	Sampling Date	11/07/2022 to 12/07/2022
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02
Plant Status	Non-Operational	Sample Condition	: Sealed & Preserved

M	ETEOROLOGICAL INFOI	RMATION	_///	3	
1	Average Temperature (°C)	:25	2	Barometric Pressure (mmHg)	= 740
3	Relative Humidity (%)	1 66	4	Weather Condition	: Clear
5	Longitude	: 84°41'28.22"E	6	Latitude	: 23°26'45.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	57
Particulate Matter (PM2,5)	µg/m³	1S 5182 (Part- 24); 2019	60 (24hrs)	22
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	6.2
Nitrogen Di-Oxide (NO ₂)	μg/m ³	(S 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.8
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	15 5182 (Part-22): 2004	1 (24hrs)	0.004
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.7

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results thinned in the Test Report reflects the findings done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement ordy 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 timutation of libibility, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unliawful 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 if the Test Report. The samples from Regulatory hodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report refeased/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours formin. Abbreviation used, N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. 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/2022/1766G Report Release Date : 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.4
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

Authorized Signatory

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

****End of Report****

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report 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 is full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and prisabetion issues. Any unauthorized alternation & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be relained as specified. Any type of Observations or Complaints regarding the 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 memioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limits) LDL (Lower Detection Limits).



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

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/2022/1766H	Report Release Date	: 18.08.2022	
A STATE OF THE PARTY OF THE PAR			26/24/31/31/31/31	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/5198H : Ropeway Angle Station	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	: 11/07/2022 to 12/07/2022	
		Type of Sample	: Ambient Air	
Plant Status	Non-Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	o 740
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear
5	Longitude	: 84°37'18.22"E	6	Latitude	: 23°27'56.84N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	52
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24); 2019	60 (24hrs)	20
Sulphur Di-Oxide (SO ₂)	µg/m³	1S 5182 (Part-2); 2001; RA2017	80 (24hrs)	5.8
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.2
Ozone (O ₃)	μg/m ³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.006
Nickel (Ni)	ng/m ³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1766H

Report Release Date

: 18.08.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m ³	ASTM D3687:2007	05(Annual)	2.2
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

Authorized Signatory

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

ELES Pvt. Ltd. Technical Manager

****End of Report****

Page 2 of 2

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

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Bagru (75.41ha) Bauxite Mine-Environmental Monitoring Report

August 2022

CONTENT

Augu	ist 2022
	Bagru (75.41 ha) Bauxite Mine
	AMBIENT AIR QUALITY- CORE ZONE
1	Entrance Gate (Ropeway Loading Station)
2	Administrative Office
3	Near Shiv Temple Compound
4	Near Weigh Bridge
	AMBIENT AIR QUALITY- BUFFER ZONE
1	Near Daldaliya Village
2	Aditya School Gangupara
3	Ropeway unloading station
4	Ropeway Angle Station





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

Test Report No.	: ELES/RNC/2022/1886A	Report Release Date	; 16.09.2022		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003A : Entrance Gate (Ropeway Loading	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Stn); Bagru Bauxite Mine(75.41ha) : 03/08/2022 to 04/08/2022	
		Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02	
Plant Status	Non Operational	Sample Condition	: Sealed & Preserved	

MI	ETEOROLOGICAL INFOR	RMATION			
1	Average Temperature (°C)	124	2	Barometric Pressure (mmHg)	3 740
3	Relative Humidity (%)	: 65	- 4	Weather Condition	; Clear
5	Longitude	: 84°36'4.35"E	6	Latitude	: 23°28'30.95N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	60
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	33
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	6.2
Nitrogen Di-Oxide (NO ₂)	μg/m ³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	9.2
Ozone (O ₁)	µg/m³	IS \$182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1,0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.020
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.2

Page 1 of 2

The Document stated as Test Report, in issued by the Laboratory under General Terns and Conditions, only on Company letter herd 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 centext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and paradiction issues. Any unauthorized alteration & falsification of the centern 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 Jodays from the Date of released to the Test Report to the State Report in the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1886A Report Release Date : 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	0.29
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.22

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 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

	The state of the s				
Test Report No.	: ELES/RNC/2022/1886B	Report Release Date	: 16.09.2022		

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003B : Administrative Office	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample Sampling Procedure	Bagru Bauxite Mine (75.41ha) : 03/08/2022 to 04/08/2022 : Ambient Air : ELES/DOC/SMPL/02	
Plant Status	Non Operational	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
T	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	= 740
3	Relative Humidity (%)	: 65	4	Weather Condition	: Clear
5	Longitude	: 84"35'46.49"E	6	Latitude	: 23°29'6.97N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	50
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	60 (24hrs)	26
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	6.0
Nitrogen Di-Oxide (NO ₂)	µg/m³	1S 5182 (Part-6); 2001; RA2017	80 (24hrs)	7.9
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.011
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory as the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of released issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule 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:- 20A4ECE9713D124 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/2022/1886B Report Release Date : 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m ³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

Authorized Signatory

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

ELES Pvt. Ltd. Technical Manager

****End of Report****

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior 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 projecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/assue of the Test Report The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule 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:-20A4ECE9713D124 ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1886C	Report Release Date	± 16.09.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003C : Near Shiv Temple Compound	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Bagru Bauxite Mine (75.41ha) : 03/08/2022 to 04/08/2022 : Ambient Air	
Plant Status	: Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

MI	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	+24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65	4	Weather Condition	: Clear
5	Longitude	: 84°35'43,47"E	6	Latitude	: 23°29'.9.85N"

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	59
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	23
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.4
Ozone (O ₁)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₂)	µg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ³	1S 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.005
Nickel (Ni)	ng/m ¹	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01;2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is assed by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect or relates only to the job/artalysis done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of flability, compensation and jurisdiction issues. Any unauthorized alteration & flabification 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 30ddays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule inentioned in Test Report is in 28hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1886C Report Release Date : 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	2.4
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report****

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

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and 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 regroduced except in full and any part of the report is not taken out of centext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detections 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.elespi.co.in

TEST REPORT

Test Report No.	: ELES/RNC/2022/1886D	Report Release Date	: 16.09.2022	

d Sample Ref. No. Location	: ELES/RNC/2022/AA/3003D : Near Weigh Bridge
	- Trade trade at tage
Sampling Date	Bagru Bauxite Mine (75.41ha) : 03/08/2022 to 04/08/2022
Type of Sample Sampling Procedure	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved
	Type of Sample

MI	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature ("C)	: 24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65	4	Weather Condition	: Clear
5	Longitude	: 84°35'47,65"E	6	Latitude	: 23°28'.59.29"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	59
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	23
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	6.2
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.9
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₁)	μg/m³	IS 5182 (Part- 25); 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	hā/m²	IS 5182 (Part-22); 2004	1 (24hrs)	0.014
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.1

Page 1 of 2

The Document stated is 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 Miniagement of the Laboratory. Attention is drawn to the limitation of biability, compensation and jurisdiction issues. Any smanthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is an 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1886D Report Release Date : 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687;2007	05(Annual)	2.6
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.23

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

****End of Report****

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

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1886E	Report Release Date	: 16.09.2022			

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003E : Near Daldaliya Village	
Address	: Lohardaga, Jharkhand-835302		Land of the second	
		Sampling Date Type of Sample	: 03/08/2022 to 04/08/2022 : Ambient Air	
Plant Status	Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	⊂24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65		Weather Condition	: Clear
5	Longitude	: 84°35'37,93"E	6	Latitude	: 23°29'4.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	µg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	46
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	21
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	6.8
Ozone (O ₁)	μg/m³	IS 5182 (Part-9): 1974; RA2014	(00 (8hrs)	<20.0
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	<0.002
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1886E Report Release Date : 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m²	USEPA 8270 C to -13A	01(Annual)	< 0.20

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 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/1886F	Report Release Date	: 16.09.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003F : Aditya School Gangupara	
Plant Status	: Non Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 03/08/2022 to 04/08/2022 : Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
Į.	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65	4	Weather Condition	: Clear
3	Longitude	484°38'8.14"E	6	Latitude	: 23°27'46.28"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23); 2006; RA2017	100 (24hrs)	45
Particulate Matter (PM2.5)	μg/m ³	1S 5182 (Part- 24): 2019	60 (24hrs)	17
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	6.2
Ozone (O ₁)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	<0.002
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated in Test Report, is insued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflects only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information does done have been 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 insulherized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1886F

Report Release Date

: 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m ³	USEPA 8270 C to -13A	01(Annual)	<0.20

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

Authorized Signatory

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

****End of Report****

Page 2 of 2

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



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (IHARKHAND) GST NO:- 20AAFCE9713D174

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

net en Lu	The state of the s			
Test Report No.	: ELES/RNC/2022/1886G	Report Release Date	: 16.09.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name Address	: Hindalco Industries Limited : Lohardaga, Jharkhand-835302	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003G : Ropeway Unloading Station	
Plant Status	Non Operational	Sampling Date Type of Sample Sampling Procedure Sample Condition	: 03/08/2022 to 04/08/2022 : Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			
J.	Average Temperature (°C)	: 24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65		Weather Condition	: Clear
5.	Longitude	: 84°41'28.22"E	6	Latitude	: 23°26'45.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m ³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	55
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	27
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.5
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	9.3
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.009
Nickel (Ni)	ng/m ^T	1S 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01:2021	6 (Annual)	2.2

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No.

: ELES/RNC/2022/1886G

Report Release Date

: 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.6
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.24

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

Authorized Signatory

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

****End of Report****

Page 2 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	; ELES/RNC/2022/1886H	Report Release Date	: 16.09.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3003H : Ropeway Angle Station	
Address	: Lohardaga, Jharkhand-835302	Sampling Date	03/08/2022 to 04/08/2022	
		Type of Sample	: Ambient Air	
Plant Status	Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	= 24	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 65		Weather Condition	: Clear
5	Longitude	: 84°37'18.22"E	6	Latitude	: 23°27'56.84N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	49
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	21
Sulphur Di-Oxide (SO ₂)	μg/m ³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.0
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m ¹	IS 5182 (Part-10); 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.004
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/1886H Report Release Date : 16.09.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

Authorized Signatory

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

****End of Report****

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without price written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & 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 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).

ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT.LTD.

Plot No.30, Mansarovar Enclave, Tupudana, Hatia, Ranchi-834003, Jharkhand.

Bagru Bauxite Mine-Environmental Monitoring Report

September 2022



CONTENT

	alco Industries : Bagru Bauxite Mine Environmental Monitoring Report September 2	022
Hinda	alco Industries :Bagru Bauxite Mine Environmental Monitoring Report September 2	_
	AMBIENT AIR QUALITY- CORE ZONE	_
1	Entrance Gate (Ropeway Loading Station)	_
2	Administrative Office	
3	Near Shiv Temple Compound	
4	Near Weigh Bridge	
	AMBIENT AIR QUALITY- BUFFER ZONE	
1	Near Daldaliya Village	_
2	Aditya School Gangupara	-
3	Ropeway unloading station	
4	Ropeway Angle Station	
	WORKSHOP EFFLUENT ANALYSIS	_
	DRINKING WATER ANALYSIS	_
	STP WATER ANALYSIS	_





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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2256	Report Release Date	: 11.11.20222	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3261 : Entrance Gate (Ropeway Loading	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Stn); Bagru Bauxite Mine(75.41hn) : 22/09/2022 to 23/09/2022 : Ambient Air	
Plant Status	Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	±84°36'4.35"E	6	Latitude	= 23°28'30.95N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	51
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	60 (24hrs)	20
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	5.3
Nitrogen Di-Oxide (NO ₂)	µg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.4
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10); 1999; RA2019	2 (8hrs)	<1,0
Lead (Pb)	μg/m³	TS 5182 (Part-22): 2004	1 (24hrs)	0.011
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.4

Page 1 of 2

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



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2256 Report Release Date : 11.11.20222

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	0.22
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.25

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2257	Report Release Date	: 11.11.2022	

CUSTOMER DETAILS		SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3262 : Administrative Office	
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Bagru Bauxite Mine (75.41ha) : 22/09/2022 to 23/09/2022 : Ambient Air.	
Plant Status	Non Operational	Sampling Procedure Sample Condition	: ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
Ŧ	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	Clear
5	Longitude	: 84°35'46.49"E	6	Latitude	= 23°29′6,97N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	45
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	17
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.2
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m ³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.005
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m [‡]	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only in Company letter head in pre-approved formul. The results shown in the Test Report reflects only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without print written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Amention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the context or appearance of the Test Report is unlimital and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Dase of release/issue of the Test Report. The samples from Regulatory bodies are to be received as specified. Any type of Observations or Complaints regarding the Reports shall be done within 13days from the Date of Test Report reflects when I me 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), BDC (Below Detection Limit), LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2257 Report Release Date : 11.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m ³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report****

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analyses done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Massagement 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 unlewful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time selection Limit): LDL (Lower Detection Limit).



Test Report No.

ENVIRONMENTAL LABORATORIES &

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

: ELES/RNC/2022/2258

ENGINEERING SERVICES PVT. LTD.

· 11.11.2022

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

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

TEST REPORT

Report Release Date

CUSTOMER DET	AILS	SAMPLE DETAILS					
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3263 : Near Shiv Temple Compound				

Address : Lohardaga, Jharkhand-835302 Bagru Bauxite Mine (75.41ha)
Sampling Date : 22/09/2022 to 23/09/2022
Type of Sample : Ambient Air
Sampling Procedure : ELES/DOC/SMPL/02

Plant Status : Non Operational Sample Condition : Sealed & Preserved

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	2 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	: 84°35'43.47"E	6	Latitude	: 23°29'.9.85N"

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2017	100 (24hrs)	49
Particulate Matter (PM2,5)	μg/m³	JS 5182 (Part- 24): 2019	60 (24hrs)	15
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.8
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	I (24hrs)	0.004
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the jub/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of chent's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report in 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 unlewful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Data 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 Data of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time selectule mentioned in Test Report is in 24hours format. Abbreviation used, N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2258 Report Release Date : 11.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The femilias shown in the Test Report refer or refines only to the joblanalysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report 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 to 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 & finisfication 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 Jüdays from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Compliants regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no compliants will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Net Applicable); BDL (Below Detection Limit). LDL (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Depost No.	. EL ECIDACIONATIONES	Donnet Deleges Date	. 11 11 2022	
Test Report No.	: ELES/RNC/2022/2259	Report Release Date	: 11.11.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3264 : Near Weigh Bridge	
Address	Lohardaga, Jharkhand-835302	Sampling Date	Bagru Bauxite Mine (75.41ha) : 22/09/2022 to 23/09/2022	
Plant Status	Non Operational	Type of Sample Sampling Procedure Sample Condition	: Ambient Air : ELES/DOC/SMPL/02 : Sealed & Preserved	

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	= 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	:: 84°35'47.65"E	6	Latitude	: 23°28',59.29"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	54
Particulate Matter (PM2.5)	μg/m ³	IS 5182 (Part- 24): 2019	60 (24hrs)	25
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	7.6
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	9,4
Ozone (O ₃)	µg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	µg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m ¹	IS 5182 (Part-22): 2004	1 (24hrs)	0.017
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.6

Page 1 of 2

The Document stated as Test Report, is insued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-appeared format. The resums 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 fail and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in fail or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized attention & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issued of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24baura furnat. Athreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2259 Report Release Date : 11.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	2.2
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	0.25

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2260	Report Release Date	: 11.11.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3265 : Near Daldaliya Village	
Address	: Lohardaga, Jharkhand-835302			
		Sampling Date	; 22/09/2022 to 23/09/2022	
		Type of Sample	: Ambient Air	
Plant Status	Non Operational	Sampling Procedure	: ELES/DOC/SMPL/02	
		Sample Condition	; Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	1 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	: 84°35'37.93"E	6	Latitude	: 23°29'4.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	1S 5182 (Part-23): 2006; RA2017	100 (24hrs)	44
Particulate Matter (PM2,5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	14
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	7.4
Ozone (O ₃)	μg/m³	IS 5182 (Part-9); 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part-25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	µg/m³	IS 5182 (Part-22); 2004	1 (24hrs)	< 0.002
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m ⁵	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page I of Z

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 reflects only to the jub/analysis done by the Laboratory saily. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of contest, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn so the limitation of liability, compensation and jurisdiction issues. Any unautiporized afternation & falsification of the content or appearance of the Test Report to unlessful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report release/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24boars forma. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2260 Report Release Date : 11.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

Remarks: (*) Parameters are outsourced to other Lab

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

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



Test Report No.

ENVIRONMENTAL LABORATORIES &

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

· ELES/RNC/2022/2261

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

i and involved and	120000101010000000000000000000000000000	report release Date	. 11,11,2022
CUSTOMER DE	TAILS	SAMPLE DETAILS	
Customer Name	: Hindalco Industries Limited	Sample Ref. No.	- FLFS/RNC/2022/A A/3266

Report Release Date

Customer Name : Hindalco Industries Limited : Sample Ref. No. : ELES/RNC/2022/AA/3266
Location : Aditya School Gangupara

Address : Lohardaga, Jharkhand-835302

Sampling Date : 22/09/2022 to 23/09/2022
Type of Sample : Ambient Air : ELES/DOC/SMPL/02
Plant Status : Non Operational : Sample Condition : Sealed & Preserved

M	ETEOROLOGICAL INFOI	RMATION			
1	Average Temperature (°C)	: 25	- 2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	: 84°38'8,14"E	6	Latitude	: 23°27'46.28"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	48
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	17
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	8.0
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8fars)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	<0.002
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6,0
Arsenic (As)	ng/m ¹	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

The Document stated as Test Report, is assued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertism, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the immitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report and officiates may be prosecuted to the full-streeten) 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 13days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schudule menumed in Test Report is in 24hours format. Abhreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA HATIA, RANCHI-834003 (JHARKHAND) GST NO:- 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/2022/2261 Report Release Date : 11.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report****

SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Conpany letter head in pre-approved format. The results shown in the Test Report reflect only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instruction. 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 praor permission has been secured from the Management of the Laboratory. Astention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unsufforized alteration & fabrification of the context or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

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

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2262	Report Release Date	: 11.11.2022	

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3267 : Ropeway Unloading Station	
Address	† Lohardaga, Jharkhand-835302	Complete Date	22/02/2022 - 22/02/2022	
		Sampling Date	: 22/09/2022 to 23/09/2022	
		Type of Sample	: Ambient Air	
		Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	Non Operational	Sample Condition	: Sealed & Preserved	

ME	TEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	: 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	: 84°41'28.22"E	6	Latitude	: 23°26'45.48"N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	48
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	22
Sulphur Di-Oxide (SO ₂)	µg/m³	IS 5182 (Part-2); 2001; RA2017	80 (24hrs)	5.8
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6): 2001; RA2017	80 (24hrs)	10.2
Ozone (O ₃)	μg/m³	IS 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	IS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m³	IS 5182 (Part-22): 2004	1 (24hrs)	0.008
Nickel (Ni)	ng/m ¹	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	2.4

Page 1 of 2

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2262 Report Release Date : 11.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	μg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report****

Authorized Signatory
SANDIP BERA
SENIOR MANAGER
ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report reflect are 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 in drawn to the limitation of liability, compensation and prisidiction essues. 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/assue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used. N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit).



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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2263	Report Release Date	: 11.11.2022	
		The second secon		

CUSTOMER DET	AILS	SAMPLE DETAILS		
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/AA/3268 : Ropeway Angle Station	
Address	: Lohardaga, Jharkhand-835302	Samulian Data	2-3-7-5-7-5	
		Sampling Date Type of Sample	: 22/09/2022 to 23/09/2022 : Ambient Air	
	V. 47	Sampling Procedure	: ELES/DOC/SMPL/02	
Plant Status	Non Operational	Sample Condition	: Sealed & Preserved	

M	ETEOROLOGICAL INFO	RMATION			
1	Average Temperature (°C)	± 25	2	Barometric Pressure (mmHg)	: 740
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear
5	Longitude	: 84°37"18.22"E	6	Latitude	: 23°27'56.84N

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Particulate Matter (PM10)	μg/m³	IS 5182 (Part-23): 2006; RA2017	100 (24hrs)	50
Particulate Matter (PM2.5)	μg/m³	IS 5182 (Part- 24): 2019	60 (24hrs)	18
Sulphur Di-Oxide (SO ₂)	μg/m³	IS 5182 (Part-2): 2001; RA2017	80 (24hrs)	<5.0
Nitrogen Di-Oxide (NO ₂)	μg/m³	IS 5182 (Part-6); 2001; RA2017	80 (24hrs)	7.5
Ozone (O ₃)	μg/m³	1S 5182 (Part-9): 1974; RA2014	100 (8hrs)	<20.0
Ammonia (NH ₃)	μg/m³	İS 5182 (Part- 25): 2018	400 (24hrs)	<10.0
Carbon Monoxide (CO)	mg/m³	IS 5182 (Part-10): 1999; RA2019	2 (8hrs)	<1.0
Lead (Pb)	μg/m ¹	IS 5182 (Part-22): 2004	J (24hrs)	0.007
Nickel (Ni)	ng/m³	IS 5182(Part-26):2020	20 (Annual)	<6.0
Arsenic (As)	ng/m³	ELES/AIR/SOP/01:2021	6 (Annual)	<2.0

Page 1 of 2

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2263 Report Release Date : II.11.2022

Parameter	Unit	Test Protocol	Regulatory Limit	Result
Benzene*	µg/m³	ASTM D3687:2007	05(Annual)	<2.0
Benzo (a) Pyrene*	ng/m³	USEPA 8270 C to -13A	01(Annual)	< 0.20

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

****End of Report***

Authorized Signatory SANDIP BERA SENIOR MANAGER ELES PVT. LTD.

Page 2 of 2

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company Jetter 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 lenits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 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).



Plant Status

ENVIRONMENTAL LABORATORIES &

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

Non Operational

ENGINEERING SERVICES PVT. LTD.

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

ELES/DOC/SMPL/01

: Sealed & Preserved

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2354A	Report Release Dat	e : 11.11.2022
CUSTOMER DET	AILS	SAMPLE DETAIL	S
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/EF/3358A : Work Shop Effluent -
Address	: Lohardaga, Jharkhand-835302	Sampling Date Type of Sample	Bagru Bauxite Mines (75.41 ha) : 23/09/2022 : Effluent Water

Sampling Procedure

Sample Condition

Parameter	Unit	Test Protocol	Result	CPCB Regulatory Limi EPR,1986: Schedule V (Inland Surface Water	
pH	2	APHA 23rd Edition 2017,4500-H+-B	8.2	5,5-9,0	
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	52	100	
Temperature °C		IS 3025 (Part-9):1984; RA 2017 25.2		Shall not exceed 5°C above the receiving Water Temperature	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16):1984	1645		
Chemical Oxygen Demand (COD) mg/L		IS 3025 (Part-58): 2006; RA 2017	42	250	
Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part-44): 1993; RA 2019	6	30	
Oil & Grease	mg/L	APHA 23 rd Ed.2017,5520B	<1.0	10	
Calcium (as Ca)	mg/L	APHA 23rd Edition 2017, 3500 B	24	44	
Iron (as Fe) mg/L		APHA 23rd Edition, 3111 B&C	1,96	3	
Aluminum (as Al)	mg/L	APHA 23rd Edition, 3125 B	1.64		

****End of Report****

Authorized Signatory SANDIP BERA

Page 1 of 1

ELES PVT. LTD. The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-app 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 cornext, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any logal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any mautherized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/assued. After the time period stated before, no complaints will be accepted. The entire Time accepted. martinned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit); LDL (Lower Detection Limit).



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

Non Operational

ENGINEERING SERVICES PVT. LTD.

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

: Sealed & Preserved

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

TEST REPORT

Test Report No.	: ELES/RNC/2022/2353A	Report Release Date	: 11.11.2022		
CUSTOMER DET	AILS	SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/DW/3357A : Drinking Water		
Address	: Lohardaga, Jharkhand-835302	Sampling Date	Bagru Bauxite Mines (75.41 ha) : 23/09/2022		
		Type of Sample Sampling Procedure	: Drinking Water : ELES/DOC/SMPL/01		
Plant Status	Non Operational	Sample Condition	: Sealed & Preserved		

Sample Condition

Parameter Unit		Test Protocol	Result	Regulatory Limi as per IS:10500:2012 Acceptable Limi	
pH	360	APHA 23rd Edition 2017,4500-H+-B	7.2	6,5-8.5	
Color	Hazen	IS 3025 (Part-04): 1983	<1.0	5	
Odour	e	IS 3025 (Part-05): 1983	Agreeable	Agreeable	
Taste	10	IS 3025 (Part-07): 1984	Agreeable	Agreeable	
Turbidity NTU		APHA 23rd Edition 2017,2130 B	0.24	3	
Free Residual Chlorine	mg/L	IS 3025 (Part-26): 1986	<0.1	0.2	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16):1984	175	500	
Monochloramines	mg/L	APHA 23rd Edition 2017, 4500 CI-G	<1.0	4	
Dichloramines	mg/L	APHA 23rd Edition 2017, 4500 CI-G	<1.0	4	
Total Hardness (as CaCO3)	mg/L	APHA 23rd Edition 2017, 2340 C	33.2	200	
Total Alkalinity (as CaCO3)	mg/L	IS 3025 (Part-23):1986	28.5	200	
Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988: RA 2014	9.6	250	

Page 1 of 4

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2353A Report Release Date : 11.11.2022

				Regulatory Limit	
Parameter	Unit	Test Protocol	Result	IS:10500:2012	
2014 - 71 - 54 - 57	_			Acceptable Limit	
Sulphate (as SO4)	mg/L	IS 3025 (Part-24):1986	7.5	200	
Nitrate (as NO3)	mg/L	IS 3025 (Part-34); 1988	6.00	45	
Fluoride (as F)	mg/L	APHA 23rd Edition 2017,4500-FD	0.1433	1	
Ammoniacal Nitrogen (as NH3-N)	mg/L	APHA 23rd Edition 2017, 4500 Norg-C	<0.1	0.5	
Cyanide (as CN)	mg/L	IS 3025 (Part-27): 1986	< 0.0125	0.05	
Phenolic Compounds (as C6H5OH)	mg/L	1S 3025 (Part-43): 1992	<0.00002	0.001	
Sulphide (as S)	mg/L	IS 3025 (Part-29): 1986	< 0.04	0.05	
Boron (as B)	mg/L	APHA 23rd Edition, 3125 B	<0.2	0.5	
Calcium (as Ca)	mg/L	APHA 23rd Edition 2017, 3500 B	9.2	75	
Magnesium (as Mg)	mg/L	1S 3025 (Part-46):1994	2.5	30	
Iron (as Fe)	mg/L	APHA 23rd Edition, 3111 B&C	0.321	1	
Manganese (as Mn)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.05	0,1	
Aluminum (as Al)	mg/L	APHA 23rd Edition, 3125 B	<0.02	0.03	
Cadmium (as Cd)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.003	0.003	
Total Chromium (as Cr)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.03	0.05	
Copper (as Cu)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.03	0.05	
Lead (as Pb)	mg/L	APHA 23rd Edition, 3111 B&C	<0.01	0.01	
Zinc (as Zn)	mg/L	APHA 23rd Edition, 3111 B&C	<0.10	5	

Page 2 of 4

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, anly on Company letter head in pre-approved format. The results shown in the Text Report refer or relates only in the job/analysis done by the Laboratory only. The information stated on the Text Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior writen approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of tiability, compensation and jurisdiction issues. Any unauthorized alteration & fabrification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30 days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within L5days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable), BDL (Below Detection Limit), LDL (Lower Detection Limit)



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2353A Report Release Date ± II.11.2022

				Regulatory Limi	
Parameter	Unit	Test Protocol	Result	as per IS:10500:2012	
				Acceptable Limi	
Arsenic (as As)	mg/L	APHA 23rd Edition, 3111 B&C	< 0.005	0.01	
Selenium (as Se)	mg/L	APHA 23rd Edition, 3125 B	< 0.01	0.01	
Mercury (as Hg)	mg/L	IS 3025 (Part-48): 2000	<0.001	0,001	
Nickel (as Ni)	mg/L	APHA 23rd Edition, 3111 B&C	<0.01	0.02	
Mineral Oil*	mg/L	IS 3025 (Part-39): 1991	< 0.01	0.5	
Anionic Detergents (asMBAS)*	mg/L	Annex K of IS 13428:2005	< 0.05	0.2	
Polynuclear Aromatic Hydrocarbons (PAHs)*	mg/L	SO-IN-MUL-TE-023	<0.00005	0.0001	
Polychlorinated Biphenyls (PCBs)*	mg/L	SO-IN-MUL-TE-022	<0.00005	0.0005	
Total Coliforms	MPN/ 100ml	IS 15185:2016	Not Detected	Should Not Detected	
Escheria Coli	MPN/ 100ml	IS 15185:2016 Not Detected		Should Not Detected	
Pesticides				2.034,60	
Alachlor*	µg/L	SO-IN-MUL-TE-020	<0.01	20	
Atrazine*	μg/L	SO-IN-MUL-TE-020 <0.01		2	
Aldrin/ Dieldrin* µg/L		SO-IN-MUL-TE-020	< 0.01	0.03	
Alpha HCH*	µg/L	SO-IN-MUL-TE-020	<0.01	0.01	
Beta HCH*	μg/L	SO-IN-MUL-TE-020	< 0.01	0.04	
Butachlor*	μg/L	SO-IN-MUL-TE-020	< 0.01	125	

Page 3 of 4

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No. : ELES/RNC/2022/2353A Report Release Date : 11.11.2022

	Unit Test Protocol			Regulatory Limit
Parameter			Result	as per IS:10500:2012
				Acceptable Limit
Chlorpyriphos*	μg/L	SO-IN-MUL-TE-020	< 0.01	30
Delta HCH*	µg/L	SO-IN-MUL-TE-020	< 0.01	0.04
2,4- Dichlorophenoxyacetic acid*	μg/L	SO-IN-MUL-TE-020	< 0.01	30
DDT (o, p and p, p - Isomers of DDT)*	μg/L	SO-IN-MUL-TE-020	<0.01	1
Endosulfan (alpha, beta, and sulphate)*	μg/L	SO-IN-MUL-TE-020	<0.01	0.4
Ethion*	µg/L	SO-IN-MUL-TE-020	<0.01	3
Gamma — HCH (Lindane)*	μg/L	SO-IN-MUL-TE-020	<0.01	2
Isoproturon*	μg/L	SO-IN-MUL-TE-020	<0.01	9
Malathion*	µg/L	SO-IN-MUL-TE-020	<0.01	190
Methyl parathion*	μg/L	SO-IN-MUL-TE-020	< 0.01	0.3
Monocrotophos*	μg/L	SO-IN-MUL-TE-020	< 0.01	1
Phorate*	µg/L	SO-IN-MUL-TE-020	< 0.01	2
DDE (o, p and p, p - Isomers of DDE)*	μg/L	SO-IN-MUL-TE-020	<0.01	1
DDD (o, p and p, p – Isomers of DDD)*	μg/L	SO-IN-MUL-TE-020	<0.01	1

Remarks: (*) All the parameters are outsourced to other Lah-

****End of Report****

Authorized Signatory SANDIP BERA

SENIOR MANAGER

Page 4 of 4

ELES PVT. LTD.

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



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

ENGINEERING SERVICES PVT. LTD.

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

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

TEST REPORT

Test Report No.	; ELES/RNC/2022/2355	Report Release Date	: 11.11.2022		
CUSTOMER DETAILS		SAMPLE DETAILS			
Customer Name	: Hindalco Industries Limited	Sample Ref. No. Location	: ELES/RNC/2022/EF/3359 : STP Outlet - Bagru Bauxite Mines		
Address	: Lohardaga, Jharkhand-835203	Sampling Date	(75.41 ha) ; 23/09/2022		
Plant Status	:Non Operational	Type of Sample Sampling Procedure Sample Condition	: Effluent Water : ELES/DOC/SMPL/01		

Parameter	Unit	Unit Test Protocol		EPR,1986 & IS2490 (Discharge into Inlan Surface Water)	
pH	14	APHA 23rd Edition 2017,4500-H+-B	8.2	5.5-9.0	
Total Suspended Solids (TSS)	mg/L	IS 3025 (Part-17):2022	62	100	
Temperature °C		1S 3025 (Part-9):1984; RA 2017	25.3	Shall not exceed 5°C above the receiving Water Temperature	
Total Dissolved Solids (TDS)	mg/L	IS 3025 (Part-16):1984	1417	2100	
Chemical Oxygen Demand (COD)	mg/L	IS 3025 (Part-58): 2006; RA 2017	56	250	
Biochemical Oxygen Demand (BOD)	mg/L	IS 3025 (Part-44); 1993; RA 2019	18	30	
Oil & Grease	mg/L	APHA 23 rd Ed.2017,5520B	2.3	10	
Calcium (as Ca)	mg/L	APHA 23rd Edition 2017, 3500 B	20	+	
Iron (as Fe)	mg/L	APHA 23rd Edition, 3111 B&C	1,53	3	
Aluminum (as Al)	mg/L	APHA 23rd Edition, 3125 B	1.46	14	

****End of Report****

Authorized Signatory SANDIP BERA

Page 1 of 1

Page 1 of 1

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



Annexure 3

Date - 01.09.2022

Office Order

Environmental Cell has been re-constituted at Bagru Bauxite Mine (Area 75.41 ha) comprising below mentioned team members. The team will ensure compliance of Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

- 1. Mr. Raj Sinha (Coordinator)
- 2. Mr. Gauri Shankar Prasad (Member)
- 3. Ms. Abhilasha Singh-Environment Engineer
- 4. Mr. Abhay Kumar 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.

Sy

Basudev Gangopadhyay
AVP (Planning ,Environment &Compliance)

Annexure 4

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	NIL	NIL	NIL	NIL
				31.03.2030		1.112		1112
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981				VERN VA
				to 31.03.2030	116176	0.78	0.34	82296.15
3	Hisri (New) Bauxite	14.55	100000	19.07.1981				
	Mine			to 31.03.2030	63046	0.34	0.23	47769.44
4	Kujam - I Bauxite Mine	80.87	150000	13.03.2006			1.18	
				to	53620	1.74		39931.13
				12.03.2056				
5	Kujam - II Bauxite Mine	157.38	300000	24.03.2006				
				to	147610	4.79	2.56	181309.80
6	Amtipani Bauxite Mine	190.95	150000	23.03.2056 13.03.2006				
·	Antipani bauxite wille	ite Mille 190.95	150000	to	96500	2.12	2.050	126569.80
				12.03.2056	30300	2.12	2.050	120303.80
7	Gurdari Bauxite Mine	584.19	325000	23.03.1985				
				to	114070	114070 3.65 2.68	2.68	292766.10
				22.03.2035				
8	Shrengdag A Bauxite	155.81	260000	16.10.1974				
	Mine			to	53600	1.2	0.9	40876.3
9	Shrengdag B Bauxite	140.07	100000	31.03.2030				
9	Mine Shrengdag B Bauxite	140.07	100000	04.10.1978 to	45750	0.8157	0.6104	4426472
	Wille			31.03.2030	45750	0.8157	0.6184	44264.72
10	Jalim & Sanai Bauxite	12.14	50000	16.10.1974				
	Mine	A CONTRACTOR OF THE CONTRACTOR		to	25000	0.2413	0.2	8656.24
				31.03.2030				
11	Orsapat Bauxite Mine	196.36	200000	17.07.1986	NIL	NIL	NIL	NIL

Annexure 4

				to 16.07.2036				
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
15	Pakhar (115.13)	115.13	300000	19.07.1996 to 31.03.2030	87500	1.52	0.57	242684.08
Miner	rals & Minerals Limited				and the state of			STATE OF STREET
16	Pakhar (15.58)	15.58	60000	28.04.1965 to 31.03.2030	NIL	NIL	NIL	NIL
17	Pakhar (109.507)	109.507	280000	26.07.2008 to 25.07.2058	129700	0.29	0.00	26032.12
18	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	54050	1.34	0.60	118183.21
19	Amtipani Chirodih Bauxite Mine (130.01 ha)	130.01	450000	11.01.2017 to 10.01.2067	NIL	NIL	NIL	NIL

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

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)

Annexure-5

BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2022-23

The composite cost during the year 2022-23 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 2022-23	Actual (in Rupees) FY 2022-23 (From April'22 to September'22)
1	Pollution Control & Environment monitoring	49,75,923.00	33,83,623.92
2	Reclamation/ Back filing & Rehabilitation**	5,83,65,000.00	5,07,53,126.66
3	Green belt, Plantation & Water sprinkling arrangement	48,76,825.00	45,85,322.59
4	Rural Development	3,10,21,250.00	2,39,91,751.19

^{**}Part of OB removed cost.

Basudev Gangopadhyay

AVP (Planning, Environment & Compliance)