

HIL/LHD/ENV/MoEF/ 371

Date: 19.11.2021

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 Hisri New (14.55 ha) Bauxite Mining project of M/s Hindalco Industries Limited located in Lohardaga District of Jharkhand for the period April'21 to September'21.

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

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Hisri New (14.55 ha)** Bauxite Mining project of **M/s Hindalco Industries Limited**, located in Lohardaga District of Jharkhand for the period April'21 to September'21.

The lease detail is as below.

Lease area (ha)	Production Capacity (MT)	Lease Period
14.55	100000	19.07.1981 to 31.03.2030

Hope you will find the same in order.

Thanking You

Yours Sincerely
FOR M/s Hindalco Industries Limited,

(Basudev Gangopadhyay)
Sr GM (Geology & Environment)

Enclosure: - As Above

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Name of the Project : Hisri New Bauxite Mine (14.55 ha)
M/s Hindalco Industries Ltd

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

Period of compliance Report : From 1st April 2021 to 30th September 2021

S No	Conditions	Compliance Status
Specific Conditions		
1	The project proponent shall obtain Consent to Establish and Consent to Operate from the Jharkhand State Pollution Control Board and effectively implement all the conditions stipulated therein.	Consent to establish and consent to operate has been obtained prior to start of Mining. Existing consent to operate is valid till 31.12.2025. The implementations of stipulated conditions are being implemented.
2	The environmental clearance is subject to forestry clearance.	Forest clearance is obtained.
3	The environmental clearance is subject to approval of the state land use Department, Government of Jharkhand for diversion of agricultural land for non-agricultural use.	Entire land has been acquired for mining purpose as per applicable laws.
4	The mining operation shall be restricted to above ground water table and it should not intersect the ground water table. In case of working below ground water table, prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained, for which a detailed hydro – geological study shall be carried out.	Present depth of mining is 12- 15 mtr (maximum) and not intersected ground water. Working zone will be restricted to above ground water table in future also. We undertake that no mining is/was carried out below ground water table and the same status will be maintained in future also.
5	The Project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operations. The first order streams and the seasonal nallahs originating from the mining lease area shall be protected.	It is being ensured that no natural watercourse gets obstructed due to mining operation.

6	<p>The top soil, if any shall temporarily be stored at earmarked site (s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.</p>	<p>Sequential backfilling and reclamation of mined out area are being exercised. Topsoil is being spread on backfilled area for reclamation of the area.</p> <p>The top soil is being temporarily stored at earmarked site (s) for its further use for reclamation over backfilled area.</p>
7	<p>The solid waste generated during the mining operation shall be backfilled and there shall be no external overburden dump left at the end of the mine life. The entire excavated area of 12.19 ha. shall be backfilled and reclaimed by plantation. The backfilling should be carried out in such a manner that it is restored to the normal ground level. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forest on six month basis.</p>	<p>Overburden and waste rock are being used for simultaneous back filling. Data pertaining to backfilling is enclosed as Annexure-4.</p> <p>Backfilling is continuous process and is being done in commensurate with the progress of mining.</p> <p>Monitoring and management of rehabilitated areas continuing through supervision.</p> <p>There is no external dump exist within mine lease area.</p>

8	<p>Catch drains and siltation ponds of appropriate size should be constructed around the working pit, sub-grade dump, soil and mineral dumps to arrest flow of silt and sediment directly into the agricultural fields, the Kisco Nadi, the Sukri Nadi, the Chungahat nallah, the Barki nallah and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted, particularly after monsoon and maintained properly.</p> <p>Garland drain, settling tanks and check dams of appropriate size, gradient and length shall be constructed for both around the mine pit and sub grade dump to prevent run off of water and flow sediments directly into the agricultural fields, the Kisco Nadi, the Sukri Nadi, the Chungahat nallah, the Barki nallah and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.</p>	<p>No run-off is generated from mining activities. However, to collect & manage rain water during monsoon, part of mined out area is used as settling tank for the runoff. Rainwater stored is being used for watering the mine area, roads, green belt development and sprinkling as necessary.</p> <p>Catch drains, Garland drains of appropriate size are being constructed in both around the mine pit to prevent runoff of water and flow of sediments directly into the agricultural field and water bodies, if applicable.</p> <p>Sump of adequate capacity is being provided and maintained as required.</p> <p>No external dump exists within mine lease area as on date.</p>
9	<p>Dimension of the retaining wall at the toe of the sub-grade, dump and OB benches within the mine to check run-off and siltation should be based on the rain fall data.</p>	<p>Noted. There is no external dump exists within mine lease area.</p>
10	<p>Plantation shall be raised in an area of 12.7 ha including a 7.5 m. wide green belt in the safety zone around the mining lease by planting the native species around ML area, backfilled and reclaimed area, around water body, roads etc. in consultation with the local DFO / Agriculture Department. At least 1500 trees per year shall be planted with a tree density of 1000 trees per hectare. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.</p>	<p>Plantation is carried out progressively with progress of mining in and around Mine lease area.</p> <p>Total 1810 saplings have been planted during April'21 to September'21 within this mining lease.</p> <p>Green belt development programme is in progress with progress of mining activities.</p>
11	<p>Effective safe guard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels to particulate matter such as around loading and unloading point and all transfer</p>	<p>Effective safe guard measures, such as regular water sprinkling are being carried out in critical areas prone to air pollution. Regular Ambient Air Quality monitoring is being carried out.</p>

	points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	AAQ quality results are attached carried out by authorized agency. The parameters are found within prescribed 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 is already in place. Suitable conservation measures to augment ground water resources in area are being taken viz sump, rainwater harvesting pond etc. constructed in mining lease area.
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 periodic monitoring [(at least four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) once in each season)] shall be carried out in consultation with the State Ground Water Board/ Central Ground water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional office Bhubaneswar, The Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the ground water table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.	We are not using ground water for any mining purpose. There is no chance of intersection of ground water table during mining operation at present and in future. Piezometer has been installed for monitoring of ground water level. Water quality and level report are attached herewith as Annexure 1.
14	Monitoring to the springs shall be carried out for the quality and quantity of water regularly so as to ensure that there is no adverse impact on the same due to the project. Records in this regards shall be maintained.	Spring has been monitored, report is attached as Annexure 1.
15.	It shall be ensured that there is no change in the hydrology of the area due to the project.	Noted. We are regularly monitoring the ground water level and no adverse changes is noted.
16.	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) required for the project.	Water is collected from rainwater harvesting pond. We are using harvested water only for mining purposes. No ground water or water from natural surface water bodies are being used for mining purposes. No Objection Certificate (NOC) for

		ground water abstraction for Hisri New mines has been obtained for drinking purpose only.
17.	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	Suitable rainwater harvesting measures on long term basis have been implemented Viz. rain water harvesting pond created.
18.	Appropriate mitigative measures shall be taken to prevent pollution of the Kisco Nadi, the Sukri Nadi and other rivers in the buffer zone of the mine, in consultation with the State Pollution Control Board.	Appropriate mitigative measures have been taken to prevent pollution of nearby water bodies. Drainage system in the mining lease area is so designed that all the rain water within the lease are collected in to the pit/rainwater harvesting pond. No water allowed to flow out of the lease.
19	Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and transportation of mineral from mine face to the Beneficiation plant. The vehicles should be covered with a tarpaulin and shall not be overloaded.	Minimum vehicles are being used for transport. Regular maintenance of vehicles are undertaken to minimize vehicular emission. Care is taken on regular basis to arrest spillage/fugitive dust emission. Bauxite is also being transported by ropeway from mines to Lohardaga siding.
20	Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibration and to arrest fly rocks and boulders should be implemented.	Blasting time is fixed during Lunch Time i.e. 1.00 PM - 2.00 PM. Controlled blasting method is in practice. Ground vibration study has been conducted by IIT, Kharagpur. Efforts and mitigative measure are being taken to mitigate impact of blasting.
21	Drills shall either be operated with dust extractors or equipped with water injection system.	Wet drilling is in practice.
22	Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Water sprinkling is being carried out regularly at mineral handling area, loading and unloading areas to control the dust.
23	Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated from mining operations.	There is no effluent generated from mine hence ETP is not required. However, we are using oil and grease for which we have constructed Effluent treatment mechanism (Oil and grease trap) at Bagru Plateau workshop where maintenance of machine is being carried

		out. The clarified water generated during process is being used for plantation/gardening purpose. The sewage water for working population is collected through Septic Tank/Soak Pit and treated in Sewage Treatment Plant already existing in adjoining Bagru ML.
24	The project authorities should undertake sample survey to generate data on pre-project community health status within a radius of 1 Km. from proposed mine.	Being getting done through medical camp.
25	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	System is already in place
26.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of the temporary structures to be removed after the completion of the project.	System is already in place.
27	The critical parameters such as RSPM (Particulate matter with size less than 10 μm (i.e. PM_{10} , $\text{PM}_{2.5}$) and NO_x in the ambient air within the impact zone, peak particle velocity at 300 m. distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharge water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS))], The monitored data shall be uploaded on the website of the Company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in Public domain. The Circular no. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	Being carried out. Monitoring report is enclosed as Annexure 1.
28	A Final Mine Closure plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forest 5 years in advance of final mine closure for approval.	Progressive Mine Closure Plan duly approved by Indian Bureau of Mines is with us. FMCP (part) is approved by IBM. FMCP for entire lease will be prepared in due time as per applicable

		<p>guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same.</p> <p>Based on the present resource estimate, and peak rated production capacity mentioned in EC, Mining operation is being carried out.</p>
General 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.
2	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.	<p>Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining plan / mining scheme in scientific manner.</p> <p>Report is attached as Annexure 4.</p>
3	Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife department.	<p>Conservation measures for protection of flora and fauna in core & buffer zone has been drawn up in consultation with local forest and wildlife department. Wild life conservation plan has been submitted to forest department</p>
4	Four ambient air quality-monitoring station should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 μm (i.e. PM_{10}) $\text{PM}_{2.5}$) & NO_x monitoring. Location of the stations should be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	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 1.
5	Data on ambient air quality RSPM (Particulate matter with size less than 10 μm i.e. PM_{10}) & NO_x should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central pollution Control Board once in six months.	Being carried out. Enclosed as Annexure-1.
6	Fugitive dust emission from all the sources should be controlled regularly. Water spraying arrangements on haul roads, loading and	Water spraying arrangements on haul roads, loading and unloading and at transfer points have been provided and

	unloading and at transfer points should be provided and properly maintained.	properly maintained.
7	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operation of HEMM, etc. should be provided with ear plug / muffs.	Measures are being taken for control of noise levels below 85 dB (A) in work environment. Workers engaged in operation of HEMM, etc. has been provided with ear plug / muffs.
8	Industrial waste water (workshops and waste water from the mine) Should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	There is no industrial wastewater generated from workshop within mine lease area. We are using oil and grease for which we have constructed oil and grease trap at Bagru Plateau workshop where maintenance of machine is being carried out. The clarified water generated during process is being used for plantation/gardening purpose.
9	<p>Personnel working in dusty areas should wear protective respiratory devices and they should also provided with adequate training and information on safety and health aspects.</p> <p>Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.</p>	<p>Complied. Use of personal protective equipment (PPE) by the individuals is being ensured. All the mine workers are being regularly and periodically sent to our own hospital for health checkup for any contraction of diseases due to exposure in dusty and noisy areas.</p> <p>Training on safety, health and environmental aspects of mining is being regularly imparted through VT centre and also through various other training programmes conducted by the State Government, recognized agencies, etc</p>
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.	Separate environmental management Cell (EMC) has been constituted and is functioning effectively. Copy enclosed as Annexure-3.
11	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.	Year wise expenditure is being reported to the Ministry and its Regional Office located at Ranchi, is attached as Annexure-2.
12	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.	<p>This is an operating Mine and provision related to financial closure is not applicable.</p> <p>Now Regional office is at Ranchi</p>

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.	Agreed. Now Regional office is at Ranchi
14	The project proponent shall submit six monthly report on the status of the compliance of the stipulated environmental Clearance conditions including results of monitoring data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Officer, Bhubaneshwar, the respective Zonal office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubaneshwar, the respective Zonal Office of Central Pollution Control Board and State Pollution Control Board.	Duly submitted. Now Regional office is at Ranchi
15	A copy of clearance letter shall be sent by the proponent to concerned Panchyat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.	Duly submitted.
16	State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Center and Collector's office / Tehsildar's Office for 30 days.	Displayed.
17	The environmental statement for each financial year ending 31 st March in Form - V as is mandated to be submitted by the project proponent to the concerned Stated pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of the compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bhubneshwar by e-mail.	Submitted.

18.	<p>The Company shall submit within 3 month their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to bring into focus any infringements/ deviation/ violation of environmental or forest norms/ conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance with environmental issues and ensuring compliance with Environment Clearance conditions and (iii) System of reporting of non compliance / violation of environmental norms to the Board of Directors of the Company and / or stakeholders or shareholders.</p>	<p>Policies towards Corporate Environment Responsibility is in place. The latest Corporate environment policy enumerating corporate responsibilities is attached as Annexure 5. Company has implemented a system in line with the above policies which addresses following points.(i) Standard operating process/procedure to bring into focus any infringements/ deviation/ violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance EC conditions and (iii) System of reporting of non compliance.</p>
19	<p>The project authorities should advertise at least in two local newspapers widely circulated, one of which locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubneshwar.</p>	<p>Complied and informed.</p>



Signature

Photographs of Hisri (New) Bauxite mine





(PLANTATION OF HISRI NEW LEASE)



(Slope Stability)



Fencing On Plantation Area



Oil & Grease Trap



(Water Sprinkling)



(Bio-park at mines in Reclaimed area)



Rain Water Harvesting Pond



(Paddy field in reclaimed areas)



Eco Ventures Pvt. Ltd.

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Mahabal Enviro Engineers Pvt. Ltd.

At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,
District – Ranchi 834009

HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT

APRIL 2021

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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CONTENT

LOCATION - HISRI (NEW) BAUXITE MINE	
AMBIENT AIR QUALITY - CORE ZONE	
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
AMBIENT NOISE	
SPOT NOISE	
DRINKING WATER ANALYSIS	
SPRING WATER QUALITY	





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No: MEEPL/MAY/0143/2021-22	Date: 10 th May, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Water Pump	
Sample collected on: 07.04.2021	

LOCATION / IDENTIFICATION: Near Water Pump				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	48.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	25.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.4
05.	Ammonia (NH ₃)	µg/m ³	400	3.9
06.	Ozone (O ₃)	µg/m ³	180	10.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.16
08.	Lead (Pb)	µg/m ³	1.0	0.06
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	2.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.35

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0144/2021-22	Date: 10 th May, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Rest Shelter	
Sample collected on: 07.04.2021	

LOCATION / IDENTIFICATION: Near Old rest Shelter				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	55.8
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	27.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.8
05.	Ammonia (NH ₃)	µg/m ³	400	6.5
06.	Ozone (O ₃)	µg/m ³	180	11.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.26
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	2.9
10.	Arsenic (As)	ng/m ³	06	2.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.4

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0145/2021-22	Date: 10 th May, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Plantation (North West Corner)	
Sample collected on: 07.04.2021	

LOCATION / IDENTIFICATION: Near Old Plantation (North West Corner)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	68.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.6
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.9
05.	Ammonia (NH ₃)	µg/m ³	400	5.2
06.	Ozone (O ₃)	µg/m ³	180	10.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.19
08.	Lead (Pb)	µg/m ³	1.0	0.15
09.	Nickel (Ni)	ng/m ³	20	2.8
10.	Arsenic (As)	ng/m ³	06	2.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0146/2021-22

Date: 10th May, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Hisri New (Southern Area)**

Sample collected on: 07.04.2021

LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	65.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	30.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.4
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.9
05.	Ammonia (NH ₃)	µg/m ³	400	3.2
06.	Ozone (O ₃)	µg/m ³	180	10.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	3.8
10.	Arsenic (As)	ng/m ³	06	2.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

April 2021

Report No: MEEPL/MAY/0126/2021-22	Date: 10 th May, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Daldaliya Village	
Sample collected on: 05.04.2021	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	54.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	22.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	6.2
05.	Ammonia (NH ₃)	µg/m ³	400	7.6
06.	Ozone (O ₃)	µg/m ³	180	11.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.31
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	4.2
10.	Arsenic (As)	ng/m ³	06	2.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	3.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.48

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

April 2021

Report No: MEEPL/MAY/0127/2021-22	Date: 10 th May, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Aditya School Gangupara	
Sample collected on: 05.04.2021	

LOCATION / IDENTIFICATION: Aditya School Gangupara

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	54
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	29
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.6
05.	Ammonia (NH ₃)	µg/m ³	400	4.8
06.	Ozone (O ₃)	µg/m ³	180	9.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.11
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	2.2
10.	Arsenic (As)	ng/m ³	06	2.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.7

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

April 2021

Report No: MEEPL/MAY/0128/2021-22	Date: 10 th May, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Ropeway Unloading Station	
Sample collected on: 05.04.2021	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	59
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	29
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.7
05.	Ammonia (NH ₃)	µg/m ³	400	5.2
06.	Ozone (O ₃)	µg/m ³	180	11.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.29
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	3.2
10.	Arsenic (As)	ng/m ³	06	2.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	3.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.35

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

April 2021

Report No: MEEPL/MAY/0129/2021-22 Date: 10th May, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**
Client Address: Lohardaga
Postal Code: 835203
State: Jharkhand
Country: India
Sample Type: **AMBIENT AIR QUALITY MONITORING**
Marks on Sample: Location: **Ropeway Angle Station**
Sample collected on: 05.04.2021

LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	53
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	37
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	5.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	7.8
05.	Ammonia (NH ₃)	µg/m ³	400	5.3
06.	Ozone (O ₃)	µg/m ³	180	10.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.21
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.4
10.	Arsenic (As)	ng/m ³	06	3.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	3.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0147/2021-22	Date: 10 th May, 2021
Sample described by customer: Measurement of Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Description: Measurement of Noise	
Sampling Method: Instrumental, using Sound level Meter	
Data Collection Date: 07.04.2021	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Hisri (New) Mines	dB (A) L_{eq}	75	67.3	70	56.2

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0148/2021-22	Date: 10 th May, 2021
Sample described by customer: Measurement of Spot Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Description: Measurement of Spot Noise	
Sampling Method: Instrumental, using Sound level Metter	
Data Collection Date: 07.04.2021	

Location/Identification	Unit	Limit (day)	Result
Hisri (New) – Southern Area	dB (A) L _{eq}	75	68.3

For Mahabal Enviro Engineers Pvt. Ltd.

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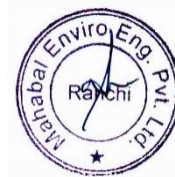
Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0149/2021-22	Date: 10 th May, 2021
Sample described by customer : DRINKING WATER	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: DRINKING WATER	
Marks on Sample: Location: Hisri (New) – Drinking Water.	
Sample collected on: 07.04.2021	

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS10500:2012)	Method reference
1	Colour	Hazen	<1	5 Max	APHA 22 nd Ed. 2012, 2120-B, 2-6
2	Odour	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
3	Taste	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
4	Turbidity	NTU	0.4	1 Max	APHA 22 nd Ed. 2012, 2130-B, 2-13
5	pH	--	7.3	6.5-8.5	APHA 22 nd Ed. 2012, 4500-H+-B, 4-92
6	Free Chlorides (Residual)	mg/l	<0.5	0.2 min	APHA 22 nd Ed. 2012, 4500-CI-G, 4-69
7	Total Dissolved Solids	mg/l	148	500 max	IS 3025 (Part 16): 1984, Reaffirmed 2006
8	Monochloramines	mg/l	<0.05	--	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
9	Dichloramines	mg/l	<0.05	--	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
10	Total hardness (as CaCO ₃)	mg/l	35.5	200 max	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
11	Alkalinity Total (as CaCO ₃)	mg/l	31.4	200 max	IS 3025 (Part 237): 1986, Reaffirmed 2009
12	Chloride (as Cl)	mg/l	6.8	250 max	APHA 22 nd Ed. 2012, 4500-CI-b, 4-72
13	Sulphate (as SO ₄)	mg/l	4.7	200 max	APHA 22 nd Ed. 2012, 4500-so4-e, 4-190





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Continuation Sheet

MEEPL/MAY/0149/2021-22

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS10500:2012)	Method reference
14	Nitrate (as NO ₃)	mg/l	1.8	45 max	APHA 22 nd Ed. 2012, 4500-NO ₃ -E, 4-125
15	Fluoride (as F)	mg/l	0.16	1 max	APHA 22 nd Ed. 2012, 4500-FB & D, 4-84, 4-87
16	Boron (as B)	mg/l	0.12	0.5 max	APHA 22 nd Ed. 2012, 4500-BB, 4-25
17	Calcium (as Ca)	mg/l	29	75 max	APHA 22 nd Ed. 2012, 3500-Ca-B, 3-67
18	Magnesium (as Mg)	mg/l	1.9	30 max	APHA 22 nd Ed. 2012, 3500-Mg-B, 3-84
19	Ammonical Nitrogen/Total Ammonia	mg/l	<0.1	--	APHA 22 nd Ed. 2012, 4500-NH ₃ -F, 4-115
20	Iron (as Fe)	mg/l	0.18	0.3 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
21	Manganese (as Mn)	mg/l	N.D	0.1 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
22	Aluminium (as Al)	mg/l	0.02	0.03 max	APHA 22 nd Ed. 2012, 3500-Al-B, 3-61
23	Cadmium (as Cd)	mg/l	N.D	0.003 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
24	Chromium Total (as Cr)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
25	Copper (as Cu)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
26	Lead (as Pb)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
27	Zinc (as Zn)	mg/l	0.03	5 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
28	Arsenic (as As)	mg/l	<0.01	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-18
29	Selenium (as Se)	mg/l	N.D	0.001 max	APHA 22 nd Ed. 2012, 3112-B, 3-18
30	Mercury (as hg)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-18
31	Nickel (as Ni)	mg/l	<0.02	0.02 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
32	Mineral Oil	mg/l	N.D	0.5 max	IS 3025 (Part 39): 1991, Reaffirmed 2003: ed. 2.1
33	Cyanide (as CN)	mg/l	N.D	0.05 max	APHA 22 nd ED. 2012, 4500-CN.C & 4-39 & 4-44
34	Anionic detergents as MBAS	mg/l	<0.1	0.2 max	APHA 22 nd ED. 2012, 5540-C.C & 5-53
35	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	N.D	0.001 max	APHA 22 nd ED. 2012, 5530-B & C 5-4753
36	Polynuclear aromatic hydrocarbons (PAH)	mg/l	N.D	0.0001 max	APHA 22 nd ED. 2012, 6440, 6-93
37	Polychlorinated Biphenyls (PCBs)	mg/l	N.D	0.0005 max	USEPA Method 8082
38	Sulphide (as S)	mg/l	N.D	0.05 max	APHA 22 nd ED. 2012, 4500-S2-C 4-175 & F 4-178





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Continuation Sheet
MEEPL/MAY/0149/2021-22

S.No	Parameters	Unit	Result	Acceptable Limit (IS10500:2012)	Method Reference
Microbiological Analysis					
1.	Total Colliforms	MPN/100 mL	N.D	<1.1	APHA 22nd Ed. 2012, 9221-B & C, 9-66, 9-69
2.	E-Coli	MPN/100 mL	N.D	Absent	APHA 22nd Ed. 2012, 9221-B, C & G, 9-66, 9-69 and 9-76
Pesticides Residues					
3.	p,p DDT	µg/L	N.D	1	US EPA 508-1995
4.	o,p DDT	µg/L	N.D	1	US EPA 508-1995
5.	p,p DDE	µg/L	N.D	1	US EPA 508-1995
6.	o,p DDE	µg/L	N.D	1	US EPA 508-1995
7.	p,p DDD	µg/L	N.D	1	US EPA 508-1995
8.	o,p DDD	µg/L	N.D	1	US EPA 508-1995
9.	γ-HCH (Lindane)	µg/L	<0.01	2	US EPA 508-1995
10.	α-HCH	µg/L	<0.01	0.02	US EPA 508-1995
11.	β-HCH	µg/L	N.D	0.03	US EPA 508-1995
12.	δ - HCH	µg/L	N.D	0.03	US EPA 508-1995
13.	Butachlor	µg/L	N.D	120	US EPA 508-1995
14.	Alachlor	µg/L	N.D	20	US EPA 508-1995
15.	Atrazine	µg/L	N.D	2.1	US EPA 532-2000
16.	α Endosulfan	µg/L	N.D	0.4	US EPA 508-1995
17.	β Endosulfan	µg/L	N.D	0.4	US EPA 508-1995
18.	Endosulfan Sulphate	µg/L	N.D	0.3	US EPA 508-1995
19.	Ethion	µg/L	N.D	3	US EPA 8141A-1994
20.	Malathion	µg/L	N.D	185	US EPA 8141A -1994
21.	Methyl Parathion	µg/L	N.D	0.4	US EPA 8141A -1994
22.	Monocrotophos	µg/L	N.D	1	US EPA 8141A-1994
23.	Phorate	µg/L	N.D	2	US EPA 8141A -1994
24.	Chlorpyrifos	µg/L	N.D	26	US EPA 8141A -1994
25.	Aldrin	µg/L	N.D	0.03	US EPA 508-1995
26.	Dieldrin	µg/L	N.D	0.03	US EPA 508-1995
Remarks: N.D- Not Detected					

Conclusion: The Physical & Chemical Analysis report indicates that water is not contaminated.

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Report No.: MEEPL/MAY/0150/2021-22	Date: 10 th May, 2021
Sample described by customer : SPRING WATER	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: SPRING WATER	
Marks on Sample: Location: Hisri (New) Mines	
Quantity: 5 L X 2 No. PVC Can	
Sample collected on: 07.04.2021	

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS 10500:2012)	Method Reference
1	Colour	Hazen	<2	5 Max	APHA 22 nd Ed. 2012, 2120-B, 2-6
2	Odour	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
3	Taste	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
4	Turbidity	NTU	0.34	1 Max	APHA 22 nd Ed. 2012, 2130-B, 2-13
5	pH	--	6.9	6.5-8.5	APHA 22 nd Ed. 2012, 4500-H+-B, 4-92
6	Free Chlorides (Residual)	mg/l	<0.5	0.2 min	APHA 22 nd Ed. 2012, 4500-CI-G, 4-69
7	Total Dissolved Solids	mg/l	411	500 max	IS 3025 (Part 16): 1984, Reaffirmed 2006
8	Total hardness (as CaCO ₃)	mg/l	36	200 max	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
9	Alkalinity Total (as CaCO ₃)	mg/l	43	200 max	IS 3025 (Part 237): 1986, Reaffirmed 2009
10	Chloride (as Cl)	mg/l	39	250 max	APHA 22 nd Ed. 2012, 4500-CI-b, 4-72
11	Sulphate (as SO ₄)	mg/l	25.8	200 max	APHA 22 nd Ed. 2012, 4500-so4-e, 4-190
12	Boron (as B)	mg/l	0.29	0.5 max	APHA 22 nd Ed. 2012, 4500-BB, 4-25
13	Magnesium (as Mg)	mg/l	6.8	30 max	APHA 22 nd Ed. 2012, 3500-Mg-B, 3-84





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

April 2021

Continuation Sheet MEEPL/MAY/0150/2021-22

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS 10500:2012)	Method Reference
14	Fluoride (as F)	mg/l	0.17	1 max	APHA 22 nd Ed. 2012, 4500-FB & D, 4-84, 4-87
15	Calcium (as Ca)	mg/l	9.9	75 max	APHA 22 nd Ed. 2012, 3500-Ca-B, 3-67
16	Iron (as Fe)	mg/l	0.09	0.3 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
17	Cadmium (as Cd)	mg/l	N.D	0.003 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
18	Chromium Total (as Cr)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
19	Copper (as Cu)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
20	Lead (as Pb)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
21	Zinc (as Zn)	mg/l	0.04	5 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
22	Arsenic (as As)	mg/l	<0.01	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-38
23	Selenium (as Se)	mg/l	N.D	0.001 max	APHA 22 nd Ed. 2012, 3112-B, 3-23
24	Mercury (as hg)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-38
25	Cyanide (as CN)	mg/l	N.D	0.05 max	APHA 22 nd ED. 2012, 4500-CN.C & 4-39 & 4-44
26	Manganese (as Mn)	mg/l	N.D	0.1 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
27	Dissolved Oxygen	mg/l	7.5	7-8	APHA 20 th ED. Method 4500-o g.

Conclusion: The Physical & Chemical Analysis report indicates that water is not contaminated.

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Eco Ventures Pvt. Ltd.

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Mahabal Enviro Engineers Pvt. Ltd.

At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,
District – Ranchi 834009

HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT

MAY 2021

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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CONTENT

LOCATION - HISRI (NEW) BAUXITE MINE	
AMBIENT AIR QUALITY - CORE ZONE	
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0022/2021-22	Date: 7 th June, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Water Pump	
Sample collected on: 05.05.2021	

LOCATION / IDENTIFICATION: Near Water Pump				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	52.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.5
05.	Ammonia (NH ₃)	µg/m ³	400	3.6
06.	Ozone (O ₃)	µg/m ³	180	10.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.8
10.	Arsenic (As)	ng/m ³	06	2.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0023/2021-22	Date: 7 th June, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Rest Shelter	
Sample collected on: 05.05.2021	

LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	54.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.4
06.	Ozone (O ₃)	µg/m ³	180	10.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	ng/m ³	20	2.5
10.	Arsenic (As)	ng/m ³	06	2.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.24

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0024/2021-22	Date: 7 th June, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Plantation (North West Corner)	
Sample collected on: 05.05.2021	

LOCATION / IDENTIFICATION: Near Old Plantation (North West Corner)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	61.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	30.6
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.1
05.	Ammonia (NH ₃)	µg/m ³	400	5.4
06.	Ozone (O ₃)	µg/m ³	180	10.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	3.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	3.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.26

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0025/2021-22

Date: 7th June, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Hisri New (Southern Area)**

Sample collected on: 05.05.2021

LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	70.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	61
05.	Ammonia (NH ₃)	µg/m ³	400	6.9
06.	Ozone (O ₃)	µg/m ³	180	10.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	2.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0014/2021-22	Date: 7 th June, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Daldaliya Village	
Sample collected on: 04.05.2021	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	56.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	24.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.6
05.	Ammonia (NH ₃)	µg/m ³	400	3.5
06.	Ozone (O ₃)	µg/m ³	180	8.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.21
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	2.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.24

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0015/2021-22	Date: 7 th June, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Aditya School Gangupara	
Sample collected on: 04.05.2021	

LOCATION / IDENTIFICATION: Aditya School Gangupara

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	53.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	22.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.2
05.	Ammonia (NH ₃)	µg/m ³	400	4.6
06.	Ozone (O ₃)	µg/m ³	180	8.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.24
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	2.4
10.	Arsenic (As)	ng/m ³	06	2.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.3

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0016/2021-22	Date: 7 th June, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Ropeway Unloading Station	
Sample collected on: 04.05.2021	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	60.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	27.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.2
05.	Ammonia (NH ₃)	µg/m ³	400	5.4
06.	Ozone (O ₃)	µg/m ³	180	10.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.07
09.	Nickel (Ni)	ng/m ³	20	3.6
10.	Arsenic (As)	ng/m ³	06	3.2
11.	Benzene (C ₆ H ₆)	µg/m ³	05	3.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

MAY 2021

Report no: MEEPL/JUNE/0017/2021-22 Date: 7th June, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**
Client Address: Lohardaga
Postal Code: 835203
State: Jharkhand
Country: India
Sample Type: **AMBIENT AIR QUALITY MONITORING**
Marks on Sample: Location: **Ropeway Angle Station**
Sample collected on: 04.05.2021

LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	52.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	30.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.6
05.	Ammonia (NH ₃)	µg/m ³	400	3.9
06.	Ozone (O ₃)	µg/m ³	180	9.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.35
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.8
10.	Arsenic (As)	ng/m ³	06	2.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

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HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT

JUNE 2021

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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CONTENT

LOCATION - HISRI (NEW) BAUXITE MINE	
AMBIENT AIR QUALITY - CORE ZONE	
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0022/2021-22	Date: 12 th July, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Water Pump	
Sample collected on: 05.06.2021	

LOCATION / IDENTIFICATION: Near Water Pump				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	56.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.4
05.	Ammonia (NH ₃)	µg/m ³	400	2.7
06.	Ozone (O ₃)	µg/m ³	180	9.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.13
09.	Nickel (Ni)	ng/m ³	20	1.4
10.	Arsenic (As)	ng/m ³	06	2.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.32

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0023/2021-22	Date: 12 th July, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Rest Shelter	
Sample collected on: 05.06.2021	

LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	53.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	24.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.9
06.	Ozone (O ₃)	µg/m ³	180	8.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.24
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	ng/m ³	20	2.5
10.	Arsenic (As)	ng/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0024/2021-22	Date: 12 th July, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Plantation (North West Corner)	
Sample collected on: 05.06.2021	

LOCATION / IDENTIFICATION: Near Old Plantation (North West Corner)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	65.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.1
05.	Ammonia (NH ₃)	µg/m ³	400	4.7
06.	Ozone (O ₃)	µg/m ³	180	9.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.24
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	2.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.26

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0025/2021-22 Date: 12th July, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Hisri New (Southern Area)**

Sample collected on: 05.06.2021

LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	62.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.6
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.4
05.	Ammonia (NH ₃)	µg/m ³	400	3.3
06.	Ozone (O ₃)	µg/m ³	180	8.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	ng/m ³	20	2.9
10.	Arsenic (As)	ng/m ³	06	2.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	3.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

Branch Office:

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Hindalco Industries : Bagru

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0014/2021-22	Date: 12 th July, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Daldaliya Village	
Sample collected on: 03.06.2021	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	59.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.9
05.	Ammonia (NH ₃)	µg/m ³	400	3.8
06.	Ozone (O ₃)	µg/m ³	180	9.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.7
10.	Arsenic (As)	ng/m ³	06	2.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0015/2021-22	Date: 12 th July, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Aditya School Gangupara	
Sample collected on: 03.06.2021	

LOCATION / IDENTIFICATION: Aditya School Gangupara

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	55.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.4
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.8
05.	Ammonia (NH ₃)	µg/m ³	400	2.9
06.	Ozone (O ₃)	µg/m ³	180	8.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	2.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	0.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0016/2021-22	Date: 12 th July, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Ropeway Unloading Station	
Sample collected on: 03.06.2021	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	55.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	24.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.1
05.	Ammonia (NH ₃)	µg/m ³	400	4.6
06.	Ozone (O ₃)	µg/m ³	180	9.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	2.1
10.	Arsenic (As)	ng/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

JUNE 2021

Report no: MEEPL/JULY/0017/2021-22

Date: 12th July, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Ropeway Angle Station**

Sample collected on: 03.06.2021

LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	51.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.8
05.	Ammonia (NH ₃)	µg/m ³	400	3.6
06.	Ozone (O ₃)	µg/m ³	180	8.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.4
10.	Arsenic (As)	ng/m ³	06	2.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.36

For Mahabal Enviro Engineers Pvt. Ltd.

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Eco Ventures Pvt. Ltd.

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Corporate Office: 7/8 Bhaveshwar Bhuvan, Opp Portugese Church, Near Dindayal Upadhyay Garden,
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E: ecoventures.mumbai@gmail.com / ecoventures@eco-ventures.in

Mahabal Enviro Engineers Pvt. Ltd.

At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,
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HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT

JULY 2021

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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CONTENT

LOCATION - HISRI (NEW) BAUXITE MINE	
AMBIENT AIR QUALITY - CORE ZONE	
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)
RUNOFF WATER	
DRINKING WATER ANALYSIS	





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0030/2021-22	Date: 10th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Water Pump	
Sample collected on: 07.07.2021	

LOCATION / IDENTIFICATION: Near Water Pump				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	45.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	20.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.8
05.	Ammonia (NH ₃)	µg/m ³	400	2.4
06.	Ozone (O ₃)	µg/m ³	180	6.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.4
10.	Arsenic (As)	ng/m ³	06	1.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.24

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0031/2021-22	Date: 10 th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Rest Shelter	
Sample collected on: 07.07.2021	

LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	46.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.7
05.	Ammonia (NH ₃)	µg/m ³	400	4.4
06.	Ozone (O ₃)	µg/m ³	180	5.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.27
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	1.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.26

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0032/2021-22	Date: 10 th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Plantation (North West Corner)	
Sample collected on: 07.07.2021	

LOCATION / IDENTIFICATION: Near Old Plantation (North West Corner)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	50.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	24.4
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.6
05.	Ammonia (NH ₃)	µg/m ³	400	3.5
06.	Ozone (O ₃)	µg/m ³	180	4.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.23
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.7
10.	Arsenic (As)	ng/m ³	06	2.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.26

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0033/2021-22	Date: 10th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Hisri New (Southern Area)	
Sample collected on: 07.07.2021	

LOCATION / IDENTIFICATION: Hisri New (Southern Area)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	68.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	33.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.6
05.	Ammonia (NH ₃)	µg/m ³	400	3.8
06.	Ozone (O ₃)	µg/m ³	180	5.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	1.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0017/2021-22	Date: 10th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Daldaliya Village	
Sample collected on: 05.07.2021	

LOCATION / IDENTIFICATION: Near Daldaliya Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	37.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	18.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.4
05.	Ammonia (NH ₃)	µg/m ³	400	2.5
06.	Ozone (O ₃)	µg/m ³	180	5.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.26
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	2.3
10.	Arsenic (As)	ng/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.24

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0018/2021-22	Date: 10 th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Aditya School Gangupara	
Sample collected on: 05.07.2021	

LOCATION / IDENTIFICATION: Aditya School Gangupara

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	41.8
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	21.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.5
05.	Ammonia (NH ₃)	µg/m ³	400	2.7
06.	Ozone (O ₃)	µg/m ³	180	5.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.24
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	1.8
10.	Arsenic (As)	ng/m ³	06	1.28
11.	Benzene (C ₆ H ₆)	µg/m ³	05	0.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.33

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0019/2021-22	Date: 10 th August, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Ropeway Unloading Station	
Sample collected on: 05.07.2021	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	45.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	20.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.5
05.	Ammonia (NH ₃)	µg/m ³	400	4.7
06.	Ozone (O ₃)	µg/m ³	180	6.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.29
08.	Lead (Pb)	µg/m ³	1.0	0.06
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	1.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.29

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Bagru

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0020/2021-22 Date: 10th August, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**
Client Address: Lohardaga
Postal Code: 835203
State: Jharkhand
Country: India
Sample Type: **AMBIENT AIR QUALITY MONITORING**
Marks on Sample: Location: **Ropeway Angle Station**
Sample collected on: 05.07.2021

LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	40.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	19.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.3
06.	Ozone (O ₃)	µg/m ³	180	6.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.24
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	2.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.21

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0034/2021-22			Date: 10th August, 2021		
Sample described by customer: Runoff Water					
Client Name: Hindalco Industries Limited					
Client Address: Lohardaga					
Postal Code: 835203					
State: Jharkhand					
Country: India					
Sample Type: Runoff Water – Surface Water					
Marks on Sample: Location: Runoff Water – Hisri (New) Bauxite Mines					
Quantity: 4 liters.					
Sample collected on: 07.07.2021					
Sl. No.	Analysis	Method	Result	Unit	Limits
1.	pH	APHA 22 nd Ed. 2012, 4500-H+-B,4-92	7.8	mg/l	5.5-9.0
2.	Total Suspended Solids	APHA 22 nd EDN: 2012-2540	79	mg/l	100
3.	BOD @ 27°C	IS 3025 (Part 44): 1993, RA2003, Amd.1	6.8	mg/l	30
4.	COD	IS 3025 (Part 58): 1993, RA2006, Amd.1	34	mg/l	250
5.	Oil & Grease	IS 3025(PART 39): 1991 RA 2003,Ed 2.1	<5.0	mg/l	10
6.	Total Dissolved Solids	APHA 22 ND EDN 2012-2540	1595	mg/l	2100
7.	Aluminium (as Al)	APHA 22 nd EDN 2012-3120B	1.3	mg/l	3
8.	Calcium (as Ca)	APHA 22 nd EDN 2012-3120B	7.4	mg/l	75
9.	Iron (as Fe)	APHA 22 nd EDN 2012-3120B	1.3	mg/l	3
10.	Temperature		14.6	°C	Shall not exceed 5°C above the receiving water temperature

For Mahabal Enviro Engineers Pvt. Ltd.

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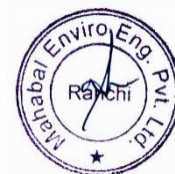
Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Report No. : MEEPL/AUG/0035/2021-22	Date: 10th August, 2021
Sample described by customer : DRINKING WATER	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: DRINKING WATER	
Marks on Sample: Location: Hisri (New) – Drinking Water.	
Sample collected on: 07.07.2021	

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS10500:2012)	Method reference
1	Colour	Hazen	<1	5 Max	APHA 22 nd Ed. 2012, 2120-B, 2-6
2	Odour	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
3	Taste	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
4	Turbidity	NTU	0.3	1 Max	APHA 22 nd Ed. 2012, 2130-B, 2-13
5	pH	--	6.6	6.5-8.5	APHA 22 nd Ed. 2012, 4500-H+-B, 4-92
6	Free Chlorides (Residual)	mg/l	<0.5	0.2 min	APHA 22 nd Ed. 2012, 4500-CI-G, 4-69
7	Total Dissolved Solids	mg/l	131	500 max	IS 3025 (Part 16): 1984, Reaffirmed 2006
8	Monochloramines	mg/l	<0.05	--	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
9	Dichloramines	mg/l	<0.05	--	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
10	Total hardness (as CaCO ₃)	mg/l	31.5	200 max	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
11	Alkalinity Total (as CaCO ₃)	mg/l	24.4	200 max	IS 3025 (Part 237): 1986, Reaffirmed 2009
12	Chloride (as Cl)	mg/l	6.3	250 max	APHA 22 nd Ed. 2012, 4500-CI-b, 4-72
13	Sulphate (as SO ₄)	mg/l	4.5	200 max	APHA 22 nd Ed. 2012, 4500-so4-e, 4-190





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Continuation Sheet MEEPL/AUG/0035/2021-22

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS10500:2012)	Method reference
14	Nitrate (as NO ₃)	mg/l	1.9	45 max	APHA 22 nd Ed. 2012, 4500-NO ₃ -E, 4-125
15	Fluoride (as F)	mg/l	0.16	1 max	APHA 22 nd Ed. 2012, 4500-FB & D, 4-84, 4-87
16	Boron (as B)	mg/l	0.12	0.5 max	APHA 22 nd Ed. 2012, 4500-BB, 4-25
17	Calcium (as Ca)	mg/l	27	75 max	APHA 22 nd Ed. 2012, 3500-Ca-B, 3-67
18	Magnesium (as Mg)	mg/l	1.8	30 max	APHA 22 nd Ed. 2012, 3500-Mg-B, 3-84
19	Ammonical Nitrogen/Total Ammonia	mg/l	<0.1	--	APHA 22 nd Ed. 2012, 4500-NH ₃ -F, 4-115
20	Iron (as Fe)	mg/l	0.17	0.3 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
21	Manganese (as Mn)	mg/l	N.D	0.1 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
22	Aluminium (as Al)	mg/l	0.01	0.03 max	APHA 22 nd Ed. 2012, 3500-Al-B, 3-61
23	Cadmium (as Cd)	mg/l	N.D	0.003 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
24	Chromium Total (as Cr)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
25	Copper (as Cu)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
26	Lead (as Pb)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
27	Zinc (as Zn)	mg/l	0.02	5 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
28	Arsenic (as As)	mg/l	<0.01	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-18
29	Selenium (as Se)	mg/l	N.D	0.001 max	APHA 22 nd Ed. 2012, 3112-B, 3-18
30	Mercury (as hg)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-18
31	Nickel (as Ni)	mg/l	<0.02	0.02 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
32	Mineral Oil	mg/l	N.D	0.5 max	IS 3025 (Part 39): 1991, Reaffirmed 2003: ed. 2.1
33	Cyanide (as CN)	mg/l	N.D	0.05 max	APHA 22 nd ED. 2012, 4500-CN.C & 4-39 & 4-44
34	Anionic detergents as MBAS	mg/l	<0.1	0.2 max	APHA 22 nd ED. 2012, 5540-C.C & 5-53
35	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	N.D	0.001 max	APHA 22 nd ED. 2012, 5530-B & C 5-4753
36	Polynuclear aromatic hydrocarbons (PAH)	mg/l	N.D	0.0001 max	APHA 22 nd ED. 2012, 6440, 6-93
37	Polychlorinated Biphenyls (PCBs)	mg/l	N.D	0.0005 max	USEPA Method 8082
38	Sulphide (as S)	mg/l	N.D	0.05 max	APHA 22 nd ED. 2012, 4500-S2-C 4-175 & F 4-178





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JULY 2021

Continuation Sheet
MEEPL/AUG/0035/2021-22

S.No	Parameters	Unit	Result	Acceptable Limit (IS10500:2012)	Method Reference
Microbiological Analysis					
1.	Total Colliforms	MPN/100 mL	N.D	<1.1	APHA 22nd Ed. 2012, 9221-B & C, 9-66, 9-69
2.	E-Coli	MPN/100 mL	N.D	Absent	APHA 22nd Ed. 2012, 9221-B, C & G, 9-66, 9-69 and 9-76
Pesticides Residues					
3.	p,p DDT	µg/L	N.D	1	US EPA 508-1995
4.	o,p DDT	µg/L	N.D	1	US EPA 508-1995
5.	p,p DDE	µg/L	N.D	1	US EPA 508-1995
6.	o,p DDE	µg/L	N.D	1	US EPA 508-1995
7.	p,p DDD	µg/L	N.D	1	US EPA 508-1995
8.	o,p DDD	µg/L	N.D	1	US EPA 508-1995
9.	γ-HCH (Lindane)	µg/L	<0.01	2	US EPA 508-1995
10.	α-HCH	µg/L	<0.01	0.02	US EPA 508-1995
11.	β-HCH	µg/L	N.D	0.03	US EPA 508-1995
12.	δ - HCH	µg/L	N.D	0.03	US EPA 508-1995
13.	Butachlor	µg/L	N.D	120	US EPA 508-1995
14.	Alachlor	µg/L	N.D	20	US EPA 508-1995
15.	Atrazine	µg/L	N.D	2.1	US EPA 532-2000
16.	α Endosulfan	µg/L	N.D	0.4	US EPA 508-1995
17.	β Endosulfan	µg/L	N.D	0.4	US EPA 508-1995
18.	Endosulfan Sulphate	µg/L	N.D	0.3	US EPA 508-1995
19.	Ethion	µg/L	N.D	3	US EPA 8141A-1994
20.	Malathion	µg/L	N.D	185	US EPA 8141A -1994
21.	Methyl Parathion	µg/L	N.D	0.4	US EPA 8141A -1994
22.	Monocrotophos	µg/L	N.D	1	US EPA 8141A-1994
23.	Phorate	µg/L	N.D	2	US EPA 8141A -1994
24.	Chlorpyrifos	µg/L	N.D	26	US EPA 8141A -1994
25.	Aldrin	µg/L	N.D	0.03	US EPA 508-1995
26.	Dieldrin	µg/L	N.D	0.03	US EPA 508-1995
Remarks: N.D- Not Detected					

Conclusion: The Physical & Chemical Analysis report indicates that water is not contaminated.

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Eco Ventures Pvt. Ltd.

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Mahabal Enviro Engineers Pvt. Ltd.

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District – Ranchi 834009

HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT

AUGUST 2021

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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CONTENT

LOCATION - HISRI (NEW) BAUXITE MINE	
AMBIENT AIR QUALITY - CORE ZONE	
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0022/2021-22	Date: 10 th September, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Water Pump	
Sample collected on: 06.08.2021	

LOCATION / IDENTIFICATION: Near Water Pump				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	30.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	13.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.9
05.	Ammonia (NH ₃)	µg/m ³	400	1.5
06.	Ozone (O ₃)	µg/m ³	180	5.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.05
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	1.7
10.	Arsenic (As)	ng/m ³	06	1.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	0.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.12

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0023/2021-22	Date: 10 th September, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Rest Shelter	
Sample collected on: 06.08.2021	

LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	22.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	8.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.9
05.	Ammonia (NH ₃)	µg/m ³	400	2.5
06.	Ozone (O ₃)	µg/m ³	180	7.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.06
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.6
10.	Arsenic (As)	ng/m ³	06	1.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.17

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0024/2021-22	Date: 10 th September, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Plantation (North West Corner)	
Sample collected on: 06.08.2021	

LOCATION / IDENTIFICATION: Near Old Plantation (North West Corner)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	28.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	8.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.6
05.	Ammonia (NH ₃)	µg/m ³	400	1.8
06.	Ozone (O ₃)	µg/m ³	180	8.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.04
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	1.6
10.	Arsenic (As)	ng/m ³	06	0.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.17

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0025/2021-22

Date: 10th September, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Hisri New (Southern Area)**

Sample collected on: 06.08.2021

LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	25.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	11.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.5
05.	Ammonia (NH ₃)	µg/m ³	400	3.9
06.	Ozone (O ₃)	µg/m ³	180	9.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.16
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.05

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0014/2021-22	Date: 10 th September, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample Location: Near Daldaliya Village	
Sample collected on: 04.08.2021	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	19.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	9.4
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.9
05.	Ammonia (NH ₃)	µg/m ³	400	1.6
06.	Ozone (O ₃)	µg/m ³	180	6.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.05
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.5
10.	Arsenic (As)	ng/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.05

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0015/2021-22	Date: 10 th September, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Aditya School Gangupara	
Sample collected on: 04.08.2021	

LOCATION / IDENTIFICATION: Aditya School Gangupara				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	15.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	7.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.7
05.	Ammonia (NH ₃)	µg/m ³	400	3.7
06.	Ozone (O ₃)	µg/m ³	180	9.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.05
08.	Lead (Pb)	µg/m ³	1.0	0.07
09.	Nickel (Ni)	ng/m ³	20	1.8
10.	Arsenic (As)	ng/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.7
12.	Benzo (a) Pyrene	µg/m ³	01	0.5

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

Branch Office:

At Booty, Near PHED Colony, Behind Pump House, PO – RMCC, District – Ranchi 834009,
Mobile No: +91 9431.102.102 / +91 9955.358.262,
E-mail: mahabalanranchi@gmail.com

Hindalco Industries : Bagru

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0016/2021-22	Date: 10 th September, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Ropeway Unloading Station	
Sample collected on: 04.08.2021	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	22.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	18.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.8
05.	Ammonia (NH ₃)	µg/m ³	400	2.4
06.	Ozone (O ₃)	µg/m ³	180	7.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.15
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	1.6
10.	Arsenic (As)	ng/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.18

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Bagru

Environmental Monitoring Report

AUGUST 2021

Report no: MEEPL/SEP/0017/2021-22 Date: 10th September, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**
Client Address: Lohardaga
Postal Code: 835203
State: Jharkhand
Country: India
Sample Type: **AMBIENT AIR QUALITY MONITORING**
Marks on Sample: Location: **Ropeway Angle Station**
Sample collected on: 04.08.2021

LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	21.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	12.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.8
05.	Ammonia (NH ₃)	µg/m ³	400	3.7
06.	Ozone (O ₃)	µg/m ³	180	7.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.18
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	ng/m ³	20	1.8
10.	Arsenic (As)	ng/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.21

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Eco Ventures Pvt. Ltd.

Regd. Office: 2/37, Sarvapriya Vihar, Near IIT Gate, New Delhi-110016

Corporate Office: 7/8 Bhaveshwar Bhuvan, Opp Portugese Church, Near Dindayal Upadhyay Garden,
Gokhale Road (North), Dadar (West), Mumbai 400 028. Tel: +91 22 24370520 / 6672.

E: ecoventures.mumbai@gmail.com / ecoventures@eco-ventures.in

Mahabal Enviro Engineers Pvt. Ltd.

At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,
District – Ranchi 834009

HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT

SEPTEMBER 2021

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Branch Office:

At Booty, Near PHED Colony, Behind Pump House, PO – RMCC, District – Ranchi 834009,

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E-mail: mahabalranchi@gmail.com

CONTENT

LOCATION – HISRI (NEW) BAUXITE MINE	
AMBIENT AIR QUALITY – CORE ZONE	
1	Near Water Pump
2	Near Old Rest Shelter
3	Near Old Plantation (North West Corner)
4	Hisri New (Southern Area)





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0022/2021-22

Date: 15th October, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: Hindalco Industries Limited

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: AMBIENT AIR QUALITY MONITORING

Marks on Sample Location: Near Water Pump

Sample collected on: 04.09.2021

LOCATION / IDENTIFICATION: Near Water Pump

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	38.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	18.4
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.5
05.	Ammonia (NH ₃)	µg/m ³	400	5.6
06.	Ozone (O ₃)	µg/m ³	180	7.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.14
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	2.2
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.22

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0023/2021-22	Date: 15 th October, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Near Old Rest Shelter	
Sample collected on: 04.09.2021	

LOCATION / IDENTIFICATION: Near Old rest Shelter				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	32.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	14.6
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.6
05.	Ammonia (NH ₃)	µg/m ³	400	4.8
06.	Ozone (O ₃)	µg/m ³	180	7.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.06
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	1.6
10.	Arsenic (As)	ng/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.19

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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E-mail: mahabalaranchi@gmail.com

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0024/2021-22

Date: 15th October, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: Hindalco Industries Limited

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample type: AMBIENT AIR QUALITY MONITORING

Marks on Sample: Location: Near Old Plantation (North West Corner)

Sample collected on: 04.09.2021

LOCATION / IDENTIFICATION: Near Old Plantation (North West Corner)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	25.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	12.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.7
06.	Ozone (O ₃)	µg/m ³	180	6.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.06
08.	Lead (Pb)	µg/m ³	1.0	0.05
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.14

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Hisri (New)

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0025/2021-22

Date: 15th October, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Hisri New (Southern Area)**

Sample collected on: 04.09.2021

LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	24.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	11.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.6
05.	Ammonia (NH ₃)	µg/m ³	400	5.8
06.	Ozone (O ₃)	µg/m ³	180	8.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.13
08.	Lead (Pb)	µg/m ³	1.0	0.06
09.	Nickel (Ni)	ng/m ³	20	2.3
10.	Arsenic (As)	ng/m ³	06	2.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.18

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Bagru

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0014/2021-22

Date: 15th October, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: Hindalco Industries Limited

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: AMBIENT AIR QUALITY MONITORING

Marks on Sample Location: Near Daldaliya Village

Sample collected on: 03.09.2021

LOCATION / IDENTIFICATION: Near Daldaliya Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	28.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	12.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.5
05.	Ammonia (NH ₃)	µg/m ³	400	4.9
06.	Ozone (O ₃)	µg/m ³	180	5.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.06
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.9
10.	Arsenic (As)	ng/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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E-mail: mahabalanranchi@gmail.com

Hindalco Industries : Bagru

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0015/2021-22	Date: 15 th October, 2021
Sample described by customer: AMBIENT AIR QUALITY MONITORING	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample type: AMBIENT AIR QUALITY MONITORING	
Marks on Sample: Location: Aditya School Gangupara	
Sample collected on: 03.09.2021	

LOCATION / IDENTIFICATION: Aditya School Gangupara				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	31.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	10.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.9
05.	Ammonia (NH ₃)	µg/m ³	400	3.6
06.	Ozone (O ₃)	µg/m ³	180	6.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.05
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	1.8
10.	Arsenic (As)	ng/m ³	06	0.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.15

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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E-mail: mahabalaranchi@gmail.com

Hindalco Industries : Bagru

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0016/2021-22

Date: 15th October, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: Hindalco Industries Limited

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample type: AMBIENT AIR QUALITY MONITORING

Marks on Sample: Location: Ropeway Unloading Station

Sample collected on: 03.09.2021

LOCATION / IDENTIFICATION: Ropeway Unloading Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	49.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	22.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.6
05.	Ammonia (NH ₃)	µg/m ³	400	5.9
06.	Ozone (O ₃)	µg/m ³	180	7.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.14
08.	Lead (Pb)	µg/m ³	1.0	0.06
09.	Nickel (Ni)	ng/m ³	20	2.9
10.	Arsenic (As)	ng/m ³	06	2.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.7
12.	Benzo (a) Pyrene	µg/m ³	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Bagru

Environmental Monitoring Report

SEPTEMBER 2021

Reports no: MEEPL/OCT/0017/2021-22

Date: 15th October, 2021

Sample described by customer: AMBIENT AIR QUALITY MONITORING

Client Name: **Hindalco Industries Limited**

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Type: **AMBIENT AIR QUALITY MONITORING**

Marks on Sample: Location: **Ropeway Angle Station**

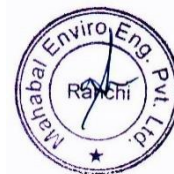
Sample collected on: 03.09.2021

LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	39.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	18.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.3
05.	Ammonia (NH ₃)	µg/m ³	400	3.5
06.	Ozone (O ₃)	µg/m ³	180	9.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.15
08.	Lead (Pb)	µg/m ³	1.0	0.07
09.	Nickel (Ni)	ng/m ³	20	2.3
10.	Arsenic (As)	ng/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.18

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE



Annexure 1**Piezometer reading - Hisri New**

S No	Month	Depth (meter)
1	Apr-21	33.50
2	May-21	33.70
3	Jun-21	33.50
4	Jul-21	33.40
5	Aug-21	34.5
6	Sep-21	34.1

Annexure-2

BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2021-22

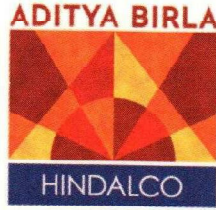
The composite cost during the year 2021-22 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Pakhar (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 & Sanal (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) and Bimarla Bauxite Mines (134.52 ha).

S No	Description	Budget (in Rupees) FY 2021-22	Actual (in Rupees) FY 2021-22 (From April'21 to September'21)
1	Pollution Control & Environment monitoring	44,21,524.00	38,26,550.78
2	Reclamation/ Back filling & Rehabilitation**	3,91,80,000.00	2,19,87,911.52
3	Green belt, Plantation & Water spraying arrangement	50,25,900.00	19,62,336.16
4	Rural Development	3,10,21,250.00	1,08,93,416.77

**Part of OB removed cost.



(Basudev Gangopadhyay)
Head (Geology & Environment)



Annexure 3

Date – 06.07.2020

Office Order

Environmental Cell has been re-constituted at Hisri New Bauxite Mine (Area 14.55 ha) comprising below mentioned team members. The team will ensure compliance of Environment Act, Regulation & Rule in respect of the said mines of Hindalco Industries Limited.

1. Mr. Gauri Shankar Prasad (Coordinator)
2. Dr. Chitra Mandal (Medical Officer)- Member
3. Mr. Ashish Kumar (Member)
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.

Basudev Gangopadhyay
Senior Executive (Quality & Environment)

Production, Mined Out, Back Filled and Over Burden removal from April'21 to September'21								
S No	Name of the Mines	Mining lease area (ha)	Production Capacity (MT)*	Lease Period*	Production (MT)	Mined out area (ha)	Back filled area (ha)	Over burden (Cu.M)
1	Bagru bauxite Mine	75.41	85000	22.01.1974 to 31.03.2030	NIL	NIL	NIL	NIL
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	60473	0	0	27136.33
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	49451	0.26	0.37	33822.47
4	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	51620	2.46	0.58	47195.21
5	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	111095	2.9	0.98	104352.49
6	Arntipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	81175	2.51	1.00	157783.250
7	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	128785	5.037	4.08	185833.09
8	Shrengdag A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	69525	1.42	1.38	52264.7
9	Shrengdag B Bauxite Mine	140.07	100000	04.10.1978 to 31.03.2030	0	0	0	0
10	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	19930	0.34	0.32	14364.7

Annexure 4

11	Orsapat Bauxite Mine	196.36	200000	17.07.1986 to 16.07.2036	NIL	NIL	NIL	NIL
12	Chiro Kukud bauxite Mine	152.57	100000	29.01.1985 to 28.01.2035	NIL	NIL	NIL	NIL
13	Pakhar (8.09)	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL
14	Pakhar (35.12)	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL
15	Pakhar (115.13)	115.13	300000	19.07.1996 to 31.03.2030	95000	0.98	0.97	186006.49
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16	Pakhar (15.58)	15.58	60000	28.04.1965 to 31.03.2030	9900	0.15	0.10	13215.18
17	Pakhar (109.507)	109.507	280000	26.07.2008 to 25.07.2058	92100	0.95	1.17	111648.32
18	Bimarla Bauxite Mine	134.37	300000	18.07.2009 to 17.07.2059	51200	1.65	1.00	105411.92

*Static information about the mines included in the above table



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