

HIL/LHD/ENV/MoEF/ 516

Date: 28.05.2020

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 October'19 to March'20.

**Ref:** Environmental Clearance letter no J-11015/531/2007-IA II (M) dated 17<sup>th</sup> 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 October'19 to March'20. 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)  
GM (Geology & Environment)

Enclosure: - As Above

CC: [ro.ranchi-mef@gov.in](mailto:ro.ranchi-mef@gov.in), [mef@ori.nic.in](mailto:mef@ori.nic.in), [mef@nic.in](mailto:mef@nic.in), [mef.or@nic.in](mailto:mef.or@nic.in), [mescb.cpcb@nic.in](mailto:mescb.cpcb@nic.in), [zokolkatta.cpcb@nic.in](mailto:zokolkatta.cpcb@nic.in), [ranchijspcb@gmail.com](mailto:ranchijspcb@gmail.com), [roranchi47@gmail.com](mailto:roranchi47@gmail.com)

## Compliance of conditions laid down in Environmental Clearance

### HISRI (NEW) BAUXITE MINES (14.55 Ha)

Period: October'19 to March'20

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

SI No	Conditions	Compliance Status
<b>Specific Conditions</b>		
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 Dec 2020. 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.	There is no natural nallahs and streams. It is being ensured that. no natural water course gets obstructed due to mining operation.
6	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.	Sequential backfilling and reclamation of mined out area are being exercised. Topsoil is being spread on backfilled area for reclamation of the area.

		The top soil is being temporarily stored at earmarked site (s) for its further use for reclamation over backfilled area.
7	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>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 &amp; manage rain water during monsoon, part of mined out area is used as settling tank for the runoff. Rain water 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 have been constructed both around the mine pit to prevent run off of water and flow of sediments directly into the agricultural field and water bodies.</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 3096 saplings have been planted during April'19 to March'20 within this mining lease.</p> <p>Green belt development programme is in progress with progress of mining activities.</p>

11	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 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.	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.  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 regular monitoring the ground water table.  Water quality report is attached 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.	The quality parameter of surface water 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.	Being adhered to. No change on hydrology is noticed.
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	Water is collected from rain water harvesting pond.  We are using harvested water only

	project.	for mining purposes.  No ground water or water from natural surface water bodies are being used for mining purposes.
17.	Suitable rain water harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	Suitable rain water 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 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 <sub>10</sub> , PM <sub>2.5</sub> ) and NO <sub>x</sub> 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.	Being carried out. Monitoring report is enclosed as Annexure 1.

	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 <a href="http://www.envfor.nic.in">www.envfor.nic.in</a> shall also be referred in this regard for its compliance.	
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 guideline and timelines mentioned in MCDR/IBM guideline who are competent authority to approve the same. Based on the present resource estimate, and peak rated production capacity mentioned in EC, the tentative balance life is around 12 years. The balance life of the mine may change based on final resource estimate, EC capacity and cut-off grade at that point of time.

### **General Conditions:**

<b>Sl No</b>	<b>Conditions</b>	<b>Compliance Status</b>
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.	Calendar plan including excavation, quantum of mineral bauxite and waste is being done as per IBM approved mining plan / mining scheme. Report is attached as Annexure 4.
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.	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
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 <sub>10</sub> ) PM <sub>2.5</sub> ) & NO <sub>x</sub> monitoring.	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



	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.	is attached as Annexure 1.
5	Data on ambient air quality RSPM (Particulate matter with size less than 10 $\mu\text{m}$ i.e. $\text{PM}_{10}$ ) & $\text{NO}_x$ 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 unloading and at transfer points should be provided and properly maintained.	Water spraying arrangements on haul roads, loading and unloading and at transfer points have been provided and 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 <sup>th</sup> May, 1993 and 31 <sup>st</sup> 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 waste water 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	Personnel working in dusty areas should wear protective respiratory devices and they should also provided with adequate training and information on safety and health aspects.  Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	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.  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
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.	This is an operating Mine and provision related to financial closure is not applicable. Now Regional office is at Ranchi
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 <sup>st</sup> 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.	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.	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.
19	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	Complied and informed.

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



# 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](mailto:ecoventures.mumbai@gmail.com) / [ecoventures@eco-ventures.in](mailto: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**

OCTOBER 2019

**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,

Mobile No: +91 9431.102.102 / +91 9955.358.262,

E-mail: [mahabalranchi@gmail.com](mailto: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.

## 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

OCTOBER 2019

<b>Report No.:</b> MEEPL/NOV0094/2019-20	<b>Date:</b> 11 <sup>th</sup> November, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
Client Name: <b>Hindalco Industries Limited</b>	
Client Address: <b>Lohardaga</b>	
Postal Code: <b>835203</b>	
State: <b>Jharkhand</b>	
Country: <b>India</b>	
Sample Type: <b>AMBIENT AIR QUALITY MONITORING</b>	
Marks on Sample Location: <b>Near Water Pump</b>	
Sample collected on: <b>05.10.2019</b>	

LOCATION / IDENTIFICATION: Near Water Pump				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	46.2
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	21.6
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.0
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.7
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.17
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.8
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.1
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.8
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.21

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

OCTOBER 2019

<b>Report No.:</b> MEEPL/NOV0095/2019-20	<b>Date:</b> 11 <sup>th</sup> November, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Near Old Rest Shelter	
<b>Sample collected on:</b> 05.10.2019	

### LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	49.9
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.4
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.2
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.10
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.8
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.15

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

OCTOBER 2019

Report No.: MEEPL/NOV0096/2019-20

Date: 11<sup>th</sup> November, 2019

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)

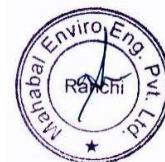
Sample collected on: 05.10.2019

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

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	38.3
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	21.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.0
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.1
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.3
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.06
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.9
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.73
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.13

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

OCTOBER 2019

Report No.: MEEPL/NOV0097/2019-20

Date: 11<sup>th</sup> November, 2019

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: 05.10.2019

### LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	45.0
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	23.8
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.3
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.12
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.04
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.1
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.5
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

OCTOBER 2019

<b>Report No.:</b> MEEPL/NOV0084/2019-20	<b>Date:</b> 11 <sup>th</sup> November, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
Client Name: <b>Hindalco Industries Limited</b>	
Client Address: <b>Lohardaga</b>	
Postal Code: <b>835203</b>	
State: <b>Jharkhand</b>	
Country: <b>India</b>	
Sample Type: <b>AMBIENT AIR QUALITY MONITORING</b>	
Marks on Sample Location: <b>Near Daldaliya Village</b>	
<b>Sample collected on:</b> 03.10.2019	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	31.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	17.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.8
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	4.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.16
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.18

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

OCTOBER 2019

<b>Report No.:</b> MEEPL/NOV0085/2019-20	<b>Date:</b> 11 <sup>th</sup> November, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Aditya School Gangupara	
<b>Sample collected on:</b> 03.10.2019	

LOCATION / IDENTIFICATION: Aditya School Gangupara				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	28.2
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	15.7
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.6
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.9
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.1
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.04
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.1
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.6
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.2
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.15

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](mailto:mahabalanranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

OCTOBER 2019

<b>Report No.:</b> MEEPL/NOV0086/2019-20	<b>Date:</b> 11 <sup>th</sup> November, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Ropeway Unloading Station	
<b>Sample collected on:</b> 03.10.2019	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	55.0
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	29.1
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.3
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.0
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.1
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.18
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.9
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.24

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

OCTOBER 2019

Report No.: MEEPL/NOV0087/2019-20

Date: 11<sup>th</sup> November, 2019

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: 03.10.2019

### LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	45.2
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	22.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.6
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.8
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.14
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.8
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	2.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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](mailto:ecoventures.mumbai@gmail.com) / [ecoventures@eco-ventures.in](mailto:ecoventures@eco-ventures.in)

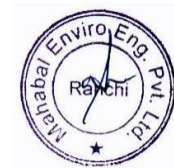
**Mahabal Enviro Engineers Pvt. Ltd.**  
At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,  
District – Ranchi 834009

## **HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT**

**NOVEMBER 2019**

**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,

Mobile No: +91 9431.102.102 / +91 9955.358.262,

E-mail: [mahabalranchi@gmail.com](mailto: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.

## 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

NOVEMBER 2019

Report No.: MEEPL/DEC0224/2019-20

Date: 27<sup>th</sup> December, 2019

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: 08.11.2019

### LOCATION / IDENTIFICATION: Near Water Pump

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	50.8
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	23.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.3
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.20
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.1
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.8
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.21

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

NOVEMBER 2019

<b>Report No.:</b> MEEPL/DEC0225/2019-20	<b>Date:</b> 27 <sup>th</sup> December, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Near Old Rest Shelter	
<b>Sample collected on:</b> 08.11.2019	

LOCATION / IDENTIFICATION: Near Old rest Shelter				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	58.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	30.3
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.4
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.9
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.8
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.14
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.15

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

NOVEMBER 2019

Report No.: MEEPL/DEC0226/2019-20

Date: 27<sup>th</sup> December, 2019

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: 08.11.2019

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

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	40.7
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	22.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.06
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.71
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.13

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

NOVEMBER 2019

Report No.: MEEPL/DEC0227/2019-20

Date: 27<sup>th</sup> December, 2019

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)

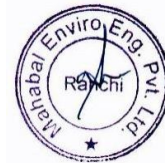
Sample collected on: 08.11.2019

### LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	52.4
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	27.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.9
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.6
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.1
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.17
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.04
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.3
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

NOVEMBER 2019

<b>Report No.:</b> MEEPL/DEC0214/2019-20	<b>Date:</b> 27 <sup>th</sup> December, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
Client Name: <b>Hindalco Industries Limited</b>	
Client Address: <b>Lohardaga</b>	
Postal Code: <b>835203</b>	
State: <b>Jharkhand</b>	
Country: <b>India</b>	
Sample Type: <b>AMBIENT AIR QUALITY MONITORING</b>	
Marks on Sample Location: <b>Near Daldaliya Village</b>	
<b>Sample collected on:</b> 06.11.2019	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	40.2
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	21.5
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.3
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	4.2
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.17
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.18

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

NOVEMBER 2019

<b>Report No.:</b> MEEPL/DEC0215/2019-20	<b>Date:</b> 27 <sup>th</sup> December, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Aditya School Gangupara	
<b>Sample collected on:</b> 06.11.2019	

LOCATION / IDENTIFICATION: Aditya School Gangupara				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	34.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	18.1
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.2
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.6
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.3
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.04
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.6
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.2
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.15

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

NOVEMBER 2019

<b>Report No.:</b> MEEPL/DEC0216/2019-20	<b>Date:</b> 27 <sup>th</sup> December, 2019
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Ropeway Unloading Station	
<b>Sample collected on:</b> 06.11.2019	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	49.9
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.4
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.0
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.7
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.1
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.21
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.9
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.24

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

NOVEMBER 2019

Report No.: MEEPL/DEC0217/2019-20

Date: 27<sup>th</sup> December, 2019

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: 06.11.2019

### LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	44.7
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	25.3
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.6
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.2
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.14
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.5
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	2.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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](mailto:ecoventures.mumbai@gmail.com) / [ecoventures@eco-ventures.in](mailto: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**

**DECEMBER 2019**

**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,

Mobile No: +91 9431.102.102 / +91 9955.358.262,

E-mail: [mahabalranchi@gmail.com](mailto: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.

## 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0144/2019-20

Date: 27<sup>th</sup> January, 2020

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: 06.12.2019

### LOCATION / IDENTIFICATION: Near Water Pump

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	55.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	29.7
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.4
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.18
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.1
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.8
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0145/2019-20 Date: 27<sup>th</sup> January, 2020

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: 06.12.2019

### LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	64.7
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	32.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.4
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.1
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.2
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.17
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.15

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0146/2019-20

Date: 27<sup>th</sup> January, 2020

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: 06.12.2019

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

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	45.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	27.3
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.7
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.4
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.06
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.8
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.11

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0147/2019-20

Date: 27<sup>th</sup> January, 2020

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: 06.12.2019

### LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	58.0
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	30.2
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.7
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.1
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.18
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.04
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.1
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.3
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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](mailto:mahabalanranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0134/2019-20 Date: 18<sup>th</sup> January, 2020

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: 04.12.2019

### LOCATION / IDENTIFICATION: Near Daldaliya Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	47.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	25.1
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.7
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.9
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	4.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.4
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.19
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.18

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0135/2019-20 Date: 18<sup>th</sup> January, 2020

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: 04.12.2019

### LOCATION / IDENTIFICATION: Aditya School Gangupara

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	39.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	20.3
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.7
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.1
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.10
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.6
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.2
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.13

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0136/2019-20

Date: 18<sup>th</sup> January, 2020

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: 04.12.2019

### LOCATION / IDENTIFICATION: Ropeway Unloading Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	56.4
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	25.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.2
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.3
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.7
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.1
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.25
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.4
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.9
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.24

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

DECEMBER 2019

Report No.: MEEPL/JAN/0137/2019-20

Date: 18<sup>th</sup> January, 2020

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: 04.12.2019

### LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	49.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	25.3
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.0
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.4
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.18
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.5
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	2.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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](mailto:ecoventures.mumbai@gmail.com) / [ecoventures@eco-ventures.in](mailto:ecoventures@eco-ventures.in)

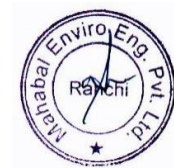
**Mahabal Enviro Engineers Pvt. Ltd.**  
At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,  
District – Ranchi 834009

## **HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT**

JANUARY 2020

**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,

Mobile No: +91 9431.102.102 / +91 9955.358.262,

E-mail: [mahabalranchi@gmail.com](mailto: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)
AMBIENT NOISE MONITORING	
1	Hisri (New) Bauxite Mine





# 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JANUARY 2020

Report No.: MEEPL/FEB/0231/2019-20 Date: 15<sup>th</sup> February, 2020

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: 07.01.2020

### LOCATION / IDENTIFICATION: Near Water Pump

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	52.8
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	27.2
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.3
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.6
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.8
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.16
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.1
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.8
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.18

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](mailto:mahabalanranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JANUARY 2020

<b>Report No.:</b> MEEPL/FEB/0232/2019-20	<b>Date:</b> 15 <sup>th</sup> February, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Near Old Rest Shelter	
<b>Sample collected on:</b> 07.01.2020	

### LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	60.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	32.6
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.3
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.2
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.19
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.16

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](mailto:mahabalanranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JANUARY 2020

Report No.: MEEPL/FEB/0233/2019-20

Date: 15<sup>th</sup> February, 2020

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: 07.01.2020

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

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	48.4
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.6
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.4
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.06
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.8
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.11

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JANUARY 2020

Report No.: MEEPL/FEB/0234/2019-20

Date: 15<sup>th</sup> February, 2020

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: 07.01.2020

### LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	60.4
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	28.7
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.8
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.3
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.8
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.21
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.04
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.1
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.8
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.3
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

JANUARY 2020

<b>Report No.:</b> MEEPL/FEB/0235/2019-20	<b>Date:</b> 15 <sup>th</sup> February, 2020
<b>Sample described by customer :</b> Measurement of Noise	
<b>Client Name :</b> Hindalco Industries Limited	
<b>Client Address :</b> Lohardaga	
<b>Postal Code :</b> 835203	
<b>State :</b> Jharkhand	
<b>Country :</b> India	
<b>Sample Description :</b> Measurement of Noise	
<b>Sampling Method :</b> Instrumental, using Sound level Metter	
<b>Data Collection Date:</b> 07.01.2020	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Hisri (New) Bauxite Mines	dB (A) $L_{eq}$	75	67.9	70	54.1

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](mailto:mahabalanranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

JANUARY 2020

<b>Report No.:</b> MEEPL/FEB/0217/2019-20	<b>Date:</b> 15 <sup>th</sup> February, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
Client Name: <b>Hindalco Industries Limited</b>	
Client Address: <b>Lohardaga</b>	
Postal Code: <b>835203</b>	
State: <b>Jharkhand</b>	
Country: <b>India</b>	
Sample Type: <b>AMBIENT AIR QUALITY MONITORING</b>	
Marks on Sample Location: <b>Near Daldaliya Village</b>	
Sample collected on: <b>04.01.2020</b>	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	50.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	28.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.9
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.7
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.8
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.22
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.16

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

JANUARY 2020

Report No.: MEEPL/FEB/0218/2019-20 Date: 15<sup>th</sup> February, 2020

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: 04.01.2020

### LOCATION / IDENTIFICATION: Aditya School Gangupara

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	42.7
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	20.5
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.4
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.9
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.15
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.6
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.2
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.13

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

JANUARY 2020

<b>Report No.:</b> MEEPL/FEB/0219/2019-20	<b>Date:</b> 15 <sup>th</sup> February, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Ropeway Unloading Station	
<b>Sample collected on:</b> 04.01.2020	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	59.2
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	28.5
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.7
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.29
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.3
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.9
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.22

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

JANUARY 2020

Report No.: MEEPL/FEB/0220/2019-20

Date: 15<sup>th</sup> February, 2020

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: 04.01.2020

### LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	53.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.1
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	4.1
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.0
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.3
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.22
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.5
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	2.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.22

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](mailto:ecoventures.mumbai@gmail.com) / [ecoventures@eco-ventures.in](mailto:ecoventures@eco-ventures.in)

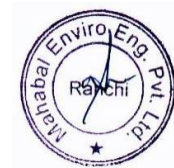
**Mahabal Enviro Engineers Pvt. Ltd.**  
At Booty, Near PHED Colony, Behind Pump House, PO – RMCC,  
District – Ranchi 834009

## **HISRI (NEW) BAUXITE MINE - ENVIRONMENTAL MONITORING REPORT**

**FEBRUARY 2020**

**For Mahabal Enviro Engineers Pvt. Ltd.**

Vijay Pandey  
**SENIOR EXECUTIVE**





**Branch Office:**

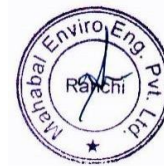
At Booty, Near PHED Colony, Behind Pump House, PO – RMCC, District – Ranchi 834009,

Mobile No: +91 9431.102.102 / +91 9955.358.262,

E-mail: [mahabalranchi@gmail.com](mailto: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.

## 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

FEBRUARY 2020

Report No.: MEEPL/MAR/0324/2019-20

Date: 20<sup>th</sup> March, 2020

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: 06.02.2020

### LOCATION / IDENTIFICATION: Near Water Pump

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	55.3
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.8
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.2
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.16
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.1
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.8
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.18

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

FEBRUARY 2020

Report No.: MEEPL/MAR/0325/2019-20 Date: 20<sup>th</sup> March, 2020

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: 06.02.2020

### LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	62.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	30.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.7
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.2
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.18
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.16

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

FEBRUARY 2020

Report No.: MEEPL/MAR/0326/2019-20

Date: 20<sup>th</sup> March, 2020

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: 06.02.2020

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

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	50.7
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	23.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.8
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.10
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.8
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.12

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

FEBRUARY 2020

Report No.: MEEPL/MAR/0327/2019-20

Date: 20<sup>th</sup> March, 2020

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: 06.02.2020

### LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	58.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	27.8
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.2
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.9
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.8
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.22
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.04
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.0
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.8
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.3
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey  
SENIOR EXECUTIVE

CUTIVE





# 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

FEBRUARY 2020

<b>Report No.:</b> MEEPL/MAR/0314/2019-20	<b>Date:</b> 20 <sup>th</sup> March, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
Client Name: <b>Hindalco Industries Limited</b>	
Client Address: <b>Lohardaga</b>	
Postal Code: <b>835203</b>	
State: <b>Jharkhand</b>	
Country: <b>India</b>	
Sample Type: <b>AMBIENT AIR QUALITY MONITORING</b>	
Marks on Sample Location: <b>Near Daldaliya Village</b>	
<b>Sample collected on:</b> 04.02.2020	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	53.5
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	25.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.9
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.24
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.9
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.16

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

FEBRUARY 2020

<b>Report No.:</b> MEEPL/MAR/0315/2019-20	<b>Date:</b> 20 <sup>th</sup> March, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Aditya School Gangupara	
<b>Sample collected on:</b> 04.02.2020	

LOCATION / IDENTIFICATION: Aditya School Gangupara				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	45.7
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	22.1
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.6
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.6
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.9
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.17
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.6
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.2
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.13

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

FEBRUARY 2020

Report No.: MEEPL/MAR/0316/2019-20

Date: 20<sup>th</sup> March, 2020

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: 04.02.2020

### LOCATION / IDENTIFICATION: Ropeway Unloading Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 $\mu\text{m}$ ) PM <sub>10</sub>	$\mu\text{g}/\text{m}^3$	100	60.5
02.	Particulate Matter (size less than 2.5 $\mu\text{m}$ ) PM <sub>2.5</sub>	$\mu\text{g}/\text{m}^3$	60	28.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	$\mu\text{g}/\text{m}^3$	80	3.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	$\mu\text{g}/\text{m}^3$	80	2.2
05.	Ammonia (NH <sub>3</sub> )	$\mu\text{g}/\text{m}^3$	400	6.4
06.	Ozone (O <sub>3</sub> )	$\mu\text{g}/\text{m}^3$	180	7.8
07.	Carbon Monoxide (CO)	$\text{mg}/\text{m}^3$	02	0.29
08.	Lead (Pb)	$\mu\text{g}/\text{m}^3$	1.0	0.02
09.	Nickel (Ni)	$\text{ng}/\text{m}^3$	20	1.7
10.	Arsenic (As)	$\text{ng}/\text{m}^3$	06	1.3
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	$\mu\text{g}/\text{m}^3$	05	0.9
12.	Benzo (a) Pyrene	$\mu\text{g}/\text{m}^3$	01	0.21

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

FEBRUARY 2020

Report No.: MEEPL/MAR/0317/2019-20

Date: 20<sup>th</sup> March, 2020

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: 04.02.2020

### LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	54.2
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.9
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	4.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.3
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.1
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.25
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.5
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	2.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.23

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](mailto:ecoventures.mumbai@gmail.com) / [ecoventures@eco-ventures.in](mailto: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**

**MARCH 2020**

**For Mahabal Enviro Engineers Pvt. Ltd.**

Vijay Pandey  
**SENIOR EXECUTIVE**







**Branch Office:**

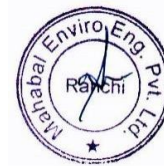
At Booty, Near PHED Colony, Behind Pump House, PO – RMCC, District – Ranchi 834009,

Mobile No: +91 9431.102.102 / +91 9955.358.262,

E-mail: [mahabalranchi@gmail.com](mailto: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.

## 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MARCH 2020

Report No.: MEEPL/APR/0124/2019-20 Date: 20<sup>th</sup> March, 2020

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: 06.03.2020

### LOCATION / IDENTIFICATION: Near Water Pump

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	52.9
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	21.2
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.0
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.7
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.9
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.12
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.7
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.1
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.8
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.18

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MARCH 2020

<b>Report No.:</b> MEEPL/APR/0125/2019-20	<b>Date:</b> 20 <sup>th</sup> March, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Near Old Rest Shelter	
<b>Sample collected on:</b> 06.03.2020	

### LOCATION / IDENTIFICATION: Near Old rest Shelter

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	57.9
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	22.5
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.3
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.9
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.19
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.16

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MARCH 2020

Report No.: MEEPL/APR/0126/2019-20

Date: 20<sup>th</sup> March, 2020

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: 06.03.2020

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

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	48.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	18.6
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.7
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.0
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.7
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.11
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	0.8
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.7
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.12

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Hisri (New)

Environmental Monitoring Report

MARCH 2020

Report No.: MEEPL/APR/0127/2019-20

Date: 20<sup>th</sup> March, 2020

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: 06.03.2020

### LOCATION / IDENTIFICATION: Hisri New (Southern Area)

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	60.3
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	29.0
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.5
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.2
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.4
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.22
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.04
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.0
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.8
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.3
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey  
SENIOR EXECUTIVE

CUTIVE





# 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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

MARCH 2020

<b>Report No.:</b> MEEPL/APR/0114/2019-20	<b>Date:</b> 20 <sup>th</sup> April, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
Client Name: <b>Hindalco Industries Limited</b>	
Client Address: <b>Lohardaga</b>	
Postal Code: <b>835203</b>	
State: <b>Jharkhand</b>	
Country: <b>India</b>	
Sample Type: <b>AMBIENT AIR QUALITY MONITORING</b>	
Marks on Sample Location: <b>Near Daldaliya Village</b>	
<b>Sample collected on:</b> 04.03.2020	

LOCATION / IDENTIFICATION: Near Daldaliya Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	55.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	26.5
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.2
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	1.7
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	4.5
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.9
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.27
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.8
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.0
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.17

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

MARCH 2020

<b>Report No.:</b> MEEPL/APR/0115/2019-20	<b>Date:</b> 20 <sup>th</sup> April, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Aditya School Gangupara	
<b>Sample collected on:</b> 04.03.2020	

LOCATION / IDENTIFICATION: Aditya School Gangupara				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	48.1
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	23.5
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	3.9
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.1
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	3.8
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	6.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.19
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.01
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.3
10.	Arsenic (As)	ng/m <sup>3</sup>	06	0.6
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	1.2
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.15

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

MARCH 2020

<b>Report No.:</b> MEEPL/APR/0116/2019-20	<b>Date:</b> 20 <sup>th</sup> April, 2020
<b>Sample described by customer:</b> AMBIENT AIR QUALITY MONITORING	
<b>Client Name:</b> Hindalco Industries Limited	
<b>Client Address:</b> Lohardaga	
<b>Postal Code:</b> 835203	
<b>State:</b> Jharkhand	
<b>Country:</b> India	
<b>Sample type:</b> AMBIENT AIR QUALITY MONITORING	
<b>Marks on Sample:</b> Location: Ropeway Unloading Station	
<b>Sample collected on:</b> 04.03.2020	

LOCATION / IDENTIFICATION: Ropeway Unloading Station				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	64.9
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	30.3
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	4.1
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.8
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	6.9
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	7.5
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.31
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.02
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.5
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.3
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	0.9
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.21

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: [mahabalranchi@gmail.com](mailto:mahabalranchi@gmail.com)

Hindalco Industries : Bagru

Environmental Monitoring Report

MARCH 2020

Report No.: MEEPL/APR/0117/2019-20

Date: 20<sup>th</sup> April, 2020

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: 04.03.2020

### LOCATION / IDENTIFICATION: Ropeway Angle Station

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM <sub>10</sub>	µg/m <sup>3</sup>	100	56.8
02.	Particulate Matter (size less than 2.5 µm) PM <sub>2.5</sub>	µg/m <sup>3</sup>	60	27.2
03.	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	4.8
04.	Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	2.5
05.	Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	5.8
06.	Ozone (O <sub>3</sub> )	µg/m <sup>3</sup>	180	5.0
07.	Carbon Monoxide (CO)	mg/m <sup>3</sup>	02	0.29
08.	Lead (Pb)	µg/m <sup>3</sup>	1.0	0.03
09.	Nickel (Ni)	ng/m <sup>3</sup>	20	1.2
10.	Arsenic (As)	ng/m <sup>3</sup>	06	1.5
11.	Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	05	2.1
12.	Benzo (a) Pyrene	µg/m <sup>3</sup>	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey  
SENIOR EXECUTIVE



## Annexure-2

### BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2019-20

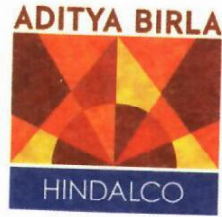
The composite cost during the year 2019-20 for environmental protection & pollution control by Jharkhand Mines division of M/s Hindalco Industries Ltd & M/s Minerals & Minerals Ltd for implementation of the suggested measures in EC at our all the operating mines in the state of Jharkhand-namely Pakhar (115.13 Ha), Pakhar (15.58 Ha), Pakhar (109.507 Ha), Pakhar (8.09 Ha), Pakhar (35.12Ha), Serengdag (140.06 Ha), Serengdag (155.81 Ha), Jalim & Sanai (12.14 Ha), Gurdari (584.19 Ha), Amtipani (190.95 Ha), Kujam I (80.97 Ha) Kujam II (157.38 Ha), Bagru (75.41 Ha), Hisri New (14.55 Ha), Chiro kukud (152.57 ha), Orsa pat (196.36 Ha), Bhusar (65.31 Ha) and Bimarla Bauxite Mines (134.52 Ha).

S. No	Description	Budget (in Rupees) FY 2019-20	Actual (in Rupees) FY 2019-20 (from October'19 to March'20)
1	Pollution Control & Environment monitoring	3,351,809.00	10,81,028.82
2	Reclamation/ Back filing & Rehabilitation**	25,300,000.00	2,97,49,624
3	Green belt, Plantation & Water spraying arrangement	4,725,854.00	38,57,433.80
4	Rural Development	22,035,865.00	2,00,52,766.56

\*\*Part of OB removed cost.



(Basudev Gangopadhyay)  
Convenor (Quality & Environment)



Annexure - 3

Date: 10.01.19

### Office Order

Environmental Cell has been re-constituted at Hisri (new) Bauxite Mines (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. Ajay Pandey (Mines Manager) (Coordinator)
2. Dr. Chitra Mandol –Medical Officer (Member)
3. Mr. Sunil Kumar Chaudhary (Mines Forman)
4. Mr. Ashish kumar (Asst. Engineer)

Basudev Gangopadhyay  
Convenor (Quality & Environment)

## Annexure 4

Production, Mined Out, Back Filled and Over Burden removal from October'19 to March'20								
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	198	0	6.60	54137.88
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	14190	0.81	0.48	25422.64
4	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	44245	3.26	0.13	29260.78
5	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	80395	3.81	0.55	78767.91
6	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	59995	1.96	0.500	46744.920
7	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	115250	10.45	7.34	261623.65
8	Shrengdag A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	63870	3.25	6.5	263958
9	Shrengdag B Bauxite Mine	140.07	100000	04.10.1978 to 31.03.2030	NIL	NIL	NIL	NIL
10	Jalim & Sanai Bauxite Mine	12.14	50000	16.10.1974 to 31.03.2030	17000	0.3	0.28	21500

## 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	87200	0.46	0.72	84268.58
<b>Minerals &amp; Minerals Limited</b>								
16	Pakhar (15.58)	15.58	60000	28.04.1965 to 31.03.2030	7500	0.15	0.10	14832.66
17	Pakhar (109.507)	109.507	280000	26.07.2008 to 25.07.2058	121400	0.67	1.00	167350.67
18	Bimarla Bauxite Mine	134.37	300000	18.07.2009 to 17.07.2059	67680	3.17	2.90	178732.51

\*Static information about the mines included in the above table



**Basudev Gangopadhyay**  
**Convenor (Quality & Environment)**



**HINDALCO MANAGEMENT FRAMEWORK**  
*excellence by design*

## ENVIRONMENT POLICY

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

To achieve this, we shall :

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

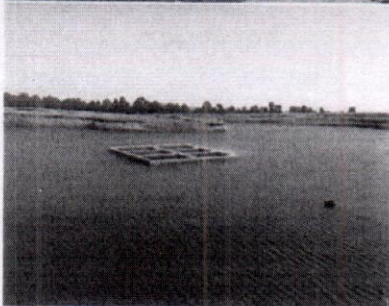
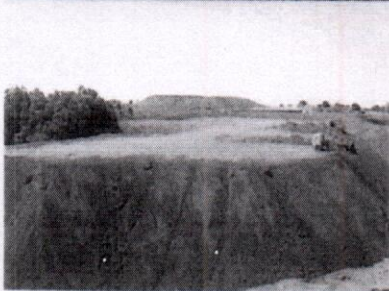
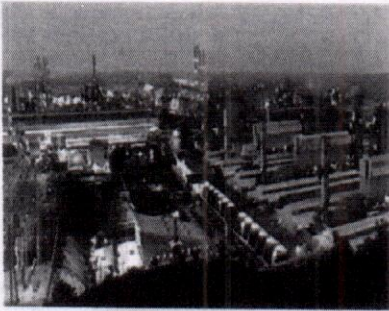
This policy shall be made available to all employees, suppliers, customers, community and other stakeholders, as appropriate.

A handwritten signature in blue ink that reads "Satish Pai".

**Satish Pai**  
Managing Director

19<sup>th</sup> November 2016

**HINDALCO INDUSTRIES LIMITED**



## QUALITY, ENVIRONMENT, OCCUPATIONAL HEALTH & SAFETY POLICY

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

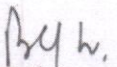
To achieve this, we shall:

- Ensure customer satisfaction by providing value added products and services;
- Continually establish systems, procedures and best practices with technological interventions;
- Optimize resource consumption particularly- raw materials, energy, water oil and promote pollution prevention;
- Commit to continual improvement by strengthening the Integrated Management System;
- Nurture and sustain safe and healthy work environment;
- Commit to protection of environment including prevention of pollution by reclamation and rehabilitation of mined out areas by utilization of solid waste and developing green belt in the area.
- Comply with applicable legislation in letter and spirit;
- Strengthen competence of employees and business associates through continuous training;
- Commit to the control of Quality & Environment risks through a hierarchy of control.

We shall communicate and make this policy available to all stakeholders

Lohardaga

Date: 24-03-2018

  
B.K.Jha

President, Jharkhand Mines

HINDALCO INDUSTRIES LIMITED  
MINES DIVISION