



HIL/LHD/ENV/MoEF/

Date: 27.11.2019

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 Amtipani Bauxite Mining project of M/s Hindalco Industries Limited located in Dist- Gumla, Jharkhand for the period April'19 to September'19.

Ref: Environmental Clearance letter no J-11015/241/2005-IA II (M) dated 14th August 2006

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Amtipani** Bauxite mining project of **M/s Hindalco Industries Limited** located in Gumla, Jharkhand for the period April'19 to September'19.

Hope you will find the same in order.

Thanking You

Yours Sincerely
FOR HINDALCO INDUSTRIES LIMITED


(Basudev Gangopadhyay)
GM (Geology & Environment)

Enclosure: - As Above

Copy to: Member Secretary, JSPCB, Ranchi
RO, JSPCB, Ranchi
CPCB, Zonal Office, Kolkata
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Compliance of conditions laid down in Environmental Clearance
AMTIPANI BAUXITE MINES (190.95 Ha)
Period: April'19- September'19

MoEF Environment Clearance ref: No J - 11015/241/2005-IA.II (M) dated 14 Aug'06

Sl. No	Conditions	Compliance Status
Specific Conditions		
1	All the conditions stipulated by the State Pollution Control Board in their NOC should be effectively implemented.	Implementations of stipulated conditions in NOC are full filled post which consent to operate has been granted by SPCB from time to time. The existing consent to operate is valid upto 31.12.2020. Productions of bauxite are within limits specified in Consent to Operate.
2	The mining operations shall not intersect groundwater table. Prior approval of the MoEF and CGWA shall be obtained for mining below water table.	The mining operation confined within shallow depth (20 m max) and not intersected ground water. The EC also mentions ground water is at depth of 80-100 mts, thus there is no chance to intersect ground water table during mining operation. In future also, working zone will be restricted to above ground water table. We undertake that no mining is/was carried out below ground water table and the same statusco will be maintain in future also.
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.	Land acquisition is being done with permission of competent authority of State Government i.e. concerned Deputy Commissioner (D.C.) under CNT Act. The land lease agreement is being done with raiyat (Land Owner) for 20 years with permission of State Govt with provision of returning the land as per the norms set by D.C. The compensation and facilities are being provided as per norms set in agreement. Thus the provision is taken care off.

4	Top soil shall be stacked properly with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.	Top soil is being stacked separately with proper slope & is being used for reclamation and rehabilitation simultaneously with mining operation.
5	The waste generated in the initial period shall be dumped temporarily and backfilled in the mined out area. There shall be no permanent external OB dump in the project area. Concurrent backfilling should start from the fifth year onwards. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.	During mining concurrent backfilling of waste in worked out quarry is in practice. We are reviewing progress on continuous basis. Monitoring and management of rehabilitation is continuous through supervision. There will not be any permanent external dump at the end of the mine life. Compliance status is being submitted to the Ministry of Environment & Forests & Climate Change on six monthly basis.
6	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil and mineral dump. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly. Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.	This is in progress with progress of mining activity. Catch drains, siltation ponds, garland drains, settling ponds and toe walls are being constructed as per suitability. To obviate surface run off going out of our lease hold area, we have arrangement of water harvesting pond, during monsoon water is channelised into water harvesting pond where silt are getting arrested. Sump of adequate capacity is being provided and maintained as required.
7	Plantation shall be raised in an area of 79.3 ha including a green belt of adequate width by planting the native species around the ML area, roads, etc. in consultation with the local DFO/Agriculture Department. The density of the trees should be around 1500 plants per ha.	Progressive plantation is under progress. During FY 2019-20 total 4670 nos. plantations have been carried out. Total 11.540 Ha areas has been planted till date. Green belt development programme is in progress with progress of mining activities.

8	<p>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.</p>	<p>We have already implemented suitable conservation measures to augment ground water resources in area.</p> <p>Rain water harvesting pond is provided.</p> <p>Conservation Measures viz. contour bunds, gullies in mining lease area is so designed that all rain water within lease are collected in to pit, No water allowed to flow out of the lease.</p> <p>Report suggesting above measures is available and being implemented.</p> <p>However, there is no chance to intersect ground water table during mining operation.</p>
9	<p>Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring should be carried out four times in a year - pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to MOEF, Central Ground Water Authority and Regional Director Central Ground Water Board.</p>	<p>The EC mentions that ground water table is at depth of 80-100 mts and it is not intersecting ground water table during mining operation.</p> <p>We are not using ground water for any mining purpose.</p> <p>Drinking water quality report attached as Annexure- 1</p>
10	<p>Prior permission from the competent authority should be obtained for drawl of water from the surface water bodies.</p>	<p>Rainwater harvested during rainy season is being used for sprinkling on haul roads and raising plantation. We are using water harvested by us and not stream water/surface water bodies for mining purposes.</p> <p>There is no chance to intersect ground water table during mining operation as total mining depth is around 20m and depth of ground water table is around 100m.</p>

11	The project proponent shall monitor the spring discharge on long term basis (at least one major spring) both in terms of quantity and quality of water and records maintained. Six monthly report should be submitted to the Ministry of Environment and Forests and its Regional Office located at Bhubneshwar.	The quality parameter of nearby spring season has been monitored, report attached as Annexure 1.
12	Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.	Regular maintenance of vehicles is being done to minimize vehicular emission. All measures are being taken to control vehicular emission. The vehicles are being covered with tarpaulin while transportation of mineral.
13	Drills should either be operated with dust extractors or should be equipped with water injection system	Wet drilling is being done in drill holes for dust suppression by pumping water.
14	Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented	Blasting time is fixed during Lunch Time i.e. 1.00 PM -2.00 PM. Controlled blasting method is in practice. All efforts such as use of nonel and delay, reduction in charge per blast-hole etc. are being taken to mitigate impact of blasting.
15	Consent to operate should be obtained from SPCB prior to start of production of mine	Consent to operate has been obtained prior to start of production. The existing consent to operate validity is upto 31.12.2020.
16	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 discharge from Mine hence ETP has not been installed. The sewage water from domestic uses is being collected through individual septic tanks & soak pits. Sewage is collected to an integrated soak pit.
17	Land ouster and land loser/affected people should be compensated and rehabilitated as per the National Policy on Resettlement and Rehabilitation of project Affected Families (NPRR), 2003	Land ouster and land loser/affected people are being compensated and rehabilitated as per statute/guidelines.
18	The higher benches of the excavated void to be converted into water reservoir shall be terraced and afforested to stabilize the slopes. Peripheral fencing shall be done along the excavated area.	Water harvesting pond has been terraced and afforested to stabilize slopes. Peripheral fencing provided along excavated area.
19	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	Mining Plan along with progressive mine closure plan has been approved by Indian Bureau of Mines. Final Mine Closure Plan will be submitted

		in due time. Based on present resource estimate and peak rated production capacity mentioned in EC, tentative balance life is around 23 years. However, after completion of further detailed exploration, resources estimate vis-à-vis balance life of mine may change based on final resource estimate, EC capacity and cut-off grade at that point of time.
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General Conditions.

Sl No	Conditions	Compliance Status
1	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Being adhered to.
2	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.	Being adhered to. Bauxite productions are in line with calendar plan. Quantum of mineral and OB excavated during the month April'19 to September'19 has been annexed 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 departments.	Safeguard Measures already Implemented are as follows: 1. Minimum level of Noise during Mining. 2. Fuel woods are being provided to labourers. 3. Permanent pillars are established within in the mine lease area. 4. Daily water sprinkling on haul road. 5. Transportation is carried out during day time only. 6. Social activities is being undertaken in nearby areas etc. Further Plan for conservation measures for protection of flora and fauna in the core & buffer zone is already prepared and submitted to PCCF, Ranchi for approval. Presentation already made before PCCF and other forest officials.

4	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO ₂ , NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Being adhered to Monitoring report annexed as Annexure-1.
5	Data on ambient air quality (RPM, SPM, SO ₂ and NO _x) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.	Being adhered to Monitoring report annexed as Annexure-1.
6	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Mobile water tanker with sprinkling facility has been provided along haul roads, loading, unloading & at transfer points to arrest dust emission.
7	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	Being Complied. PPEs are provided to workers.
8	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	Presently, there is no effluent discharge from mine.
9	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	PPE's provided. Periodic training on safety & occupational health is being imparted to workers and health checks up conducted.
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	A separate environmental management cell with suitable qualified personnel already formed and informed. (Annexure-3)

11	The project authorities should inform to the Regional Office located at Bhubneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Mining Plan along with progressive mine closure plan has been approved by IBM, Ranchi. This is an operating mine, hence provision related to financial closure not applicable.
12	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Bhubneshwar.	Separate budget is being prepared for purpose and expenditure is being reported to the ministry. (Annexure-2)
13	The project authorities should inform to the Regional Office located at Bhubneshwar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Vide Point no. 11 above.
14	The Regional Office of this Ministry located at Bhubneshwar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	Agreed and is being done.
15	A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom and suggestion / representation has been received while processing the proposal.	Complied.
16	State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/ Tehsildar's Office for 30 days.	Displayed.
17	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http:// envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubneshwar.	Complied. (Documents already submitted).



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Mahabal Enviro Engineers Pvt. Ltd.

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

AMTIPANI BAUXITE MINE ENVIRONMENTAL MONITORING REPORT

APRIL 2019

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,

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Hindalco Industries : Amtipani

Environmental Monitoring Report

April 2019

CONTENT

	LOCATION – AMTIPANI
	AMBIENT AIR QUALITY – CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office / WB
3	Mines Near Quarry – 1C
4	Mines Near Quarry – 7A





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Hindalco Industries : Amtipani

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0394/2019-20	Date: 31 st May, 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: Mine Entrance Gate	
Sample collected on: 25.04.2019	

LOCATION / IDENTIFICATION: Mine Entrance Gate				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	79.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	37.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.7
05.	Ammonia (NH ₃)	µg/m ³	400	5.7
06.	Ozone (O ₃)	µg/m ³	180	8.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.33
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.9
10.	Arsenic (As)	µg/m ³	06	1.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0395/2019-20	Date: 31 st May, 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 Mine Office / WB	
Sample collected on: 25.04.2019	

LOCATION / IDENTIFICATION: Near Mine Office / WB

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	75.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.1
06.	Ozone (O ₃)	µg/m ³	180	9.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.35
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	µg/m ³	20	2.0
10.	Arsenic (As)	µg/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.32

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Amtipani

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0396/2019-20	Date: 31 st May, 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: Mines Near Quarry - 1C	
Sample collected on: 25.04.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 1C

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	83.8
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	40.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	6.9
05.	Ammonia (NH ₃)	µg/m ³	400	5.2
06.	Ozone (O ₃)	µg/m ³	180	10.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.37
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.8
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.29

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0397/2019-20	Date: 31 st May, 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: Mines Near Quarry - 7A	
Sample collected on: 25.04.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 7A				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	92.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	45.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	5.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.5
05.	Ammonia (NH ₃)	µg/m ³	400	5.0
06.	Ozone (O ₃)	µg/m ³	180	9.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	2.4
10.	Arsenic (As)	µg/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.4

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0378/2019-20	Date: 31 st May, 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 Dipa Kujam Village	
Sample collected on: 20.04.2019	

LOCATION / IDENTIFICATION: Near Dipa Kujam Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	65.8
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	30.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.3
05.	Ammonia (NH ₃)	µg/m ³	400	3.0
06.	Ozone (O ₃)	µg/m ³	180	9.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.8
10.	Arsenic (As)	µg/m ³	06	2.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Gurdari

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0379/2019-20	Date: 31 st May, 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 Chathasari Village	
Sample collected on: 20.04.2019	

LOCATION / IDENTIFICATION: Near Chathasari Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	57.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	25.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.8
05.	Ammonia (NH ₃)	µg/m ³	400	2.1
06.	Ozone (O ₃)	µg/m ³	180	8.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.30
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.7
12.	Benzo (a) Pyrene	µg/m ³	01	0.30

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0400/2019-20	Date: 31 st May, 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: <i>Near Shakhuapani Village</i>	
Sample collected on: 26.04.2019	

LOCATION / IDENTIFICATION: Near Shakhuapani Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	51.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	24.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.2
05.	Ammonia (NH ₃)	µg/m ³	400	2.7
06.	Ozone (O ₃)	µg/m ³	180	9.0
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.4
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

April 2019

Report No: MEEPL/MAY0392/2019-20	Date: 31 st May, 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: <i>Near Pakri Gada Village</i>	
Sample collected on: 24.04.2019	

LOCATION / IDENTIFICATION: Near Pakri Gada Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	53
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	25.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.2
05.	Ammonia (NH ₃)	µg/m ³	400	3.5
06.	Ozone (O ₃)	µg/m ³	180	8.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.29
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.29

For Mahabal Enviro Engineers Pvt. Ltd.

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AMTIPANI BAUXITE MINE ENVIRONMENTAL MONITORING REPORT

MAY 2019

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Amtipani

Environmental Monitoring Report

MAY 2019

CONTENT

	LOCATION – AMTIPANI
	AMBIENT AIR QUALITY – CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office / WB
3	Mines Near Quarry – 1C
4	Mines Near Quarry – 7A





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Hindalco Industries : Amtipani

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0386/2019-20	Date: 28th June, 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: Mine Entrance Gate	
Sample collected on: 21.05.2019	

LOCATION / IDENTIFICATION: Mine Entrance Gate				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	74.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.5
06.	Ozone (O ₃)	µg/m ³	180	8.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.31
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.5
10.	Arsenic (As)	µg/m ³	06	1.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0387/2019-20

Date: 28th June, 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 Mine Office / WB*

Sample collected on: *21.05.2019*

LOCATION / IDENTIFICATION: Near Mine Office / WB

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	79.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	35.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.3
05.	Ammonia (NH ₃)	µg/m ³	400	4.0
06.	Ozone (O ₃)	µg/m ³	180	8.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.33
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	2.0
10.	Arsenic (As)	µg/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.32

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0388/2019-20	Date: 28 th June, 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: Mines Near Quarry - 1C	
Sample collected on: 22.05.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 1C

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	77.0
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.6
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.0
05.	Ammonia (NH ₃)	µg/m ³	400	3.6
06.	Ozone (O ₃)	µg/m ³	180	9.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.33
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.7
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0389/2019-20	Date: 28th June, 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: Mines Near Quarry - 7A	
Sample collected on: 22.05.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 7A				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	86.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	41.4
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	7.3
05.	Ammonia (NH ₃)	µg/m ³	400	5.2
06.	Ozone (O ₃)	µg/m ³	180	8.0
07.	Carbon Monoxide (CO)	mg/m ³	02	0.26
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	2.3
10.	Arsenic (As)	µg/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.4

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0382/2019-20	Date: 28 th June, 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 Dipa Kujam Village	
Sample collected on: 18.05.2019	

LOCATION / IDENTIFICATION: Near Dipa Kujam Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	61.0
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	27.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.5
05.	Ammonia (NH ₃)	µg/m ³	400	2.9
06.	Ozone (O ₃)	µg/m ³	180	8.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.8
10.	Arsenic (As)	µg/m ³	06	2.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0383/2019-20	Date: 28 th June, 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 Chathasari Village	
Sample collected on: 18.05.2019	

LOCATION / IDENTIFICATION: Near Chathasari Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	64.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.1
05.	Ammonia (NH ₃)	µg/m ³	400	2.0
06.	Ozone (O ₃)	µg/m ³	180	8.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.29
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.7
12.	Benzo (a) Pyrene	µg/m ³	01	0.30

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0384/2019-20	Date: 28 th June, 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: <i>Near Shakhuapani Village</i>	
Sample collected on: 22.05.2019	

LOCATION / IDENTIFICATION: Near Shakhuapani Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	58.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.7
05.	Ammonia (NH ₃)	µg/m ³	400	2.5
06.	Ozone (O ₃)	µg/m ³	180	9.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.23
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.4
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

MAY 2019

Report no: MEEPL/JUNE0385/2019-20	Date: 28 th June, 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: <i>Near Pakri Gada Village</i>	
Sample collected on: 21.05.2019	

LOCATION / IDENTIFICATION: Near Pakri Gada Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	55.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.8
05.	Ammonia (NH ₃)	µg/m ³	400	3.1
06.	Ozone (O ₃)	µg/m ³	180	8.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

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AMTIPANI BAUXITE MINE ENVIRONMENTAL MONITORING REPORT

JUNE 2019

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Amtipani

Environmental Monitoring Report

JUNE 2019

CONTENT

	LOCATION – AMTIPANI
	AMBIENT AIR QUALITY – CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office / WB
3	Mines Near Quarry – 1C
4	Mines Near Quarry – 7A





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Hindalco Industries : Amtipani

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0295/2019-20	Date: 15 th July, 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: Mine Entrance Gate	
Sample collected on: 22.06.2019	

LOCATION / IDENTIFICATION: Mine Entrance Gate				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	82.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	39.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.7
05.	Ammonia (NH ₃)	µg/m ³	400	4.2
06.	Ozone (O ₃)	µg/m ³	180	9.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.33
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.8
10.	Arsenic (As)	µg/m ³	06	1.4
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0296/2019-20

Date: 15th July, 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 Mine Office / WB*

Sample collected on: *22.06.2019*

LOCATION / IDENTIFICATION: Near Mine Office / WB

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	88.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	39.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.9
05.	Ammonia (NH ₃)	µg/m ³	400	4.5
06.	Ozone (O ₃)	µg/m ³	180	9.6
07.	Carbon Monoxide (CO)	mg/m ³	02	0.32
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	2.1
10.	Arsenic (As)	µg/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.30

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0297/2019-20	Date: 15 th July, 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: Mines Near Quarry - 1C	
Sample collected on: 22.06.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 1C

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	73.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	36.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.3
05.	Ammonia (NH ₃)	µg/m ³	400	3.8
06.	Ozone (O ₃)	µg/m ³	180	9.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.30
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.7
10.	Arsenic (As)	µg/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.27

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0298/2019-20	Date: 15 th July, 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: Mines Near Quarry – 7A	
Sample collected on: 22.06.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry – 7A				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	90.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	43.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	6.9
05.	Ammonia (NH ₃)	µg/m ³	400	5.2
06.	Ozone (O ₃)	µg/m ³	180	8.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.9
10.	Arsenic (As)	µg/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.37

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0291/2019-20	Date: 15 th July, 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 Dipa Kujam Village	
Sample collected on: 19.06.2019	

LOCATION / IDENTIFICATION: Near Dipa Kujam Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	57.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.8
05.	Ammonia (NH ₃)	µg/m ³	400	2.6
06.	Ozone (O ₃)	µg/m ³	180	8.0
07.	Carbon Monoxide (CO)	mg/m ³	02	0.23
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.34

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0292/2019-20	Date: 15 th July, 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 Chathasari Village	
Sample collected on: 19.06.2019	

LOCATION / IDENTIFICATION: Near Chathasari Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	60.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	26.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.0
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.3
05.	Ammonia (NH ₃)	µg/m ³	400	1.8
06.	Ozone (O ₃)	µg/m ³	180	8.7
07.	Carbon Monoxide (CO)	mg/m ³	02	0.25
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.0
10.	Arsenic (As)	µg/m ³	06	1.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.28

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0293/2019-20	Date: 15 th July, 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: <i>Near Shakhuapani Village</i>	
Sample collected on: 22.06.2019	

LOCATION / IDENTIFICATION: Near Shakhuapani Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	53.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	21.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.0
05.	Ammonia (NH ₃)	µg/m ³	400	2.0
06.	Ozone (O ₃)	µg/m ³	180	9.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.21
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	1.6
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.24

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JUNE 2019

Report no: MEEPL/JULY0294/2019-20	Date: 15 th July, 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: <i>Near Pakri Gada Village</i>	
Sample collected on: 21.06.2019	

LOCATION / IDENTIFICATION: Near Pakri Gada Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	50.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	20.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.2
05.	Ammonia (NH ₃)	µg/m ³	400	1.8
06.	Ozone (O ₃)	µg/m ³	180	8.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.22
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Eco Ventures Pvt. Ltd.

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AMTIPANI BAUXITE MINE ENVIRONMENTAL MONITORING REPORT

JULY 2019

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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CONTENT

LOCATION - AMTIPANI	
AMBIENT AIR QUALITY - CORE ZONE	
1	Mine Entrance Gate
2	Near Mine Office / WB
3	Mines Near Quarry - 1C
4	Mines Near Quarry - 7A
SURFACE WATER ANALYSIS	
1	Amtipani Bauxite Mines
AMBIENT NOISE MONITORING	
1	Amtipani Bauxite Mines
RUNOFF WATER ANALYSIS	
1	Amtipani Bauxite Mines





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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0266/2019-20	Date: 12 th August, 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: Mine Entrance Gate	
Sample collected on: 20.07.2019	

LOCATION / IDENTIFICATION: Mine Entrance Gate				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	57.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	25.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.2
05.	Ammonia (NH ₃)	µg/m ³	400	4.5
06.	Ozone (O ₃)	µg/m ³	180	5.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.30
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.0
10.	Arsenic (As)	µg/m ³	06	0.95
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.7
12.	Benzo (a) Pyrene	µg/m ³	01	0.25

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0267/2019-20 Date: 12th August, 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 Mine Office / WB*

Sample collected on: *20.07.2019*

LOCATION / IDENTIFICATION: Near Mine Office / WB

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	51.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	23.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.1
05.	Ammonia (NH ₃)	µg/m ³	400	4.0
06.	Ozone (O ₃)	µg/m ³	180	5.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.30
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.30

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0268/2019-20	Date: 12 th August, 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: Mines Near Quarry - 1C	
Sample collected on: 20.07.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 1C

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	59.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	28.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.1
05.	Ammonia (NH ₃)	µg/m ³	400	3.9
06.	Ozone (O ₃)	µg/m ³	180	6.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.28
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.4
10.	Arsenic (As)	µg/m ³	06	1.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.0
12.	Benzo (a) Pyrene	µg/m ³	01	0.29

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0269/2019-20	Date: 12 th August, 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: Mines Near Quarry - 7A	
Sample collected on: 20.07.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 7A				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	64.0
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	32.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	6.1
05.	Ammonia (NH ₃)	µg/m ³	400	4.8
06.	Ozone (O ₃)	µg/m ³	180	5.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.29
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.5
12.	Benzo (a) Pyrene	µg/m ³	01	0.33

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0270/2019-20	Date: 12 th August, 2019
Sample described by customer : SURFACE WATER	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203 Report no: MEEPL/AUG0270/2019-20	
Date: 12 th August, 2019	
State: Jharkhand	
Country: India	
Sample Type: SURFACE WATER	
Marks on Sample: Location: Amtipani Bauxite Mines	
Quantity: 5 L X 2 No. PVC Can	
Sample collected on: 20.07.2019	

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS 10500:2012)	Method Reference
1	Colour	Hazen	<2	5 Max	APHA 22 nd Ed. 2012, 2120-B, 2-6
2	Odour	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
3	Taste	--	Agreeable	Agreeable	IS 3025 (Part 7): 1983, Reaffirmed 2006
4	Turbidity	NTU	0.31	1 Max	APHA 22 nd Ed. 2012, 2130-B, 2-13
5	pH	--	7.3	6.5-8.5	APHA 22 nd Ed. 2012, 4500-H+-B, 4-92
6	Free Chlorides (Residual)	mg/l	<0.5	0.2 min	APHA 22 nd Ed. 2012, 4500-CI-G, 4-69
7	Total Dissolved Solids	mg/l	318	500 max	IS 3025 (Part 16): 1984, Reaffirmed 2006
8	Total hardness (as CaCO ₃)	mg/l	38	200 max	APHA 22 nd Ed. 2012, 4500-CIG, 4-69
9	Alkalinity Total (as CaCO ₃)	mg/l	42	200 max	IS 3025 (Part 237): 1986, Reaffirmed 2009
10	Chloride (as Cl)	mg/l	35	250 max	APHA 22 nd Ed. 2012, 4500-CI-b, 4-72
11	Sulphate (as SO ₄)	mg/l	30.8	200 max	APHA 22 nd Ed. 2012, 4500-so4-e, 4-190
12	Boron (as B)	mg/l	0.22	0.5 max	APHA 22 nd Ed. 2012, 4500-BB, 4-25
13	Magnesium (as Mg)	mg/l	6.0	30 max	APHA 22 nd Ed. 2012, 3500-Mg-B, 3-84





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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Continuation Sheet MEEPL/AUG0270/2019-20

Sl. No.	Parameters	Unit	Result	Acceptable Limit (IS 10500:2012)	Method Reference
14	Fluoride (as F)	mg/l	0.12	1 max	APHA 22 nd Ed. 2012, 4500-FB & D, 4-84, 4-87
15	Calcium (as Ca)	mg/l	8.3	75 max	APHA 22 nd Ed. 2012, 3500-Ca-B, 3-67
16	Iron (as Fe)	mg/l	0.07	0.3 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
17	Cadmium (as Cd)	mg/l	N.D	0.003 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
18	Chromium Total (as Cr)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
19	Copper (as Cu)	mg/l	N.D	0.05 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
20	Lead (as Pb)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
21	Zinc (as Zn)	mg/l	0.02	5 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
22	Arsenic (as As)	mg/l	<0.01	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-38
23	Selenium (as Se)	mg/l	N.D	0.001 max	APHA 22 nd Ed. 2012, 3112-B, 3-23
24	Mercury (as hg)	mg/l	N.D	0.01 max	APHA 22 nd Ed. 2012, 3114-B, 3-38
25	Cyanide (as CN)	mg/l	N.D	0.05 max	APHA 22 nd ED. 2012, 4500-CN.C & 4-39 & 4-44
26	Manganese (as Mn)	mg/l	N.D	0.1 max	APHA 22 nd Ed. 2012, 3111-B, 3-18
27	Dissolved Oxygen	mg/l	7.3	7-8	APHA 20 th ED. Method 4500-o g.

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

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0271/2019-20	Date: 12 th August, 2019
Sample described by customer : Measurement of Noise	
Client Name : Hindalco Industries Limited	
Client Address : Lohardaga	
Postal Code : 835203	
State : Jharkhand	
Country : India	
Sample Description : Measurement of Noise	
Sampling Method : Instrumental, using Sound level Metter	
Data Collection Date: 20.07.2019	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Amtipani Bauxite Mines	dB (A) L_{eq}	75	68.8	70	61.5

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Amtipani

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0272/2019-20			Date: 12th August, 2019		
Sample described by customer: Runoff Water					
Client Name: Hindalco Industries Limited					
Client Address: Lohardaga					
Postal Code: 835203					
State: Jharkhand					
Country: India					
Sample Type: Runoff Water – Surface Water					
Marks on Sample: Location: Amtipani Bauxite Mines					
Sample collected on: 20.07.2019					
Sl. No.	Analysis	Method	Result	Unit	Limits
1.	pH	APHA 22 nd Ed. 2012, 4500-H+-B,4-92	8.1	mg/l	5.5-9.0
2.	Total Suspended Solids	APHA 22 nd EDN: 2012-2540	78	mg/l	100
3.	BOD @ 27°C	IS 3025 (Part 44): 1993, RA2003, Amd.1	8.3	mg/l	30
4.	COD	IS 3025 (Part 58): 1993, RA2006, Amd.1	34	mg/l	250
5.	Oil & Grease	IS 3025(PART 39): 1991 RA 2003,Ed 2.1	<5.0	mg/l	10
6.	Total Dissolved Solids	APHA 22 ND EDN 2012-2540	1258	mg/l	2100
7.	Aluminium (as Al)	APHA 22 nd EDN 2012-3120B	1.0	mg/l	3
8.	Calcium (as Ca)	APHA 22 nd EDN 2012-3120B	9.4	mg/l	75
9.	Iron (as Fe)	APHA 22 nd EDN 2012-3120B	0.8	mg/l	3
10.	Temperature		31.5	°C	Shall not exceed 5°C above the receiving water temperature

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0259/2019-20	Date: 12 th August, 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 Dipa Kujam Village	
Sample collected on: 19.07.2019	

LOCATION / IDENTIFICATION: Near Dipa Kujam Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	41.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	19.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.3
05.	Ammonia (NH ₃)	µg/m ³	400	2.5
06.	Ozone (O ₃)	µg/m ³	180	4.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.23
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.31

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0260/2019-20	Date: 12 th August, 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 Chathasari Village	
Sample collected on: 19.07.2019	

LOCATION / IDENTIFICATION: Near Chathasari Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	47.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	22.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.0
05.	Ammonia (NH ₃)	µg/m ³	400	2.2
06.	Ozone (O ₃)	µg/m ³	180	5.5
07.	Carbon Monoxide (CO)	mg/m ³	02	0.26
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.0
10.	Arsenic (As)	µg/m ³	06	1.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.29

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0261/2019-20	Date: 12 th August, 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: <i>Near Shakhuapani Village</i>	
Sample collected on: 19.07.2019	

LOCATION / IDENTIFICATION: Near Shakhuapani Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	44.0
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	18.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.2
05.	Ammonia (NH ₃)	µg/m ³	400	2.4
06.	Ozone (O ₃)	µg/m ³	180	6.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.20
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.0
10.	Arsenic (As)	µg/m ³	06	0.93
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.22

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

JULY 2019

Report no: MEEPL/AUG0262/2019-20	Date: 12 th August, 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: <i>Near Pakri Gada Village</i>	
Sample collected on: 19.07.2019	

LOCATION / IDENTIFICATION: Near Pakri Gada Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	39.2
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	16.7
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.7
05.	Ammonia (NH ₃)	µg/m ³	400	1.6
06.	Ozone (O ₃)	µg/m ³	180	4.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.18
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	0.98
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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AMTIPANI BAUXITE MINE ENVIRONMENTAL MONITORING REPORT

AUGUST 2019

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

AUGUST 2019

CONTENT

	LOCATION – AMTIPANI
	AMBIENT AIR QUALITY – CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office / WB
3	Mines Near Quarry – 1C
4	Mines Near Quarry – 7A





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Hindalco Industries : Amtipani

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0246/2019-20	Date: 14 th September, 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: Mine Entrance Gate	
Sample collected on: 22.08.2019	

LOCATION / IDENTIFICATION: Mine Entrance Gate				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	21.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	12.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.4
05.	Ammonia (NH ₃)	µg/m ³	400	3.8
06.	Ozone (O ₃)	µg/m ³	180	7.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.24
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	0.91
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.23

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0247/2019-20

Date: 14th September, 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 Mine Office / WB*

Sample collected on: *22.08.2019*

LOCATION / IDENTIFICATION: Near Mine Office / WB

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	17.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	10.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.2
05.	Ammonia (NH ₃)	µg/m ³	400	2.8
06.	Ozone (O ₃)	µg/m ³	180	5.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.20
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	0.95
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.0
12.	Benzo (a) Pyrene	µg/m ³	01	0.18

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0248/2019-20	Date: 14 th September, 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: Mines Near Quarry - 1C	
Sample collected on: 22.08.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry – 1C

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	24.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	13.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	4.2
05.	Ammonia (NH ₃)	µg/m ³	400	2.7
06.	Ozone (O ₃)	µg/m ³	180	5.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.18
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	0.75
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0249/2019-20	Date: 14 th September, 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: Mines Near Quarry - 7A	
Sample collected on: 22.08.2019	

LOCATION / IDENTIFICATION: Mines Near Quarry - 7A				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	18.7
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	11.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.5
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	5.1
05.	Ammonia (NH ₃)	µg/m ³	400	3.7
06.	Ozone (O ₃)	µg/m ³	180	1.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.17
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	0.85
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.21

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Gurdari

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0242/2019-20	Date: 14 th September, 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 Dipa Kujam Village	
Sample collected on: 20.08.2019	

LOCATION / IDENTIFICATION: Near Dipa Kujam Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	17.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	11.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.7
05.	Ammonia (NH ₃)	µg/m ³	400	2.1
06.	Ozone (O ₃)	µg/m ³	180	4.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.20
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.5
10.	Arsenic (As)	µg/m ³	06	0.69
11.	Benzene (C ₆ H ₆)	µg/m ³	05	0.91
12.	Benzo (a) Pyrene	µg/m ³	01	0.16

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Gurdari

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0243/2019-20	Date: 14 th September, 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 Chathasari Village	
Sample collected on: 20.08.2019	

LOCATION / IDENTIFICATION: Near Chathasari Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	18.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	10.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	0.9
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.5
05.	Ammonia (NH ₃)	µg/m ³	400	1.6
06.	Ozone (O ₃)	µg/m ³	180	4.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.16
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	0.9
10.	Arsenic (As)	µg/m ³	06	1.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.19

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,
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E-mail: mahabalanranchi@gmail.com

Hindalco Industries : Gurdari

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0244/2019-20	Date: 14 th September, 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: <i>Near Shakhuapani Village</i>	
Sample collected on: 22.08.2019	

LOCATION / IDENTIFICATION: Near Shakhuapani Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	16.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	7.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	0.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.1
05.	Ammonia (NH ₃)	µg/m ³	400	0.9
06.	Ozone (O ₃)	µg/m ³	180	3.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.12
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.0
10.	Arsenic (As)	µg/m ³	06	0.75
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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E-mail: mahabalaranchi@gmail.com

Hindalco Industries : Gurdari

Environmental Monitoring Report

AUGUST 2019

Report no: MEEPL/SEP0245/2019-20	Date: 14 th September, 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: <i>Near Pakri Gada Village</i>	
Sample collected on: 21.08.2019	

LOCATION / IDENTIFICATION: Near Pakri Gada Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	16.8
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	9.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.0
05.	Ammonia (NH ₃)	µg/m ³	400	2.4
06.	Ozone (O ₃)	µg/m ³	180	5.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.17
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	0.85
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.21

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Eco Ventures Pvt. Ltd.

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

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

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

Mahabal Enviro Engineers Pvt. Ltd.

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

AMTIPANI BAUXITE MINE ENVIRONMENTAL MONITORING REPORT

SEPTEMBER 2019

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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E-mail: mahabalanranchi@gmail.com

Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

CONTENT

	LOCATION – AMTIPANI
	AMBIENT AIR QUALITY – CORE ZONE
1	Mine Entrance Gate
2	Near Mine Office / WB
3	Mines Near Quarry – 1C
4	Mines Near Quarry – 7A





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0201/2019-20

Date: 18th October, 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: *Mine Entrance Gate*

Sample collected on: **21.09.2019**

LOCATION / IDENTIFICATION: Mine Entrance Gate

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	26.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	13.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.2
05.	Ammonia (NH ₃)	µg/m ³	400	5.6
06.	Ozone (O ₃)	µg/m ³	180	8.0
07.	Carbon Monoxide (CO)	mg/m ³	02	0.14
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.3
10.	Arsenic (As)	µg/m ³	06	1.8
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.6
12.	Benzo (a) Pyrene	µg/m ³	01	0.20

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0202/2019-20

Date: 18th October, 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 Mine Office / WB*

Sample collected on: **21.09.2019**

LOCATION / IDENTIFICATION: Near Mine Office / WB

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	21.5
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	11.2
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.4
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.8
05.	Ammonia (NH ₃)	µg/m ³	400	4.1
06.	Ozone (O ₃)	µg/m ³	180	8.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.11
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	µg/m ³	20	1.6
10.	Arsenic (As)	µg/m ³	06	1.2
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.17

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0203/2019-20

Date: 18th October, 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: *Mines Near Quarry - 1C*

Sample collected on: 22.09.2019

LOCATION / IDENTIFICATION: Mines Near Quarry - 1C

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	31.4
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	16.3
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.5
05.	Ammonia (NH ₃)	µg/m ³	400	3.9
06.	Ozone (O ₃)	µg/m ³	180	7.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.09
08.	Lead (Pb)	µg/m ³	1.0	0.04
09.	Nickel (Ni)	µg/m ³	20	1.8
10.	Arsenic (As)	µg/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	0.8
12.	Benzo (a) Pyrene	µg/m ³	01	0.15

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0204/2019-20

Date: 18th October, 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: **Mines Near Quarry – 7A**

Sample collected on: **22.09.2019**

LOCATION / IDENTIFICATION: Mines Near Quarry – 7A

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	37.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	17.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.7
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.4
05.	Ammonia (NH ₃)	µg/m ³	400	4.6
06.	Ozone (O ₃)	µg/m ³	180	7.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.10
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.5
10.	Arsenic (As)	µg/m ³	06	1.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	0.9
12.	Benzo (a) Pyrene	µg/m ³	01	0.19

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0197/2019-20	Date: 18 th October, 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 Dipa Kujam Village	
Sample collected on: 20.09.2019	

LOCATION / IDENTIFICATION: Near Dipa Kujam Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	16.3
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	8.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	1.6
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.8
05.	Ammonia (NH ₃)	µg/m ³	400	3.3
06.	Ozone (O ₃)	µg/m ³	180	6.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.12
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	0.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.12

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0198/2019-20

Date: 18th October, 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 Chathasari Village*

Sample collected on: 20.09.2019

LOCATION / IDENTIFICATION: Near Chathasari Village

Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	14.9
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	7.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.0
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	1.3
05.	Ammonia (NH ₃)	µg/m ³	400	4.2
06.	Ozone (O ₃)	µg/m ³	180	5.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.05
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.0
10.	Arsenic (As)	µg/m ³	06	0.7
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.14

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey

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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0199/2019-20	Date: 18 th October, 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: <i>Near Shakhuapani Village</i>	
Sample collected on: 20.09.2019	

LOCATION / IDENTIFICATION: Near Shakhuapani Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	13.0
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	8.0
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	3.1
05.	Ammonia (NH ₃)	µg/m ³	400	3.8
06.	Ozone (O ₃)	µg/m ³	180	6.3
07.	Carbon Monoxide (CO)	mg/m ³	02	0.08
08.	Lead (Pb)	µg/m ³	1.0	0.01
09.	Nickel (Ni)	µg/m ³	20	1.2
10.	Arsenic (As)	µg/m ³	06	0.9
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.4
12.	Benzo (a) Pyrene	µg/m ³	01	0.16

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
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Hindalco Industries : Amtipani

Environmental Monitoring Report

SEPTEMBER 2019

Reports no: MEEPL/OCT0200/2019-20	Date: 18 th October, 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: <i>Near Pakri Gada Village</i>	
Sample collected on: 20.09.2019	

LOCATION / IDENTIFICATION: Near Pakri Gada Village				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	18.1
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	9.8
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	2.0
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	2.5
05.	Ammonia (NH ₃)	µg/m ³	400	3.7
06.	Ozone (O ₃)	µg/m ³	180	6.9
07.	Carbon Monoxide (CO)	mg/m ³	02	0.07
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	µg/m ³	20	1.1
10.	Arsenic (As)	µg/m ³	06	1.5
11.	Benzene (C ₆ H ₆)	µg/m ³	05	1.0
12.	Benzo (a) Pyrene	µg/m ³	01	0.12

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 April'19 to Sep'19)
1	Pollution Control & Environment monitoring	3,351,809.00	1,650,803.00
2	Reclamation/ Back filing & Rehabilitation**	25,300,000.00	8,571,756.00
3	Green belt, Plantation & Water spraying arrangement	4,725,854.00	2,360,877.00
4	Rural Development	22,035,865.00	9,848,659.98

**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 Amtipani Bauxite Mines (Area 190.95 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. Amar Bharti (Coordinator)
2. Mr. Preet Ranjan (Member)
3. Mr. Satish Kumar (Member)

Basudev Gangopadhyay
Convenor (Quality & Environment)


Annexure 4

Production, Mined Out, Back Filled and Over Burden removal from April'19 to September'19										
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	Mine is not in operation since November 2013.					
2	Bhusar Bauxite Mine	65.31	280000	11.07.1981 to 31.03.2030	4895	0.07	0.00	77442.60		
3	Hisri (New) Bauxite Mine	14.55	100000	19.07.1981 to 31.03.2030	7972	0.06	0.00	11629.94		
4	Kujam - I Bauxite Mine	80.87	150000	13.03.2006 to 12.03.2056	NIL	NIL	0.67	21974.96		
5	Kujam - II Bauxite Mine	157.38	300000	24.03.2006 to 23.03.2056	NIL	NIL	1.20	53614.90		
6	Amtipani Bauxite Mine	190.95	150000	13.03.2006 to 12.03.2056	NIL	NIL	1.00	107763.230		
7	Gurdari Bauxite Mine	584.19	325000	23.03.1985 to 22.03.2035	153475	6.95	4.67	111211.184		
8	Shrengdag A Bauxite Mine	155.81	260000	16.10.1974 to 31.03.2030	147045	5.00	7.00	325000		
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	28545	0.39	0.33	16000		

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	Pakhhar (8.09)	8.09	80000	16.05.1973 to 31.03.2030	NIL	NIL	NIL	NIL	
14	Pakhhar (35.12)	35.12	200000	17.04.1975 to 31.03.2030	NIL	NIL	NIL	NIL	
15	Pakhhar (115.13)	115.13	300000	19.07.1996 to 31.03.2030	25000	0.35	0.58	72808.76	
Minerals & Minerals Limited									
16	Pakhhar (15.58)	15.58	60000	28.04.1965 to 31.03.2030	49800	0.4	0.20	48359.23	
17	Pakhhar (109.507)	109.507	280000	26.07.2008 to 25.07.2058	118700	1.00	2.04	162256	
18	Bimarla Bauxite Mine	134.526	300000	18.07.2009 to 17.07.2059	87320	4.33	3.10	241367.05	

*Static information about the mines included in the above table


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