

MINERALS & MINERALS LIMITED

Regd. Office- Court Road, P.O. & Distt.-Lohardaga, Jharkhand-835302

Tel.-06526-223163

CIN NO. U26990JH1970PLC000875

Ref. : Ref No: M&M/LHD/GM (GEO) MoEF/0090

Date: 25.05.2018.....

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 Pakhar (15.58 ha) Bauxite Mining project of M/s Minerals & Minerals Limited located in Lohardaga, Jharkhand for the period Oct'17 to March'18.**

Ref: **Environmental Clearance letter no J-11015/123/2006-IA II (M) dated 24th January 2007**

Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Pakhar (15.58 ha) Bauxite Mining project of M/s Minerals & Minerals Limited**, located in Lohardaga, Jharkhand for the period **Oct'17 to March'18**.

Hope you will find the same in order.

Thanking You

Yours Sincerely

FOR Minerals & Minerals Limited

(Basudev Gangopadhyay)

GM(Geology)

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

PAKHAR BAUXITE MINES (15.58 Ha)

MINERALS & MINERALS LTD.

Period: Oct'17- Mar'18

J-11015/123/2006-IA.II (M) Dated 24.01.2007

Sl No	Conditions	Compliance Status
Specific Conditions		
1	All the conditions stipulated by SPCB in their NOC shall be effectively implemented.	Implementations of the stipulated condition are fulfilled.
2	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.	This provision has been taken care of during land acquisition with permission of competent authority i.e. concerned Deputy Commissioner (D.C.) and consent of Raiyat (Land Owner) for 20 years period and the land so acquired will be return as per the norms set by D.C. in land purchased agreement. (Documents already submitted).
3	Mining shall not intersect groundwater. The mine working shall be restricted to ground water table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained for mining below water table.	The mining operation is confined within shallow depth (20 m max) and as per the previous study conducted by Center for Ground Water Studies, Kolkata (WB) there is no chance to intersect ground water table during mining operation. Working zone restricted above ground water table.
4	The project proponent shall ensure that no natural watercourse shall be obstructed due to any mining operation.	It is being ensured. No natural water course has been obstructed as yet and care will be taken in future also.
5	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 properly with proper slope as and when required for its use for reclamation and rehabilitation. Sequential backfilling and reclamation of the mined out area are being exercised during mining operation.
6	The waste generated shall be concurrently backfilled in the mined out area. There shall be no external OB dump. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of	Overburden and waste rock from the mining pit are being used for back filling. Backfilling and plantation detail provided in Annexure-4.

	Environment & Forest on six monthly basis.	
7	<p>Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.</p> <p>Garland drain (size, gradient and length) shall be constructed for mine pit and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.</p>	<p>No run off is being generated from mining activities. However, to collect and manage rainwater during monsoon, part of mined out area is used as settling tank. Settled water is being used for sprinkling of quarry, roads, green belt development, etc.</p> <p>Catch drain, siltation pond, garland drain is being maintained and constructed with the progress of mining activity as and when required.</p>
8	Plantation shall be raised in an area of 6.98ha including a green belt of adequate width by planting the native species around the ML area, roads, reclaimed area etc. in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.	Mining activity was discontinued since Sep'2014. Post Sep 14, mining operations resumed during August'17. As Mining operation started after the rainy season hence plantation could not be done. This will be done in due course of time.
9	The project proponent shall ensure that there shall be no discharge from the mine.	Ensured. There is no discharge from the mine.
10	The Project proponent shall carry out regular monitoring of spring discharge and its quality near Pakhar village on long term basis.	The quality parameter of the nearby springs for post monsoon season has been monitored, report attached. (Annex. 1)
11	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>A plan is drawn on the basis of discussions with Scientists of State unit office of Central Ground Water Board, Ranchi to implement suitable conservation measures to augment ground water resources in the area and is also submitted to the Regional Director, Central Ground Water Board, Patna, for his further suggestions.</p> <p>Recommendation of CGWB shall be implemented to augment the ground water resources of the area in addition to</p>

		existing measures being taken. Copy of letter already submitted.
12	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.	It is being monitored. Report enclosed.
13	Prior permission from the competent authority should be obtained for drawl of water from the surface water bodies.	We are not using natural water bodies, ground water for mining purposes. There is no natural surface water body within the lease hold area.
14	Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.	To keep vehicular emissions in control, company vehicles are periodically checked & repaired. All measures are being taken to control vehicular emission including covering with tarpaulin and non-overloading during transportation.
15	Drills should either be operated with dust extractors or should be equipped with water injection system.	Drilling is being done with water pouring in the holes intermittently for dust suppression.
16	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. 12.00 Noon -1.00 PM. Controlled blasting method is in practice. All efforts are being taken to mitigate impact of blasting.
17	Consent to operate should be obtained from SPCB prior to start of enhanced production from the mine.	There is no proposal for production enhancement.
18	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 from mine; hence ETP has not been installed.
19	The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Indian Python etc. Spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife	Action plan for conservation of flora and fauna spotted in the study area has been prepared based on discussions with forest Dept. Action taken for conservation of flora and fauna as under: 1) Permanent pillars are established

	Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.	within the mine lease area at 7.5m from the forest boundary. 2)Maintenance of the forest road 3) Ensured necessary air and noise pollution control measures. 4)Daily water sprinkling is being carried out on the forest road 5) Transportation is being done during day time.
20	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 has been dully approved by Indian Bureau of Mines. FMCP related provision will be compiled as per statue. Based on the present resource estimate, and peak rated production capacity mentioned in EC, the tentative balance life is around 14-15 years. However, after completion of further detailed exploration, the resources estimate vis-à-vis 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

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 & Forest.	Being adhered to.
2	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.	Excavation & bauxite production are in line with calendar plan. Details attached as Annexure for the financial year FY17-18.
3	Four ambient air quality-monitoring station 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 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.	Complied. Monitoring Reports is enclosed as Annexure-1.
4	Data on ambient air quality (RPM, SPM, SO ₂ , NO _x) should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar	Complied. Monitoring Reports is enclosed as Annexure-1.

	and the State Pollution Control Board / Central pollution Control Board once in six months.	
5	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.	One no. of mobile water tanker with sprinkling facility has been provided along haul roads, loading unloading & at transfer points to arrest dust emissions.
6	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.	Noise monitoring is done regularly. Workers engaged in operation of HEMM, etc. are provided with ear plug / muffs. Monitoring report enclosed as annexure.
7	Industrial waste water (workshops and waste water from the mine) Should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	There is no effluent discharge from Mine. Discharge of Workshop effluents is being passed through Oil catchment pit to trap Oil and grease.
8	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.
9	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 management cell is functioning with qualified in-house members. Copy enclosed.(Annexure-3)
10	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.	Provision related to financial closure are not applicable as this is an operating Mine

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 Bhubneshwar.	Statement of Budgetary provision & actual expenses for environmental protection measure is submitted. (Annexed-2).
12	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
13	A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.	Complied.
14	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.
15	The project authorities should advertise at least in two local newspapers widely circulated, one of which locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located Bhubneshwar.	Complied. Copies of the advertisement made in the local newspapers, have already been submitted to the Regional Office.



Eco Ventures Pvt. Ltd.

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Mahabal Enviro Engineers Pvt. Ltd.

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

PAKHAR PLATEAU- ENVIRONMENTAL MONITORING REPORT

JANUARY TO MARCH 2018

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: mahabalaranchi@gmail.com

Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

CONTENT

	LOCATION
	AMBIENT AIR QUALITY
1	Pakhar Plateau-Near Weigh Bridge
2	Pakhar Plateau- Pakhar (115.13 ha.) Quarry No. 4
3	Pakhar Plateau- Near Office
4	Pakhar Plateau- Pakhar Quarry (109.507 ha. Near Shed)
5	Pakhar Plateau Pakhar Mines(109.507 ha. Yatri Shed)
6	Pakhar Plateau- Pakhar Loading Area (109.507 ha.)
	NOISE LEVEL
1	Pakhar Near Office.
2	Pakhar Mine (115.13 ha.) Pakhar Plateau
3	Pakhar Mine (109.507 ha. Loading Area) Pakhar Plateau
4	Pakhar Mine (109.507 Ha Yatri Shed) Pakhar Plateau
5	Pakhar Quarry (Near Shed)
	SPOT NOISE LEVEL
1	Near Poclairn at Pakhar Mine (115.13 ha.)
2	Loading point near Dumper at Pakhar Mines (109.507 ha. Minerals & Minerals)





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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0056/2018-19	Date: 20 th April, 2018
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: Pakhar Plateau-Near Weigh Bridge	
Sample collected on: 09.03.2018	

LOCATION / IDENTIFICATION: Pakhar Plateau-Near Weigh Bridge				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	81.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	43.9
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	5.2
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	7.5
05.	Ammonia (NH ₃)	µg/m ³	400	10.3
06.	Ozone (O ₃)	µg/m ³	180	12.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.30
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	2.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.2
12.	Benzo (a) Pyrene	µg/m ³	01	0.40

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0057/2018-19	Date: 20 th April, 2018
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: Pakhar Plateau- Pakhar (115.13 ha.) Quarry No. 4	
Sample collected on: 09.03.2018	

LOCATION / IDENTIFICATION: Pakhar Plateau- Pakhar (115.13 ha.) Quarry No. 4				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	78.5
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	8.9
05.	Ammonia (NH ₃)	µg/m ³	400	11.8
06.	Ozone (O ₃)	µg/m ³	180	13.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.32
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	2.5
10.	Arsenic (As)	ng/m ³	06	2.3
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.41

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0058/2018-19	Date: 20 th April, 2018
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: Pakhar Plateau-Near Office	
Sample collected on: 09.03.2018	

LOCATION / IDENTIFICATION: Pakhar Plateau-Near Office				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	72.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	36.5
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	8.5
05.	Ammonia (NH ₃)	µg/m ³	400	12.7
06.	Ozone (O ₃)	µg/m ³	180	12.8
07.	Carbon Monoxide (CO)	mg/m ³	02	0.40
08.	Lead (Pb)	µg/m ³	1.0	0.02
09.	Nickel (Ni)	ng/m ³	20	2.5
10.	Arsenic (As)	ng/m ³	06	2.0
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.35

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0059/2018-19	Date: 20 th April, 2018
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: Pakhar Plateau- Pakhar Quarry 109.507 ha. (Near Shed)	
Sample collected on: 10.03.2018	

LOCATION / IDENTIFICATION: Pakhar Plateau- Pakhar Quarry 109.507 ha. (Near Shed)				
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	37.6
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.1
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	8.5
05.	Ammonia (NH ₃)	µg/m ³	400	12.6
06.	Ozone (O ₃)	µg/m ³	180	12.1
07.	Carbon Monoxide (CO)	mg/m ³	02	0.35
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	2.3
10.	Arsenic (As)	ng/m ³	06	2.2
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.1
12.	Benzo (a) Pyrene	µg/m ³	01	0.4

For Mahabal Enviro Engineers Pvt. Ltd.

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Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0060/2018-19	Date: 20 th April, 2018
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: Pakhar Plateau- Pakhar Quarry 109.507 ha. (Yatri Shed)	
Sample collected on: 10.03.2018	

LOCATION / IDENTIFICATION: Pakhar Plateau- Pakhar Quarry 109.507 ha. (Yatri Shed)				
Sl. No.	PARAMETERS	UNIT	Standard Limit	Concentration
01.	Particulate Matter (size less than 10 µm) PM ₁₀	µg/m ³	100	70.6
02.	Particulate Matter (size less than 2.5 µm) PM _{2.5}	µg/m ³	60	34.1
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	3.8
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	7.1
05.	Ammonia (NH ₃)	µg/m ³	400	11.5
06.	Ozone (O ₃)	µg/m ³	180	12.2
07.	Carbon Monoxide (CO)	mg/m ³	02	0.32
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	2.6
10.	Arsenic (As)	ng/m ³	06	2.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.3
12.	Benzo (a) Pyrene	µg/m ³	01	0.40

For Mahabal Enviro Engineers Pvt. Ltd.

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JANUARY – MARCH 2018

Report no: MEEPL/APR0061/2018-19	Date: 20 th April, 2018
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: Pakhar Plateau- 109.507 ha. Loading Area.	
Sample collected on: 10.03.2018	

LOCATION / IDENTIFICATION: Pakhar Plateau- 109.507 ha. Loading Area.

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	38.4
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	4.3
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	7.1
05.	Ammonia (NH ₃)	µg/m ³	400	10.5
06.	Ozone (O ₃)	µg/m ³	180	12.4
07.	Carbon Monoxide (CO)	mg/m ³	02	0.41
08.	Lead (Pb)	µg/m ³	1.0	0.03
09.	Nickel (Ni)	ng/m ³	20	2.7
10.	Arsenic (As)	ng/m ³	06	2.1
11.	Benzene (C ₆ H ₆)	µg/m ³	05	2.10
12.	Benzo (a) Pyrene	µg/m ³	01	0.41

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Mobile No: +91 9431.102.102 / +91 9955.358.262,
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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0062/2018-19	Date: 20 th April, 2018
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: 09.03.2018	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Pakhar Near Office	dB (A) L_{eq}	75	61.5	70	53.1

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0063/2018-19	Date: 20th April, 2018
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: 09.03.2018	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Pakhar Mines (115.13 ha.)	dB (A) L_{eq}	75	60.6	70	53.8

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries:

Environmental Monitoring Report

JANUARY - MARCH 2018

Report no: MEEPL/APR0064/2018-19	Date: 20 th April, 2018
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: 10.03.2018	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Pakhar Mines (109.507 ha. Loading Area)	dB (A) L_{eq}	75	65.1	70	48.2

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0065/2018-19	Date: 20 th April, 2018
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: 10.03.2018	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Pakhar Mines (109.507 ha. of Yatri Shed)	dB (A) L_{eq}	75	60.2	70	54.7

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0066/2018-19	Date: 20 th April, 2018
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: 09.03.2018	

Location/Identification	Unit	Limit (day)	Result	Limit (night)	Result
Pakhar Quarry (Near Shed)	dB (A) L_{eq}	75	59.3	70	47.1

For Mahabal Enviro Engineers Pvt. Ltd.

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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0067/2018-19	Date: 20 th April, 2018
Sample described by customer: Measurement of Spot Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Description: Measurement of Spot Noise	
Sampling Method: Instrumental, using Sound level Metter	
Data Collection Date: 09.03.2018	

Location/Identification	Unit	Limit (day)	Result
Near Poklen at Pakhar Mines (115.13 ha.)	dB (A) L_{eq}	75	70.6

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE





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Hindalco Industries:

Environmental Monitoring Report

JANUARY – MARCH 2018

Report no: MEEPL/APR0068/2018-19	Date: 20 th April, 2018
Sample described by customer: Measurement of Spot Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Description: Measurement of Spot Noise	
Sampling Method: Instrumental, using Sound level Metter	
Data Collection Date: 10.03.2018	

Location/Identification	Unit	Limit (day)	Result
Pakhar Mines (109.507 ha. of Minerals & Minerals) Loading point near Dumper	dB (A) L_{eq}	75	71.4

For Mahabal Enviro Engineers Pvt. Ltd.

Vijay Pandey
SENIOR EXECUTIVE



BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2017-18

The composite cost during the year 2017-18 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) and Bagru (75.41 Ha), Hisri New (14.55 Ha), Chiro kukud, Orsa pat(196.36 Ha), Bhusar (65.31 Ha)& Bimarla Bauxite Mines (134.52 Ha).

Sl No	Description	Budget (in Rupees) FY 2017-18	Actual (in Rupees) FY 2017-18 (from April'17 to Sep'2017)	Actual (in Rupees) FY 2017-18 (from Oct'17 to March'2018)
1	Pollution Control & Environment monitoring	1316000	651832	984450
2	Reclamation/ Back filing & Rehabilitation**	300000000	131262375	31383827
3	Green belt, Plantation & Water spraying arrangement	3400000	3373300	2921501
4	Rural Development	40000000	18500000	10439844

**Part of OB removed cost.



(Basudev Gangopadhyay)
Convenor (Quality & Environment)

MINERALS & MINERALS LIMITED

Regd. Office- Court Road, P.O. & Distt.-Lohardaga, Jharkhand-835302

Tel.-06526-223163

CIN NO. U26990JH1970PLC000875

Ref. :

Date

Date: 03.04.17

Office Order

Environmental Cell has been re-constituted at Pakhar Bauxite Mines (Area 15.58 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. Pradeep Kumar Bhaleker- Manager (Coordinator)
2. Mr. Akhilesh Singh (Mine Surveyor)-Member
3. Mr. Ramnath Bhagat (Mining Mate)-Member

Basudev Gangopadhyay
Convenor (Quality & Environment)

Annexure - 4

PRODUCTION, MINED OUT, BACKFILLED, PRODUCTION AND OVERBURDEN REMOVAL FROM April-17 to March-18

NAME OF THE MINES	MINING LEASE AREA (IN HA)	MINED OUT AREA (HA)	BACK FILLED AREA (HA)	PRODUCTION (In MT)	OVERBURDEN (In Cu.M)
Shrengdag Bauxite	155.81	4.37	2.91	236504.00	404146.00
Gurdari Bauxite Mines	584.19	10.72	6.30	324060.00	529722.00
Jalim & Sanai	12.14	1.75	0.70	36037.00	43750.00
Serangdag	140.06	1.00	0.70	43825.00	66636.00
Pakhar Buxite Mines	115.13	2.60	3.01	264505.00	400330.00
Pakhar Buxite Mines	8.09	0.00	0.00	0.00	0.00
Kujam-I	80.87	3.95	1.54	141655.00	254013.00
Kujam-II	157.38	6.97	6.93	291458.00	596397.00
Amtipani	190.95	7.05	6.81	149560.00	262112.00
Chiro-Kukud	152.57	3.54	3.59	90130.00	127590.00
Orsa Bauxite Mines	196.36	0.30	0.00	6620.00	38007.00
Hisri New	14.55	1.05	0.91	90001.00	46929.00
Bhusar	65.31	0.19	2.24	108666.00	209691.00
Bagru	75.41	0.00	0.00	0.00	0.00
Minerals & Minerals Limited					
Pakhar Buxite Mines	109.51	2.61	2.84	277605.00	414049.00
Pakhar Buxite Mines	15.58	0.46	0.29	28560.00	67552.00
Bimarla Bauxite Mines	134.53	9.92	8.39	156420.00	251775.00

(Basudev Gangopadhyay)
Convenor (Quality & Environment)