



Ref No: HIL/LHD/JP (M)/MoEF/01057

Date: 25.05.2015

To,
Joint Director(S)
MoEF ,GOI, Eastern Regional Office
A/3,Chandrashekharpur,
Bhubaneswar- 751023 (Orissa)

Sub: Compliance Report of EC conditions for Kujam-II Bauxite Mining project of M/s Hindalco Industries Limited located in Dist- Gumla, Jharkhand for the period Oct'14 to March'15.

Ref: Environmental Clearance letter no J-11015/242/2005-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 **Kujam-II (157.38Ha)** Bauxite Mining project of M/s Hindalco located in Gumla, Jharkhand for the period **Oct'14 to March'15**.

Hope you will find the same in order.

Thanking You

Yours Sincerely
FOR HINDALCO INDUSTRIES LIMITED


(Bijesh Kumar Jha)
Joint President (Mines)

Enclosure:- As Above

Copy to: Regional Office, MoEF, Ranchi

Compliance of conditions laid down in Environmental Clearance

KUJAM - II BAUXITE MINES (157.38 Ha)

Period :Oct'14 -March'15

MoEF Environment Clearance ref. no. : J – 11015/242/2005 – 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 the stipulated condition are fulfilled.
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 is confined to shallow depth (20m max) and as per the study conducted by authorized agency [Center for Ground Water Studies, Kolkata (WB)] during Nov.-Dec '06; the ground water level is in the range of 80-100m from ground level. Hence mining operation will not intersect ground water table.
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.	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. All the lands concerned are non-agricultural land (Documents already submitted)
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.	It is being ensured & the top soil is being used for reclamation & rehabilitation of mined out areas. Details of land reclamation is enclosed as Annexure
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.	Overburden and waste rock are being used for back filling. Data pertaining to backfilling is enclosed as Annexure.

6	<p>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 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.</p>	<p>Catch drains and siltation ponds of appropriate size have been constructed to arrest silt and sediment flows from soil and mineral dump.</p>
7	<p>Plantation shall be raised in an area of 43.5 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.</p>	<p>Around 10000 saplings were planted during 2014-15 in and around the Kujam Mines area.</p>
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>A study has been conducted by Centre for Ground Water Studies, Kolkata, a reputed agency in the field. The same is being studied by us and will be sent to Regional Director, Central Ground Water Board along with our observation for his opinion prior to implementation of scheme.</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>It is being monitored. Monitoring report is enclosed as Annexure</p>
10	<p>Prior permission from the competent authority should be obtained for drawl of water from the surface water bodies.</p>	<p>As per Lease agreement, we are having permission of DC for use of water. Water cess is being paid regularly to JSPCB.</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.	Complied. Water quality report enclosed.
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.	To keep vehicular emissions in control vehicles are periodically checked & repaired. PUC of vehicles is conducted. All measures are being taken to control vehicular emission.
13	Drills should either be operated with dust extractors or should be equipped with water injection system	Wet drilling is done in the drill holes intermittently for dust suppression.
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 from 12.00 Noon to 1.00PM. and strictly followed. All mitigative efforts are being done to minimize vibration and control fly rocks due to blasting.
15	Consent to operate should be obtained from SPCB prior to start of production of mine.	Consent to operate has been obtained from JSPCB prior to start of mining activity.
16	Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and wastewater generated from mining operations.	No colony is proposed. The domestic waste water will be routed through soak pit and sullage will be used as manure. There will be no wastewater generation from Mining.
17	Land oustees 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	All land acquisition activities is done as per CNT Act and project affected people / families as have been compensated and rehabilitated as per State Government's R&R Policy which is in line with NPRR,2003.
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.	Planned to implement the same at appropriate time.
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.	Final mine Closure Plan will be submitted at appropriate time. Presently we are having approved progressive mine Closure Plan

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 Complied. Prior approval will be sought for, if any change is proposed.
2	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made	Excavation of Over Burden and Bauxite is being done as per the approved calendar plan.
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.	Suitable conservation measures implemented for protection of flora & fauna.
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.	Complied. Monitoring report enclosed.
5	Data on ambient air quality (RPM, SPM, SO ₂ , 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.	Monitoring activity initiated, Report annexed.
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 have been provided along haul roads, loading unloading,& at transfer points to arrest dust emissions.
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.	PPEs provided to all the worker employed in the mine.
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	Presently there is no waste water generated from mine.

	workshop effluents.	
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.	Complied PPE's provided and also periodic training on health and safety issues being organized through VT centre. Occupational health survey has also been done periodically.
10	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization	Separate Environmental Management Cell (EMC) already formed and informed.
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.	Final mine closure plan will be submitted at appropriate time. Presently we are having approved progressive mine closure plan.
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 has been prepared for the purpose. Copy enclosed
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.
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	Displayed.

	office/ Tehsildar's Office for 30 days.	
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)



Date: 10.11.14

OFFICE ORDER

In connection with the earlier office order dated 30.10.2013 the re constituted team of Environment management cell to ensure compliance of various environmental Acts, regulations & rules at Mines Division, Hindalco, Lohardaga as follows:


The Environment Management Cell will consist of:

1. B. K. Mahapatra, AGM (Quality & Environment), Convenor.

Members:

2. Ajay Kumar Pandey, Manager (Bagru Mines)
3. A Anbarasu, Mines Manager (Serengdag Mines)
4. S P Jha, Mines Manager (Pakhar Mines)
5. Kiran Sankar Singh, Mines Manager (Gurdari)
6. Vidya Sagar Singh, Mines Manager (Kujam)
7. Amar Bharati, Mines Manager (Amtipani)
8. Rajesh Ambastha, Mines Manager (Chiro Kukud & Orsa)
9. Biplab Mukherjee (Asst Manager- Geology)

By order


Bijesh Kumar Jha
Joint President (Mines)

Cc to: - All Mines Manager
All Department head
Notice Board.

PRODUCTION, MINED OUT, BACKFILLED, PRODUCTION AND OVERBURDEN REMOVAL FROM APR-14 TO MAR-15

Name of Mines	Mining lease area (Ha)	Mined Out area (in Acres)	Backfilled area (in Acres)	Production (in MT)	Overburden Removal (in Cub.M.)
Shrengdag Bauxite Mines	155.81	16.19	14.33	255,035.00	492,188.00
Gurdari Bauxite Mines	584.19	17.20	35.48	323,655.00	790,462.00
Jalim & Sanai	12.14	1.68	1.48	43,675.00	20,400.00
Serangdag	140.06	2.00	0.50	31,650.00	18,956.06
Pakhar Buxite Mines	115.13	5.32	5.87	283,210.00	438,667.43
Pakhar Buxite Mines	8.09	-	-	-	-
Pakhar Buxite Mines	38.95	-	-	-	-
Kujam-I	80.87	7.76	7.51	149,360.00	200,998.43
Kujam-II	157.38	14.85	13.24	149,685.00	369,386.19
Amtipani	190.95	10.90	13.20	149,515.00	300,401.63
Chiro-Kukud	152.57	6.03	5.21	75,631.00	87,664.51
Orsa Bauxite Mines	196.36	-	-	-	-
Hisri New	14.55	1.29	0.65	54,529.00	9,471.00
Bagru	75.41	-	-	-	-
Bhusar	65.31	0.94	1.50	82,032.00	82,626.00
Minerals & Minerals Limited					
Pakhar Buxite Mines	109.507	5.86	6.48	277,855.00	334,282.84
Pakhar Buxite Mines	15.58	0.30	0.20	31,175.00	98,966.29

Monitored water level (FY 2014-15)

Fig in meter

Location (Mines)	Elevation (Mtr)	Well type	Monsoon (July-Sep)		Post Monsoon (November)		Winter (January)		Pre Monsoon (April-May)		
			Inside ML	Outside ML	Inside ML	Outside ML	Inside ML	Outside ML	Inside ML	Outside ML	
Bagru	905	Open Well		21.72		24.15				27.23	29.23
	910	Open Well		24.30		24.55				26.80	27.15
	915	Open Well		29.40		28.44				30.15	31.25
	903	Open Well		22.85		33.12				35.25	35.89
	909	Open Well		17.55		28.75				29.20	30.28
Pakhhar	1000	Open Well		24.90		22.66				24.50	25.9
	1083	Hand Pump	35.35		31.65		34.34			35.49	
	1027	Open Well		25.85		28.35				30.50	31.45
Sherengdag	1094	Hand Pump	41.75		39.54		42.13			42.56	
	1081	Hand Pump	39.65		31.30		41.30			41.31	
	1055	Hand Pump	33.05		27.55		35.35			35.35	
	1066	Hand Pump	27.75		26.25		29.10			30.25	
	1045	Hand Pump	29.30		27.84		29.64			30.41	
Gurdari	1061	Hand Pump	28.35		24.90		25.42			26.79	
	1059	Hand Pump	38.15		36.63		35.21			35.98	
	1075	Hand Pump	28.22		26.88		28.49			29.53	
	1075	Hand Pump	28.36		29.30		30.2			30.05	
	1040	Open Well		33.95		21.85				35.21	36.78
Kujam	1041	Open Well		33.65		24.82				36.54	39.52
	1064	Hand Pump	31.58		28.65		35.91			42.12	
	1052	Hand Pump				21.12				24.13	23.54
	1148	Hand Pump	33.45		28.40		34.12			37.26	
Chiro Kukud	1151	Hand Pump	37.60		31.80		36.62			36.21	
	1084	Hand Pump	34.35		36.86		35.69			39.29	

B. Pakhar



BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2014-15

The composite cost during the year 2014-15 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).

SI No	Description	Budget (in Lakh Rupees) FY 2014-15	Actual (in Lakh Rupees) FY 2014-2015
1	Pollution Control & Environment monitoring	5.50	8.58
2	Reclamation/ Back filing & Rehabilitation	42.50	98.51
3	Green belt & Plantation	60.03	98.87
4	Rural Development	85.29	282.62

**Part of OB removed cost.


 Convener

Environment Management Cell
 Hindalco Industries Limited



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

NETARHAT PLATEAU- ENVIRONMENTAL MONITORING REPORT

DECEMBER 2014

Vijay Pandey
SENIOR EXECUTIVE



Mahabal Enviro Engineers Pvt. Ltd.

Branch Office:

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E-mail: mahabalranchi@gmail.com

Hindalco Industries: Environmental Monitoring report

December 2014

Report no: DEC015/2014-15	Date: 12 th January, 2015
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	
Received: 26.12.2014	
Registered: 26.12.2014	
Marks on Sample: Location: Netarhat Plateau- Gurdari Pit Hara Langra Quari	
Sample collected on: 19.12.2014	
Test Start/End Date: 26.12.2014/27.12.2014	

LOCATION / IDENTIFICATION: Netarhat Plateau- Gurdari Pit Hara Langra Quari

PARAMETERS	UNIT	LIMIT	METHOD	27/12/2014
Sulphur Dioxide	SO ₂ µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	28.9
Nitrogen Dioxide	NO ₂ µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	43.5
Particulate Matter (size less than 10 µm)	PM ₁₀ µg/m ³	100	IS:5182 (Part 23)	86.6
Particulate Matter (size less than 2.5 µm)	PM _{2.5} µg/m ³	60	USEPA CFR(40) Appendix-L	40.9
Carbon Monoxide	CO mg/m ³	2	EPA 600/P-99/001F	0.31

Vijay Pandey
SENIOR EXECUTIVE



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Hindalco Industries: Environmental Monitoring report

December 2014

Report no: DEC015/2014-15	Date: 12 th January, 2015
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	
Received: 26.12.2014	
Registered: 26.12.2014	
Marks on Sample: Location: Netarhat Plateau- Amtipani Workshop	
Sample collected on: 19.12.2014	
Test Start/End Date: 26.12.2014/27.12.2014	

LOCATION / IDENTIFICATION: Netarhat Plateau- Amtipani Workshop

PARAMETERS	UNIT	LIMIT	METHOD	27/12/2014
Sulphur Dioxide	SO ₂ µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	62.9
Nitrogen Dioxide	NO ₂ µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	59.8
Particulate Matter (size less than 10 µm)	PM ₁₀ µg/m ³	100	IS:5182 (Part 23)	81.3
Particulate Matter (size less than 2.5 µm)	PM _{2.5} µg/m ³	60	USEPA CFR(40) Appendix-L	47.6
Carbon Monoxide	CO mg/m ³	2	EPA 600/P-99/001F	0.40

Vijay Pandey
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E-mail: mahabalranchi@gmail.com

Hindalco Industries: Environmental Monitoring report

December 2014

Report no: DEC015/2014-15	Date: 12 th January, 2015
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	
Received: 26.12.2014	
Registered: 26.12.2014	
Marks on Sample: Location: Netarhat Plateau- Kujam II Weight Bridge	
Sample collected on: 20.12.2014	
Test Start/End Date: 26.12.2014/27.12.2014	

LOCATION / IDENTIFICATION: Netarhat Plateau- Kujam II Weight Bridge

PARAMETERS	UNIT	LIMIT	METHOD	27/12/2014
Sulphur Dioxide	SO ₂ µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	21.9
Nitrogen Dioxide	NO ₂ µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	29.8
Particulate Matter (size less than 10 µm)	PM ₁₀ µg/m ³	100	IS:5182 (Part 23)	75.8
Particulate Matter (size less than 2.5 µm)	PM _{2.5} µg/m ³	60	USEPA CFR(40) Appendix-L	28.9
Carbon Monoxide	CO mg/m ³	2	EPA 600/P-99/001F	0.56

Vijay Pandey
SENIOR EXECUTIVE



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Hindalco Industries: Environmental Monitoring report

December 2014

Report no: DEC015/2014-15	Date: 12 th January, 2015
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	
Received: 26.12.2014	
Registered: 26.12.2014	
Marks on Sample: Location: Netarhat Plateau- Kujam I	
Sample collected on: 20.12.2014	
Test Start/End Date: 27.12.2014/29.12.2014	

LOCATION / IDENTIFICATION: Netarhat Plateau- Kujam I

PARAMETERS	UNIT	LIMIT	METHOD	29/12/2014	
Sulphur Dioxide	SO ₂	µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	24.6
Nitrogen Dioxide	NO ₂	µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	35.5
Particulate Matter (size less than 10 µm)	PM ₁₀	µg/m ³	100	IS:5182 (Part 23)	82.6
Particulate Matter (size less than 2.5 µm)	PM _{2.5}	µg/m ³	60	USEPA CFR(40) Appendix-L	43.9
Carbon Monoxide	CO	mg/m ³	2	EPA 600/P-99/001F	0.53

Vijay Pandey
SENIOR EXECUTIVE



Eco Ventures Pvt. Ltd.

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District – Ranchi 834009

NETARHAT PLATEAU- ENVIRONMENTAL MONITORING REPORT

MARCH 2015

Vijay Pandey
SENIOR EXECUTIVE



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E-mail: mahabalranchi@gmail.com

Hindalco Industries: Environmental Monitoring report

March 2015

Report no: APR026/2015-16	Date: 6 th April, 2015
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: Netarhat Plateau- Gurdari Pit Hara Langra Quari	
Sample collected on: 27.02.2015	
Received: 10.03.2015	
Registered: 10.03.2015	
Test Start/End Date: 19.03.2015/21.03.2015	

LOCATION / IDENTIFICATION: Netarhat Plateau- Gurdari Pit Hara Langra Quari					
PARAMETERS		UNIT	LIMIT	METHOD	27/02/2015
Sulphur Dioxide	SO ₂	µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	30.2
Nitrogen Dioxide	NO ₂	µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	45.2
Particulate Matter (size less than 10 µm)	PM ₁₀	µg/m ³	100	IS:5182 (Part 23)	90.1
Particulate Matter (size less than 2.5 µm)	PM _{2.5}	µg/m ³	60	USEPA CFR(40) Appendix-L	42.5
Carbon Monoxide	CO	mg/m ³	2	EPA 600/P-99/001F	0.35

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Hindalco Industries: Environmental Monitoring report

March 2015

Report no: APR027/2015-16	Date: 6 th April, 2015
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: Netarhat Plateau- Amtipani Workshop	
Sample collected on: 28.02.2015	
Received: 10.03.2015	
Registered: 10.03.2015	
Test Start/End Date: 19.03.2015/21.03.2015	

LOCATION / IDENTIFICATION: Netarhat Plateau- Amtipani Workshop

PARAMETERS	UNIT	LIMIT	METHOD	28/02/2015
Sulphur Dioxide	SO ₂ µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	64.8
Nitrogen Dioxide	NO ₂ µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	59.2
Particulate Matter (size less than 10 µm)	PM ₁₀ µg/m ³	100	IS:5182 (Part 23)	82.1
Particulate Matter (size less than 2.5 µm)	PM _{2.5} µg/m ³	60	USEPA CFR(40) Appendix-L	47.4
Carbon Monoxide	CO mg/m ³	2	EPA 600/P-99/001F	0.41

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Hindalco Industries: Environmental Monitoring report

March 2015

Report no: APR028/2015-16	Date: 6 th April, 2015
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: Netarhat Plateau- Kujam II Weight Bridge	
Sample collected on: 28.02.2015	
Received: 10.03.2015	
Registered: 10.03.2015	
Test Start/End Date: 19.03.2015/21.03.2015	

LOCATION / IDENTIFICATION: Netarhat Plateau- Kujam II Weight Bridge

PARAMETERS	UNIT	LIMIT	METHOD	28/02/2015
Sulphur Dioxide	SO ₂ µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	22.1
Nitrogen Dioxide	NO ₂ µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	29.8
Particulate Matter (size less than 10 µm)	PM ₁₀ µg/m ³	100	IS:5182 (Part 23)	76.9
Particulate Matter (size less than 2.5 µm)	PM _{2.5} µg/m ³	60	USEPA CFR(40) Appendix-L	28.8
Carbon Monoxide	CO mg/m ³	2	EPA 600/P-99/001F	0.56

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Hindalco Industries:Environmental Monitoring report

March 2015

Report no: APR029/2015-16	Date: 6 th April, 2015
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: Netarhat Plateau- Kujam I	
Sample collected on: 28.02.2015	
Received:10.03.2015	
Registered: 10.03.2015	
Test Start/End Date: 19.03.2015/21.03.2015	

LOCATION / IDENTIFICATION: Netarhat Plateau- Kujam I

PARAMETERS	UNIT	LIMIT	METHOD	28/02/2015
Sulphur Dioxide	SO ₂ µg/m ³	80	IS:5182 (Part-2):2001 (Reaff:2006)	25.6
Nitrogen Dioxide	NO ₂ µg/m ³	80	IS:5182(Part-6):1975 (Reaff:2004)	35.9
Particulate Matter (size less than 10 µm)	PM ₁₀ µg/m ³	100	IS:5182 (Part 23)	84.7
Particulate Matter (size less than 2.5 µm)	PM _{2.5} µg/m ³	60	USEPA CFR(40) Appendix-L	45.2
Carbon Monoxide	CO mg/m ³	2	EPA 600/P-99/001F	0.51

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Hindalco Industries: Environmental Monitoring report

March 2015

Report no: APR030/2015-16	Date: 6 th April, 2015
Sample Description: Measurement of Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Description: Measurement of Noise Level.	
Sampling Method: Instrumental, Using Sound level Meter	
Sampling Done by: Mahabal Enviro.	
Data Collection Date: 28.02.2015	
Analyse Date: 21.03.2015	

Location / Identification	Unit	Limit (day)	Result Average of 24 continuous hours	Limit (night)	Result Average of 24 continuous hours	Dates
Netarhat Plateau Near Gurdari Pit	dB(A) L_{eq}	75	71.2	70	65.8	28/02/2015

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Hindalco Industries: Environmental Monitoring report

March 2015

Report no: APR031/2015-16	Date: 6 th April, 2015
Sample Description: Measurement of Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Description: Measurement of Noise Level.	
Sampling Method: Instrumental, Using Sound level Meter	
Sampling Done by: Mahabal Enviro.	
Data Collection Date: 28.02.2015	
Analyse Date: 21.03.2015	

Location / Identification	Unit	Limit (day)	Result Average of 24 continuous hours	Limit (night)	Result Average of 24 continuous hours	Dates
Netarhat Plateau	dB(A) _{Leq}	75	64.0	70	59.2	28/02/2015

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Hindalco Industries:Environmental Monitoring report

March 2015

Report no: APR032/2015-16	Date: 6 th April, 2015
Sample Description: Measurement of Noise: Spot Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Location: Netarhat Plateau- Gurdari Mine pit	
Sample Description: Measurement of Noise Level.	
Sampling Method: Instrumental, Using Sound level Meter	
Sampling Done by: Mahabal Enviro.	
Data Collection Date: 27.02.2015	
Analyse Date: 21.03.2015	

Location / Identification	Unit	Limit (day)	Result	Dates
POCKLAN	dB(A) L_{eq}	75	66.7	27/02/2015
COMPRESSOR	dB(A) L_{eq}	75	70.4	27/02/2015
WAGAN DRILL	dB(A) L_{eq}	75	72.3	27/02/2015

Note : (i) The value is the L_{eq} of twenty readings taken in location (Day time).

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Hindalco Industries: Environmental Monitoring report

March 2015

Report no: APR033/2015-16

Date: 6th April, 2015

Sample Description: Measurement of Noise: Spot Noise

Client Name: Hindalco Industries Limited

Client Address: Lohardaga

Postal Code: 835203

State: Jharkhand

Country: India

Sample Location: Netarhat Plateau- Kujam - I Mine pit

Sample Description: Measurement of Noise Level.

Sampling Method: Instrumental, Using Sound level Meter

Sampling Done by: Mahabal Enviro.

Data Collection Date: 28.02.2015

Analyse Date: 21.03.2015

Location / Identification	Unit	Limit (day)	Result	Dates
POCKLAN	dB(A) L _{eq}	75	66.7	28/02/2015
COMPRESSOR	dB(A) L _{eq}	75	71.2	28/02/2015
WAGAN DRILL	dB(A) L _{eq}	75	73.1	28/02/2015

Note : (i) The value is the Leq. of twenty readings taken in location (Day time).

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Hindalco Industries:Environmental Monitoring report

March 2015

Report no: APR034/2015-16	Date: 6 th April, 2015
Sample Description: Measurement of Noise: Spot Noise	
Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Location: Netarhat Plateau- Kujam – II Mine pit	
Sample Description: Measurement of Noise Level.	
Sampling Method: Instrumental, Using Sound level Meter	
Sampling Done by: Mahabal Enviro.	
Data Collection Date: 28.02.2015	
Analyse Date: 21.03.2015	

Location / Identification	Unit	Limit (day)	Result	Dates
POCKLAN	dB(A) L_{eq}	75	69.4	28/02/2015
COMPRESSOR	dB(A) L_{eq}	75	73.2	28/02/2015
WAGAN DRILL	dB(A) L_{eq}	75	71.9	28/02/2015

Note : (i) The value is the Leq. of twenty readings taken in location (Day time).

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Client Name: Hindalco Industries Limited	
Client Address: Lohardaga	
Postal Code: 835203	
State: Jharkhand	
Country: India	
Sample Location: Netarhat Plateau- Amtipani Mine pit	
Sample Description: Measurement of Noise Level.	
Sampling Method: Instrumental, Using Sound level Meter	
Sampling Done by: Mahabal Enviro.	
Data Collection Date: 28.02.2015	
Analyse Date: 21.03.2015	

Location / Identification	Unit	Limit (day)	Result	Dates
POCKLAN	dB(A) L_{eq}	75	66.9	28/02/2015
COMPRESSOR	dB(A) L_{eq}	75	70.9	28/02/2015
WAGAN DRILL	dB(A) L_{eq}	75	72.4	28/02/2015

Note : (i) The value is the L_{eq} of twenty readings taken in location (Day time).

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