

MINERALS & MINERALS LIMITED

Regd. Office P.O. & Dist. – Lohardaga (Jharkhand) PIN – 835302

Phone : 06526-224016, 224112, FAX : 06526-224118

Ref No: M&M/LHD/VP (M)/MoEF/ 626

Date: 28.11.12

To,
Mr S Kerketta
Joint Director(S)
MoEF ,GOI, Eastern Regional Office
A/3,Chandrashekharapur,
Bhubaneshwar- 751023 (Orissa)

Sub: **Compliance Report of EC conditions for Pakhar (109.507 ha) Bauxite Mining project of M/s Minerals & Minerals Limited located in Lohardaga, Jharkhand for the period April' 2012 - Sep' 2012.**

Ref: **Environmental Clearance letter no J-11015/518/2008-IA.II (M) dated 21.10.2010**

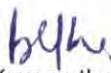
Sir,

With reference to the above, we are submitting herewith the Compliance status report of EC conditions for **Pakhar (109.507 ha) Bauxite Mining project of M/s Minerals & Minerals Limited**, located in Lohardaga, Jharkhand for the period **April' 2012 - Sep' 2012.**

Hope you will find the same in order.

Thanking You

Yours Sincerely
FOR Minerals & Minerals Limited


(Bijesh Kumar Jha)
VP (Mines)

Enclosure: - As Above

Compliance of conditions laid down in Environmental Clearance

PAKHAR BAUXITE MINES(109.507 Ha)

Period : April'12 – Sep.'12

J-11015/518/2008-IA.II (M) Dated 21.10.2010.

| Sl No | Conditions | Compliance Status |
|----------------------------|--|---|
| Specific Conditions | | |
| 1 | The project proponent shall obtain Consent to Establish and Consent to Operate from the Jharkhand State Pollution Control Board and effectively implement all the conditions stipulated therein. | Consent to Establish and Consent to Operate has been obtained. Copy enclosed |
| 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. | Mining Lease is granted by the State Govt. after due consideration and cabinet approval on recommendation of District Collector who is the competent authority to give permission for using the agricultural land for non-agricultural purpose. |
| 3 | The mining operation shall be confined to the hill tops only and restricted to above ground water table and it should not intersect the ground water table. In case of working below ground water table, prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be obtained, for which a detailed hydro – geological study shall be carried out. | Working zone is being restricted to above ground water table. |
| 4 | The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken for protection of seasonal channels, if any emanating from the mine lease, during the course of mining operation. | No natural water course has been obstructed. |
| 5 | The top soil shall temporarily be stored at earmarked site (s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation. | Sequential backfilling and reclamation of the mined out area are being exercised during mining operation. Whenever backfilling will be done to the mined out area, subsoil will be used for backfilling to reclaim and restore the damage area upto the extent possible |
| 6 | The over burden (OB) generated shall be temporarily stacked in the earmarked area for a period of one year and thereafter concurrently backfilled. There shall be no external overburden dump. The backfilled area shall be progressively afforested. Monitoring and management of rehabilitated areas should continue until the | Sequential backfilling and reclamation of the mined out area are being practiced. Subsoil is being used for backfilling to reclaim and restore the damage area upto the extent possible. year wise backfill data is being submitted.(enclosed Annexure) |

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| | vegetation becomes self-sustaining. Compliance status should be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis. | |
| 7. | The void left unfilled in an area of 0.41 ha. shall be converted into water body. The higher benches of excavated void/ mining pits shall be terraced and plantation done to stabilize the slopes. The slopes of higher benches shall be made gentler for easy accessibility by local people to use the water body. Peripheral fencing shall be carried out along the excavated area. | Being complied. |
| 8 | <p>Catch drains and siltation ponds of appropriate size should be constructed around the mine working, soil and mineral dumps to prevent run off of water and flow of sediments directly into the agricultural fields, the Kisko Nadi, the Sankh Nadi, the Surang River, the Chaupat Nadi and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted, particularly after monsoon and maintained properly.</p> <p>Garland drain, settling tanks and check dams of appropriate size, gradient and length shall be constructed around the mine pit, topsoil, dumps and the mineral dumps to prevent runoff water and flow sediments directly into the agricultural fields, the Kisko Nadi, the Sankh Nadi, the Surang River, the Chaupat Nadi and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper setting of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.</p> | Being complied. |
| 9 | Dimension of the retaining wall at the toe of the OB benches within the mine to check run-off and siltation should be based on the rain fall data. | It will be ensured. |
| 10 | Plantation shall be raised in an area of 6.3 ha including a 7.5 m. wide statutory barrier all around the mining lease, reclaimed and rehabilitated areas, around water body, etc. by planting the native species in consultation with the local DFO / Agriculture Department. The density of the trees should be around 2000 plants per ha., Greenbelt | Will be implemented in consultation with local forest department. |

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| | shall be developed all along the mine lease area in a phased manner and shall be completed within first five years. | |
| 11 | Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard. | Water tankers have been provided for sprinkling of water on haul roads and are generally being engaged at the places where active mining is in progress to contain fugitive dust. |
| 12 | Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained. | Area falls under Pakhar Plateau which caters the need for water. |
| 13 | 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. | A plan will be 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. |
| 14 | Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year – pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) once in each season)] shall be carried out in consultation with the State Ground Water Board/ Central Ground water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional office Bhubneshwar, The Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the ground water table is getting depleted due to the mining activity, necessary corrective measures shall be carried out. | Complied. Monitoring report is enclosed as Annexure . |
| 15 | Appropriate mitigative measures shall be taken to prevent pollution of the Kisko Nadi, the Sankh Nadi, the Surang River, the Chaupat Nadi in consultation with the State Pollution Control Board. | There is no discharge of mine water into any drainage network. Monitoring is done. |
| 16. | The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water (from natural spring) required for the project. | Will be complied |

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| 17. | Suitable rain water harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board. | Will be implemented. |
| 18 | Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral within the mine lease up to the stock yard. The mineral transportation within the mine lease shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded. | Regular maintenance of vehicles are undertaken to minimize vehicular emission. All the transporters have been instructed to obtain PUC for their vehicles from the competent authority and submit to the concerned officer for verification |
| 19 | Blasting operation should be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibration and to arrest fly rocks and boulders should be implemented. | Blasting at Mines is done at fixed blasting period i.e. 12.00 Noon to 1.00 PM on working days. Mobile mining activities are not being practiced during blasting. All the precautionary and mitigative measures to control ground vibration and to arrest fly rocks is being exercised. |
| 20 | Drills shall either be operated with dust extractors or equipped with water injection system. | Drilling is being done with water pouring in the drill holes intermittently for dust suppression which is the best method for jackhammer drilling |
| 21 | Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated. | We are exploring the possibilities. However, water sprinkling is being carried out regularly at loading and unloading areas. |
| 22 | Sewage treatment plant should be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operations. | There is no discharge of effluent from mine, hence ETP is not required. The sewage water for working population is planned to be collected through Septic Tank/Soak Pit and treated in Sewage Treatment Plant. |
| 23 | The project authorities should undertake sample survey to generate data on pre-project community health status within a radius of 1 Km. from proposed mine. | Under process |
| 24 | Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. | System is already in place |
| 25. | The land oustees and land losers/ affected people shall be compensated/ rehabilitation as per the National Policy of Resettlement and Rehabilitation | All land acquisition activities is done as per CNT Act and with permission of competent authority i.e. concerned Deputy |

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| | of project Affected Families (NPRR) | Commissioner (D.C.) and consent of Raiyat (Land Owner) for 20 years period and will return the land so acquired as per the norms set by D.C. in land purchased agreement. There is no displacement involved & hence R&R is not applicable. |
| 26. | Door to door sample survey should be undertaken within the impact zone to assess the family based need of the tribals and it should be appropriately addressed in the CSR activities to be undertaken in the area. An action plan in this regard should be prepared and submitted. | Company's CSR team is doing regular assessment of the family based need of the tribals and it appropriately addressed. |
| 27. | Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of the temporary structures to be removed after the completion of the project. | System is already in place. |
| 28. | The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora and fauna (python etc.) found in the study area. Action plan for conservation of flora and fauna prepared shall be implemented in consultation with the State Forest and Wildlife Department. All the safeguard measures brought out in the Wildlife conservation plan prepared specific to this project site shall be effectively implemented. 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. A copy of action plan shall be submitted to the Regional Office of the Ministry of Environment and Forests, Bhubaneswar. | Will be carried out. |
| 27 | The critical parameters such as RSPM (Particulate matter with size less than 10 µm (i.e. PM ₁₀) and NO _x in the ambient air within the impact zone, peak particle velocity at 300 m. distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharge water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS))], The monitored data shall be uploaded on the website of the Company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in Public domain. | Complied Monitoring Reports is enclosed as Annexure . Presently, there is no discharge of water from the mines. In case of discharge monitoring will be ensured. |

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| | The Circular no. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance. | |
| 28 | A Final Mine Closure plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forest 5 years in advance of final mine closure for approval. | Progressive Mine Closure Plan duly approved by Indian Bureau of Mines is with us. FMCP related provision will be compiled as per statute. |

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. | Will be complied. |
| 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. Details of excavation, quantum of mineral, OB, etc have been furnished for the financial year 12-13 as Annexure |
| 3 | At least four ambient air quality-monitoring station should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10 μm (i.e. PM_{10}) & 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 |
| 4 | Data on ambient air quality RSPM [(Particulate matter with size less than 10 μm i.e. PM_{10}) & NO_x] should be regularly submitted to the Ministry including its Regional office located at Bhubneshwar and the State Pollution Control Board / Central pollution Control Board once in six months. | Complied Monitoring Reports is enclosed as Annexure |

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| 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. | Water tankers have been provided for sprinkling of water on haul roads and are generally being engaged at the places where active mining is in progress to contain fugitive dust. |
| 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 being done regularly at various locations of the work zone area and a monitoring report for the period of reporting six monthly compliance is enclosed. Workers engaged in operation of HEMMs, etc have also been provided with PPEs such as ear plug and ear muffs. |
| 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. Workshop has an Oil Catchment Pit to trap oil and grease. It is being ensured to make it operational and effective as and when required and accordingly the O&M department is taking its due care. |
| 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 training 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 Environmental Management Cell (EMC) has been constituted and is functioning effectively. Copy enclosed as Annexure. |
| 10 | 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 and actual expenses for environmental protection measure is enclosed as Annexure It is once again reiterated that the funds so earmarked shall not be diverted for any other purposes other than it is committed at the beginning of the financial year. |
| 11 | The project authorities should inform to the Regional Office located at Bhubneshwar regarding date of financial closures and final | Not applicable. |

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| | approval of the project by the concerned authorities and the date of start of land development work. | |
| 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 | The project proponent shall submit six monthly report on the status of the compliance of the stipulated environmental Clearance conditions including results of monitoring data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Officer, Bhubaneshwar, the respective Zonal office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the Environmental Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Bhubneshwar, the respective Zonal Office of Central Pollution Control Board and State Pollution Control Board. | Being complied |
| 14 | A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent. | Complied. |
| 15 | 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. | Not Applicable. |
| 16 | The environmental statement for each financial year ending 31 st March in Form – V as is mandated to be submitted by the project proponent to the concerned Stated pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the | Complied. |

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| | website of the company along with the status of the compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bhubneswar by e-mail. | |
| 17 | The project authorities should advertise at least in two local newspapers widely circulated, one of which locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubneshwar. | Complied. |



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद

JHARKHAND STATE POLLUTION CONTROL BOARD
[CONSTITUTED UNDER SECTION 4 OF THE WATER (PREVENTION & CONTROL OF POLLUTION ACT, 1974)
T.A.DIVISION BUILDING (GROUND FLOOR),HEC COMPLEX, DHURWA, RANCHI-834004.
Phone No:-0651- 2400852, 2400851, Fax No:- 2400850.

Ref.No. PC/RNC/P-127/11 / G 802

Dated- 17.4.12

CONSENT TO OPERATE

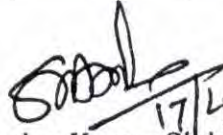
With reference to the application dated 30.09.2011 of M/s Hindalco Industries Ltd; Court Road, Lohardaga I/C Pakhar Bauxite Mines 109-507 ha or consent under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and that under section 21 of the Air (Prevention & Control of Pollution) Act, 1981, he (they) is (are) granted consent to bring into use his(their) new/altered/existing outlet(s) for discharge of trade effluent and (or) domestic sewage and to operate his (their) industrial plant to produce maximum 280,000 TPA of Bauxite ore At- Pakhar, P.O. + Dist- Lohardaga for the period from 01.01.2012 to 31.12.2012 with the following conditions :

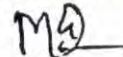
1. That, he(they) shall make any alteration, addition, deletion or modification, in the ~~plant~~ mines. without the prior clearance from the Board.
2. That, he(they) shall abide by the obligations provided under section 24, 31 and 33A of the Water (Prevention & Control of Pollution) Act, 1974 and shall extend co-operation to the Board in performing its functions entrusted under section 20, 21, 23, 30 and 32 of the Act.
3. That, he(they) shall comply with the requirements of the Water (Prevention & Control of Pollution) Cess Act, 1977 read with the Water (Prevention & Control of Pollution) Cess Rules, 1978.
4. That, he(they) shall abide by the obligations provided under section 22, 23 and 31A of the Air (Prevention & Control of Pollution) Act, 1981 and shall extend co-operation to the Board in performing its functions entrusted under sections 24, 25 and 26 of the Act.
5. That, he(they) shall abide by the obligations provided under sections 5, 7, 8 and 9 of the Environment (Protection) Act, 1986 and shall extend co-operation in performing the functions entrusted under section 3, 10 and 11 of the Act.
6. That, he(they) shall abide by the applicable provisions of the Environment (Protection) Rules, 1986, the Hazardous Wastes (Management, Handling & Transboundary Movement) Rules, 2008; the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989; the Bio-medical Waste (Management & Handling) Rules, 1998; the Municipal Solid Wastes (Management & Handling) Rules, 2000 and the Batteries (Management & Handling) Rules, 2001.
7. That, he(they) shall maintain the quality of discharge and (or) emission and (or) noise level of environmental pollutants in conformity with the standards as laid under Rule 3 of the Environment (Protection) Rules, 1986.

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8. That, he(they) shall monitor his(their) effluent(s). emission(s) and the ambient air, noise level regularly and shall submit the report to the Board in compliance of the condition laid in paragraph 7.
9. That, he(they) shall establish well equipped environmental laboratory with the facilities of system(s) of continuous monitoring of effluent(s). emission(s) ambient water quality(ies). ambient air quality(ies) and ambient noise level(s) and transferring them (monitoring results) to his(their) website(s) and to the e-mail address(es) of the key persons of Jharkhand State Pollution Control Board, Zonal Office, Kolkata and Ministry of Environment & Forests, Regional Office, Bhubneshwar with simultaneous displaying at prominent locations in front of his(their) premises. [*Unit(s) of medium and large scale under 17 categories of polluting industries of category A of EIA Notification, 2006.]
10. That, he(they) shall submit the environmental statement every year by 30th September and shall harvest all rain water precipitating in the premises and do three tier tree plantation in the premises as air barrier.
11. That, he(they) shall submit application for consent under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 and that under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 again 120 days before the expiration of the consent order 31.12.2012 or within 120 days from the date of receipt of the order, whichever is earlier.
12. *That, unit shall submit quality report of Ambient Air Quality and Ground Water Quality every quarter of the year.*
13. *That, the unit shall submit the status of compliance Environmental Clearance every quarter to the Board*
14. *That the unit shall reclaim the mined out area in phased manner as per EIA/EMP report.*
15. *That the unit shall implement harvest rain water of the mine and recharge it to the ground by the method of Central Ground Water Board Guideline that fits most to the mine .*
16. *That, the unit shall make arrangement to control the fugitive emissions occurring during the mining activities and plying of vehicles on haul as well as transport road;*
17. *That, the unit shall ensure that no transport vehicle should ply on road without covering the materials;*
18. *That, unit shall submit compliance of specific condition No, (xv) and (xvii) of environmental clearance.*

M/s M/s Hindalco Industries Ltd;
(I/C Pakhar Bauxite Mines)
Court Road, Lohardaga
P.O. + Dist- Lohardaga.


17/4
(Sanjay Kumar Sinha)
Member Secretary.



BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2012-13 (Up to-Sep)

The composite cost during the year 2012-13 (April to Sep) for environmental protection & pollution control by Jharkhand Mines division of Hindalco Industries Ltd for implementation the suggested measures in EC at all the operating mines in the state of Jharkhand-namely Pakhar (115.13 Ha), Pakhar (15.58 Ha), Pakhar (109.507 Ha), Serengdag (140.06 Ha), Serengdag (155.81 Ha), Jalim & Sanai (12.14 Ha), Gurdari (584.19 Ha), Amtipani (190.95 Ha), Kujam (80.97 Ha) Kujam II (157.38 Ha) and Bagru (75.41 Ha), Chiro kukud,& Orsa pat.

| Sl No | Description | Budget (in Lakh Rs.) | Actual (in Lakh Rs.) |
|-------|--|----------------------|----------------------|
| 1 | Pollution Control & Environment monitoring | 7.50 | 4.50 |
| 2 | Reclamation/ Back filing & Rehabilitation | ** | 20.60 |
| 3 | Green belt & Plantation | 25.00 | 33.04 |
| 4 | Rural Development | 65.00 | 36.30 |

**part of OB removed cost.

TEST REPORT

Report No. : CA:GL:3120010507

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011108

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR
CUSTOMER NAME HINDALCO INDUSTRIES LIMITED (MINES DIVISION)
ADDRESS LOHARDAGA, JHARKHAND
CITY 835302
COUNTRY INDIA
SAMPLING METHOD N.A.
SAMPLE DESCRIPTION AMBIENT AIR

MARKS ON SAMPLE SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/
DATE OF SAMPLING 29.06.2012 TO30-06-2012
SAMPLE RECD ON 18/07/2012
TEST START DATE 18/07/2012
TEST END DATE 23/07/2012

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|------------------------------------|-----------------------------|------------------------|-----------------------------------|-----------------------|
| | | | As per CPCB (Residential area) | |
| | | | MIN | MAX |
| CARBON MONOXIDE (AT SITE) | GEN/SOP/CALLAB-88 | <0.1 ppm* | | 1.7ppm(8h) |
| OXIDES OF NITROGEN (NOx) | IS 5182 PART 6:2006 | 4.6 µg/m ³ | | 80 µg/m ³ |
| PARTICULATE MATTER(10) | IS:5182(PART 23)2006 | 89.5 µg/m ³ | | 100 µg/m ³ |
| PARTICULATE MATTER(2.5) | USPEA CFR40(50), Appendix L | 42.4 µg/m ³ | | 60 µg/m ³ |
| SULPHUR DIOXIDE (SO ₂) | IS 5182:PART 2:2001 | <4.0 µg/m ³ | | 80 µg/m ³ |

* analysed at side.

***** End of Report *****

per pro SGS India Private Ltd.

Dr. Nemai Ghosh
 Manager Laboratory

Page 1 of 1

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TEST REPORT

Report No. : CA:GL:3120010506

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011107

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR
 CUSTOMER NAME HINDALCO INDUSTRIES LIMITED (MINES DIVISION)
 ADDRESS LOHARDAGA, JHARKHAND
 CITY 835302
 COUNTRY INDIA
 SAMPLING METHOD N.A.
 SAMPLE DESCRIPTION AMBIENT AIR

MARKS ON SAMPLE SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/
 BAUXITE MINES PAKHAR PLATEAU, LOCATION:SEMARDIH VILLAGE
 DATE OF SAMPLING 28.06.2012 TO29.06.2012
 SAMPLE RECD ON 18/07/2012
 TEST START DATE 18/07/2012
 TEST END DATE 23/07/2012

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|---------------------------|-----------------------------|------------|-----------------------------------|------------|
| | | | As per CPCB (Residential area) | |
| | | | MIN | MAX |
| CARBON MONOXIDE (AT SITE) | GEN/SOP/CALLAB-88 | <0.1 ppm* | | 1.7ppm(8h) |
| OXIDES OF NITROGEN (NOx) | IS 5182 PART 6:2006 | 8.5 µg/m3 | | 80 µg/m3 |
| PARTICULATE MATTER(10) | IS:5182(PART 23)2006 | 75.1 µg/m3 | | 100 µg/m3 |
| PARTICULATE MATTER(2.5) | USPEA CFR40(50), Appendix L | 28.7 µg/m3 | | 60 µg/m3 |
| SULPHUR DIOXIDE (SO2) | IS 5182:PART 2:2001 | <4.0 µg/m3 | | 80 µg/m3 |

* analysed at side.

**** End of Report ****

per pro SGS India Private Ltd.

Dr.Nemai Ghosh
Manager Laboratory

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TEST REPORT

Report No. : CA:GL:3120010505

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011106

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR
CUSTOMER NAME **HINDALCO INDUSTRIES LIMITED (MINES DIVISION)**
ADDRESS **LOHARDAGA, JHARKHAND**
CITY **835302**
COUNTRY **INDIA**
SAMPLING METHOD **N.A.**
SAMPLE DESCRIPTION **AMBIENT AIR**

MARKS ON SAMPLE **SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/**
BAUXITE MINES PAKHAR PLATEAU, LOCATION: KEKRANG VILLAGE
DATE OF SAMPLING **28.06.2012 TO 29.06.12**
SAMPLE RECD ON **18/07/2012**
TEST START DATE **18/07/2012**
TEST END DATE **23/07/2012**

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|---------------------------------------|-----------------------------|------------------------|-----------------------------------|-----------------------|
| | | | As per CPCB (Residential area) | |
| | | | MIN | MAX |
| CARBON MONOXIDE (AT SITE) | GEN/SOP/CALLAB-88 | <0.1 ppm* | | 1.7ppm(8h) |
| OXIDES OF NITROGEN (NO _x) | IS 5182 PART 6:2006 | 7.5 µg/m ³ | | 80 µg/m ³ |
| PARTICULATE MATTER(10) | IS:5182(PART 23)2006 | 81.0 µg/m ³ | | 100 µg/m ³ |
| PARTICULATE MATTER(2.5) | USPEA CFR40(50), Appendix L | 39.0 µg/m ³ | | 60 µg/m ³ |
| SULPHUR DIOXIDE (SO ₂) | IS 5182:PART 2:2001 | <4.0 µg/m ³ | | 80 µg/m ³ |

* analysed at side.

***** End of Report *****
per pro SGS India Private Ltd.

Dr. Nema Ghosh
Manager Laboratory

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TEST REPORT

Report No. : CA:GL:3120010504

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011105

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR
CUSTOMER NAME HINDALCO INDUSTRIES LIMITED (MINES DIVISION)
ADDRESS LOHARDAGA, JHARKHAND
CITY 835302
COUNTRY INDIA
SAMPLING METHOD N.A.
SAMPLE DESCRIPTION AMBIENT AIR

MARKS ON SAMPLE SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/
BAUXITE MINES PAKHAR PLATEAU, LOCATION: PAKHAR 38.50(COREZC
DATE OF SAMPLING 26.06.2012
SAMPLE RECD ON 18/07/2012
TEST START DATE 18/07/2012
TEST END DATE 23/07/2012

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|---------------------------|-----------------------------|------------|-----------------------------------|------------|
| | | | As per CPCB (Residential area) | |
| | | | MIN | MAX |
| CARBON MONOXIDE (AT SITE) | GEN/SOP/CALLAB-88 | <0.1 ppm* | | 1.7ppm(8h) |
| OXIDES OF NITROGEN (NOx) | IS 5182 PART 6:2006 | 7 µg/m3 | | 80 µg/m3 |
| PARTICULATE MATTER(10) | IS:5182(PART 23)2006 | 77.6 µg/m3 | | 100 µg/m3 |
| PARTICULATE MATTER(2.5) | USPEA CFR40(50), Appendix L | 24.6 µg/m3 | | 60 µg/m3 |
| SULPHUR DIOXIDE (SO2) | IS 5182:PART 2:2001 | <4.0 µg/m3 | | 80 µg/m3 |

* analysed at side.

***** End of Report *****

per pro SGS India Private Ltd.

Dr.Nemai Ghosh
Manager Laboratory

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TEST REPORT

Report No. : CA:GL:3120010503

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011104

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR

CUSTOMER NAME HINDALCO INDUSTRIES LIMITED (MINES DIVISION)
ADDRESS LOHARDAGA, JHARKHAND
CITY 835302
COUNTRY INDIA
SAMPLING METHOD N.A.
SAMPLE DESCRIPTION AMBIENT AIR

MARKS ON SAMPLE SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/
DATE OF SAMPLING 26.06.2012
SAMPLE RECD ON 18/07/2012
TEST START DATE 18/07/2012
TEST END DATE 23/07/2012

Table with 4 columns: TESTS, PROTOCOL, RESULT, REQUIREMENT/LIMIT. Rows include CARBON MONOXIDE (AT SITE), OXIDES OF NITROGEN (NOx), PARTICULATE MATTER(10), PARTICULATE MATTER(2.5), and SULPHUR DIOXIDE (SO2).

* analysed at side.

***** End of Report *****

per pro SGS India Private Ltd.

Dr. Nema Ghosh
Manager Laboratory

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TEST REPORT

Report No. : CA:GL:3120010502

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011103

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR

CUSTOMER NAME HINDALCO INDUSTRIES LIMITED (MINES DIVISION)
 ADDRESS LOHARDAGA, JHARKHAND
 CITY 835302
 COUNTRY INDIA
 SAMPLING METHOD N.A.
 SAMPLE DESCRIPTION AMBIENT AIR

MARKS ON SAMPLE SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/
 BAUXITE MINES PAKHAR PLATEAU, LOCATION: PAKHAR-84.38
 DATE OF SAMPLING 25.06.2012
 SAMPLE RECD ON 18/07/2012
 TEST START DATE 18/07/2012
 TEST END DATE 23/07/2012

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|---------------------------------------|-----------------------------|------------------------|-----------------------------------|-----------------------|
| | | | As per CPCB (Residential area) | |
| | | | MIN | MAX |
| CARBON MONOXIDE (AT SITE) | GEN/SOP/CALLAB-88 | <0.1 ppm* | | 1.7ppm(8h) |
| OXIDES OF NITROGEN (NO _x) | IS 5182 PART 6:2006 | 6.0 µg/m ³ | | 80 µg/m ³ |
| PARTICULATE MATTER(10) | IS:5182(PART 23)2006 | 89.1 µg/m ³ | | 100 µg/m ³ |
| PARTICULATE MATTER(2.5) | USPEA CFR40(50), Appendix L | 37.3 µg/m ³ | | 60 µg/m ³ |
| SULPHUR DIOXIDE (SO ₂) | IS 5182:PART 2:2001 | <4.0 µg/m ³ | | 80 µg/m ³ |

* analysed at side.

**** End of Report ****

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Dr.Nemai Ghosh
 Manager Laboratory

Page 1 of 1

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TEST REPORT

Report No. : CA:GL:3120010501

DATE : 23/07/2012

JOE No. : 1212804665

Report Control No.:3125011102

SAMPLE DRAWN BY SGS INDIA PRIVATE LIMITED

SAMPLE IDENTIFIED AS : AMBIENT AIR

CUSTOMER NAME **HINDALCO INDUSTRIES LIMITED (MINES DIVISION)**
 ADDRESS **LOHARDAGA, JHARKHAND**
 CITY **835302**
 COUNTRY **INDIA**
 SAMPLING METHOD **N.A.**
 SAMPLE DESCRIPTION **AMBIENT AIR**

MARKS ON SAMPLE **SITE:PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.507)/**
BAUXITE MINES PAKHAR PLATEAU, LOCATION: PAKHAR 270.509(BKB)
 DATE OF SAMPLING **25.06.2012**
 SAMPLE RECD ON **18/07/2012**
 TEST START DATE **18/07/2012**
 TEST END DATE **23/07/2012**

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|---------------------------|-----------------------------|------------|-----------------------------------|------------|
| | | | As per CPCB (Residential area) | |
| | | | MIN | MAX |
| CARBON MONOXIDE (AT SITE) | GEN/SOP/CALLAB-88 | <0.1 ppm* | | 1.7ppm(8h) |
| OXIDES OF NITROGEN (NOx) | IS 5182 PART 6:2006 | 7.3 µg/m3 | | 80 µg/m3 |
| PARTICULATE MATTER(10) | IS:5182(PART 23)2006 | 85.8 µg/m3 | | 100 µg/m3 |
| PARTICULATE MATTER(2.5) | USPEA CFR40(50), Appendix L | 36.2 µg/m3 | | 60 µg/m3 |
| SULPHUR DIOXIDE (SO2) | IS 5182:PART 2:2001 | <4.0 µg/m3 | | 80 µg/m3 |

* analysed at side.

**** End of Report ****

per pro SGS India Private Ltd.

Dr.Nemai Ghosh
 Manager Laboratory

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TEST REPORT

Report No. : CA:GL:3120010807-08

Date : 20.07.2012

JOE No. 1212804776

Report Control No: 3125010934-35

SAMPLE DRAWN BY SGS INDIA PRIVATE LTD.

SAMPLE DESCRIPTION : MEASUREMENT OF NOISE LEVEL
NAME OF THE CLIENT : M/S. HINDALCO INDUSTRIES LIMITED
ADDRESS : MINES DIVISION, LOHARDAGA, JHARKHAND, PIN – 835 302
SAMPLING METHOD : INSTRUMENTAL, USING SOUND LEVEL METER
SAMPLING SITE : PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHER(109.509)/BAUXITE MINES(PAKHER PLTEAU)
PROTOCOL : GENSOP/CALLAB-116
TEST START DATE : 20.07.2012
TEST END DATE : 20.07.2012

| SL NO. | SAMPLING LOCATION | DATE & TIME OF SAMPLING | DAY TIME NOISE LEVEL dB (A) Leq | LIMIT IN dB(A) Leq DAY TIME (INDUSTRIAL AREA) |
|--------|----------------------|---------------------------|------------------------------------|---|
| 1. | DAMPER (OR-14R-0160) | 25.06.2012 (15:20 Hrs) | 79 | 75 |
| 2. | POCKLEN (EC 210 BLC) | 25.06.2012 (15:30 Hrs) | 80 | 75 |

****End of Report****

Note: (i) The value is the Leq of twenty readings taken in each location (Day time).
(ii) Day time shall mean from 6:00 am to 10:00 pm

Checked by

for Sigit Majid
Dipankar De Sarkar
Asst. Manager (Operations)

per pro SGS India Private Ltd.

[Signature]
Dr. Nirmai Ghosh
Manager-Laboratory

Page 1 of 1

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TEST REPORT

Report No. : CA:GL:3120009661

DATE : 10/07/2012

JOE No. : 1212804262

Control No.:3125010227

SAMPLE COLLECTED BY SGS

SAMPLE IDENTIFIED AS : DRINKING WATER

COMPANY NAME HINDALCO INDUSTRIES LIMITED (MINES DIVISION)
 ADDRESS LOHARDAGA, JHARKHAND
 CITY 835302
 SAMPLING METHOD APHA 1060B/9060A
 SAMPLE DESCRIPTION DRINKING WATER
 SAMPLE CONDITION IN PLASTIC,STERILISED BOTTLE
 SAMPLE QTY. 5.5L APP
 MARKS ON SAMPLE SITE : PAKHAR (8.09)/PAKHAR(15.58)/PAKHAR(115.13)/
 PAKHAR (109.507)/ BAUXITE MINES PAKHAR PLATEAU
 LOCATION : SPRING NEAR PAKHAR VILLAGE
 COLLECTED ON 26.06.2012
 REGISTERED ON 02/07/2012
 TEST START DATE 02/07/2012
 TEST END DATE 10/07/2012

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|------------------------------|---|-------------|-------------------|-------------|
| | | | Desirable | Permissible |
| ALKALINITY (as CaCO3) | IS 3025:PART 23 :1986(Reaff.1998) | <5.0 mg/l | 200mg/l | 600mg/l |
| ALUMINIUM (as Al) | IS 3025 : Part 55 : 2003 | <0.02 mg/l | 0.03mg/l | 0.2mg/l |
| ANIONIC DETERGENTS (as MBAS) | ANNEX. K of IS 13428: 2005 | <0.05 mg/l | 0.2mg/l | 1mg/l |
| ARSENIC (as As) | IS 3025:PART 37:1988(Reaff.1999)BY ICPOES | <0.005 mg/l | 0.01mg/l | No Relax. |
| BORON | Annex.H OF IS:13428:2005 | <0.05 mg/l | 1.0mg/l | 5.0mg/l |

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Regd & Corp. Off. SGS House, 4B, A. S. Marg, Vikhroli (West), Mumbai-400083. Tel. : (022) 25798421 to 28 Fax : (022) 25798431 to 35 www.sgs.com

TEST REPORT

Report No. : CA:GL:3120009661

DATE : 10/07/2012

JOE No. : 1212804262

Control No.:3125010227

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|-----------------------|---|--------------|-------------------|-------------|
| | | | Desirable | Permissible |
| CADMIUM (as Cd) | IS 3025:PART 41 :1992(Reaff.1998)BY ICPOES | <0.005 mg/l | 0.01mg/l | No Relax. |
| CALCIUM (as Ca) | IS 3025:PART 40 :1991(Reaff.2003) | <1.0 | 75mg/l | 200mg/l |
| CHLORIDE (as Cl) | Clause 2 of IS 3025 Part 32:1988(Reaff. 1999) | <2.0 mg/l | 250mg/l | 1000mg/l |
| CHROMIUM (Cr6+) | IS 3025:PART 52:2003 | <0.01 mg/l | 0.05mg/l | No Relax. |
| COLOUR (HAZEN UNITS) | IS 3025:PART 4 :1983(Reaff.2002) | 5 | 5.0 | 25 |
| COPPER | IS 3025: PART 42:1992(Reaff. 2003) BY ICPOES | <0.01 mg/l | 0.05mg/l | 1.5mg/l |
| CYANIDE (as CN) | IS 3025:PART 27 :1986(Reaff. 1998) | <0.02 mg/l | 0.05mg/l | No Relax. |
| E.coli | IS 1622:1981(Reaff.2003) | Absent/100ml | | ABS/100ml |
| Faecal coliforms | IS 1622:1981(Reaff2003) | Absent/100ml | | ABS/100ml |
| FLUORIDE | IS:3025(PART 60):2008 | <0.10 mg/l | 1.0mg/l | 1.5mg/l |
| IRON (as Fe) | IS 3025:PART 53:2003 (BY ICPOES) | 0.12 mg/l | 0.3mg/l | 1 mg/l |
| LEAD (as Pb) | IS 3025:PART 47:1994(Reaff.2003) BY ICPOES | 0.01 mg/l | 0.05mg/l | No Relax. |
| MAGNESIUM (as Mg) | IS 3025:PART 46 :1994(Reaff.1999) | <1.0 mg/l | 30mg/l | 100mg/l |

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Member of the SGS Group (SGS SA)



TEST REPORT

Report No. : CA:GL:3120009661

DATE : 10/07/2012

JOE No. : 1212804262

Control No.:3125010227

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|--|---|-------------------|-------------------|-------------|
| | | | Desirable | Permissible |
| MANGANESE | IS:3025(PART 59) 2006 | 0.01 mg/l | 0.1mg/l | 0.3mg/l |
| MERCURY (as Hg) | IS 3025:PART 48 :1994(Reaff.1999)BY ICPOES | <0.001 mg/l | 0.001mg/l | No Relax. |
| MINERAL OIL | CLAUSE 6 OF IS 3025:PART 39:1991(Reaff. 2003) | BDL(DL-0.01 mg/l) | 0.01mg/l | 0.03mg/l |
| NITRATE | IS 3025:PART 34 :1988(Reaff.1999) | <0.50 mg/l | 45mg/l | No Relax. |
| ODOUR | IS 3025:PART 5:1983(Reaff.2002) | Unobjectionable | Unobject. | Unobject. |
| pH | IS 3025:PART 11:1983(Reaff.2002) | 6.85* | 6.5-8.5 | No Relax. |
| PHENOLIC COMPOUNDS (as C ₆ H ₅ OH) | IS 3025(Part 43)1992(Reaff 2005) | <0.001 mg/l | 0.001mg/l | 0.002mg/l |
| RESIDUAL FREE CHLORINE | GEN/SOP/CALLAB-13 3 | <0.10 mg/l* | 0.2mg/l | -- |
| SELENIUM | IS 3025:PART 56:2003 (BY ICPOES) | <0.005 mg/l | 0.01mg/l | No Relax. |
| SULPHATE | CLAUSE 4 OF IS 3025:PART 24:1986(Reaff. 2003) | <2.0 mg/l | 200mg/l | 400mg/l |
| TASTE | IS 3025:PART 7 :1984(Reaff.2002) | Agreeable | Agreeable | - |
| Total Coliforms | IS 1622:1981(Reaff.2003) | <2 MPN/100ml | | 10/100 ml |
| TOTAL HARDNESS (as CaCO ₃) | IS 3025:PART 21 :1983(Reaff.2002) | <1.0 mg/l | 300mg/l | 600mg/l |

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TEST REPORT

Report No. : CA:GL:3120009661

DATE : 10/07/2012

JOE No. : 1212804262

Control No.:3125010227

| TESTS | PROTOCOL | RESULT | REQUIREMENT/LIMIT | |
|---|--|-----------|---|-------------|
| | | | Desirable | Permissible |
| | | | <u>As per IS</u> <u>10500:1991(REAFF</u> <u>1993)</u> | |
| | | | | |
| TURBIDITY(in NTU) | IS 3025:PART 10 :1984(Reaff.2002) | 1.32 | 5.0NTU | 10NTU |
| ZINC (as Zn) | IS 3025 Part 49:1991(Reaff.2003) BY ICPOES | 0.13 mg/l | 5mg/l | 15mg/l |
| TOTAL DISSOLVED SOLIDS | IS 3025:PART 16:1984(Reaff.2002) | <10 mg/l | 500mg/l | 2000mg/l |
| Remarks : Based on the above parameters the sample complies with maximum desirable and maximum permissible limit as per IS:10500:1991 (Reaff 1993) , BDL=Below Detection Limit ; DL=Detection Limit Abs=Absent * Analyzed at site | | | | |

***** End of Report *****

per pro SGS India Private Ltd.

Dr.Nemai Ghosh
Manager Laboratory

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SGS India Pvt. Ltd. Laboratory, Behala Industrial Complex, Phase II, First Floor, 620, Diamond Harbour Road, Kolkata-700034 Phone : 91-33-64996700, 64996701, Fax : 91-33-24470267

Regd & Corp. Off : SGS House, 4B, A S Marg, Vikhroli (West), Mumbai-400083 Tel : (022) 25798421 to 28 Fax : (022) 25798431 to 35 www.sgs.com

Member of the SGS Group (SGS SA)

TEST REPORT

Report No. : CA:GL:3120010717

Date : 19.07.2012

JOF No. 1212804732

Report Control No. 3125010862

SAMPLE DRAWN BY SGS INDIA PVT. LTD.

| | |
|---------------------------|--|
| SAMPLE DESCRIPTION | MEASUREMENT OF NOISE LEVEL |
| COMPANY NAME | M/S. HINDALCO INDUSTRIES LIMITED (MINES DIVISION) |
| ADDRESS | MINES DIVISION, LOHARDAGA, JHARKHAND, PIN – 835 302 |
| SAMPLING SITE | PAKHAR(8.09)/PAKHAR(15.58)/PAKHAR(115.13)/PAKHAR(109.509)BAUXITE MINES (PAKHAR PLATEAU) |
| PROTOCOL | GENSOP/CALLAB/116 |
| DATE OF SAMPLING | 25.06.2012 TO 26.06.2012 |
| TEST START DATE | 19.07.2012 |
| TEST END DATE | 19.07.2012 |

| LOCATION | RESULT | | LIMIT IN dB(A) Leq (INDUSTRIAL AREA) | |
|---------------------------------------|---|---|---|------------|
| | Day Time (L _{eq}) in dB(A) | Night time (L _{eq}) in dB(A) | Day Time | Night time |
| MINE LEASE AREA (NEAR SITE OFFICE) | 59 | 52 | 75 | 70 |

*****End of Report*****

Note: (i) The value is the Leq of One Hundred Sixty-Eight readings taken in day time and seventy reading taken in night time.
(ii) Day time shall mean from 6:00 am to 10:00 pm
(iii) Night time shall mean from 10:00 pm to 6:00 am

Checked by

for Sujit Majumdar
Dipankar De Sarkar
Asst. Manager (Operations)

per pro SGS India Private Ltd.

Dr. Nema Ghosh
Dr. Nema Ghosh
Manager-Laboratory

Page 1 of 1

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BREAK UP THE COST OF ENVIRONMENTAL MEASURES DURING THE YEAR 2012-13 (Up to-Sep)

The composite cost during the year 2012-13 (April to Sep) for environmental protection & pollution control by Jharkhand Mines division of Hindalco Industries Ltd for implementation the suggested measures in EC at all the operating mines in the state of Jharkhand-namely Pakhar (115.13 Ha), Pakhar (15.58 Ha), Pakhar (109.507 Ha), Serengdag (140.06 Ha), Serengdag (155.81 Ha), Jalim & Sanai (12.14 Ha), Gurdari (584.19 Ha), Amtipani (190.95 Ha), Kujam (80.97 Ha) Kujam II (157.38 Ha) and Bagru (75.41 Ha), Chiro kukud,& Orsa pat.

| Sl No | Description | Budget (in Lakh Rs.) | Actual (in Lakh Rs.) |
|-------|--|----------------------|----------------------|
| 1 | Pollution Control & Environment monitoring | 7.50 | 4.50 |
| 2 | Reclamation/ Back filing & Rehabilitation | ** | 20.60 |
| 3 | Green belt & Plantation | 25.00 | 33.04 |
| 4 | Rural Development | 65.00 | 36.30 |

**part of OB removed cost.



OFFICE ORDER

In connection with the earlier office order dated 12.11.2011 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, Sr. Manager (Geology), Convenor.

Members:

2. Utpal Gupta, Manager (Environment)
3. S. Joshi, Manager (Bagru Mines)
4. A. Anbarasu, Mines Manager (Serengdag A)
5. Ajay Pandey, Mines Manager (Pakhar)
6. Kiran Sankar Singh, Mines Manager (Gurdari)
7. Vidya Sagar Singh, Mines Manager (Serengdag B)
8. Ashish Upadhyay, Mines Manager (Kujam I & II)
9. Amar Bharati, Mines Manager (Amtipani)
10. Manoj Kumar Singh, Mines Manager (Pakhar 109.507 Ha)
11. Rajesh Ambastha, Mines Manager (Chiro Kukud & Orsa)

By order

A handwritten signature in black ink, appearing to read "b.k.j.", is positioned above the printed name.

Bijesh Kumar Jha
VP (Mines)

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

PRODUCTION, MINED OUT, BACKFILLED, PRODUCTION AND OVERBURDEN REMOVAL FROM APR-12 TO SEP-12

| 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 | 6.52 | 6.6 | 133955.00 | 178177.00 |
| Gurdari Bauxite Mines | 584.19 | 7.5 | 7 | 165423.00 | 123688.52 |
| Jalim & Sanai | 12.14 | 0.9 | 0.1 | 15425.00 | 19280.00 |
| Serangdag | 140.06 | 2.5 | 1.6 | 52707.00 | 50247.00 |
| Pakhar Buxite Mines | 115.13 | 1.45 | 0.5 | 72233.00 | 124920.48 |
| Pakhar Buxite Mines | 8.09 | 0.5 | 0 | 3760.00 | 10500.00 |
| Kujam-I | 80.87 | 1.9 | 1.2 | 12998.00 | 3074.30 |
| Kujam-II | 157.38 | 8.33 | 6.43 | 134992.00 | 209109.49 |
| Amtipani | 190.95 | 7.68 | 6.74 | 67025.00 | 87430.64 |
| Chiro-Kukud | 152.57 | 2 | 1.2 | 36700.00 | 27525.00 |
| Orsa Bauxite Mines | 196.36 | 0 | 0 | 0.00 | 0.00 |
| Hisri New | 14.55 | 1.24 | 0 | 99651.00 | 51620.92 |
| Bagru | 75.41 | 1.78 | 1.5 | 84320 | 84477.09 |
| Minerals & Minerals Limited | | | | | |
| Pakhar Buxite Mines | 109.507 | 5.5 | 3 | 67850.00 | 75608.15 |
| Pakhar Buxite Mines | 15.58 | 0.8 | 0.2 | 9075.00 | 28863.15 |