



Ref No: HIL/LHD/VP (M)/MoEF/ 627

Date: 28.11.12

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

**Sub: Compliance Report of EC conditions for Pakhar Bauxite Mining project of M/s Hindalco Industries Limited located in Dist- Lohardaga, Jharkhand for the period April' 2012 - Sep' 2012.**

Ref: Environmental Clearance letter no J-11015/21/95-1A II (M) dated 11<sup>th</sup> September 1997

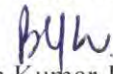
Sir,

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

Hope you will find the same in order.

Thanking You

Yours Sincerely  
FOR HINDALCO INDUSTRIES LIMITED

  
(Bijesh Kumar Jha)  
VP (Mines)

Enclosure: - As Above

**Compliance of conditions laid down in Environmental Clearance**

**PAKHAR BAUXITE MINES**

**Period : April'12 – Sep.'12**

**Area (115.13 Ha)**

**MoEF Environment Clearance ref: No. J-11015/21/95-IA.II(M) dated September 11, 1997**

<b>Sl No</b>	<b>Conditions</b>	<b>Compliance Status</b>
i	No Change in mining technology and working plan should be made without prior approval of the Ministry of Environment & Forest.	Being Complied. Applied for New EC for capacity expansion from 0.073 MTPA to 0.3 MTPA.
ii	No change in the calendar plan including excavation, quantum of bauxite and wastes/OB dumps should be made.	Being Complied. Mining is as per the plan.
iii	NOC from the Bihar Pollution Control Board should be obtained before initiating construction and /or mining activity at site and copy be sent to this Ministry.	NOC has already obtained from JSPCB. Ref No. 1383 dated 05.03.03
iv	The top soil and OB dumps should be stacked in earmarked dump sites only.	Top soil & OB (laterite) are dumped separately at stipulated sites only.
v	Four ambient Air Quality monitoring stations should be established in the Core zone as well as buffer zone for SPM, RPM, SO <sub>2</sub> , NO <sub>x</sub> and CO monitoring. Location of the ambient air quality monitoring stations should be decided based on the meteorological data, topographical features, environmentally sensitive targets in consultation with the State Pollution Control Board.	In core zone Air Quality monitoring is carried out quarterly.
vi	Data on ambient Air quality should be regularly submitted to this Ministry including its regional office at Ranchi and the State Pollution Control Board/Central Pollution Control Board once in six months.	Being Complied. Report enclosed in Annexure
vii	Fugitive emissions should be controlled, regular monitoring and data recorded properly. Adequate measures for control of fugitive emissions should be taken during drilling and blasting operations, loading and transportation of bauxite etc.	Controlled by proper maintenance of equipments.
viii	Adequate measures should be taken for control of noise level below 85dB in the work environment. Workers engaged in blasting and drilling	Being complied. Workers have been provided ear plugs/muffs.

	operations, operations of HEMM etc should be provided with ear plugs/muffs	
ix	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 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December, 1993. Sewage treatment plant should be provided in the township for treatment of domestic effluent.	No waste water is generated as no workshop is present. The sewage water from domestic uses is being collected through individual septic tanks & soak pits.
x	Garland drains of appropriate size should be constructed to collect the surface run off from the OB dumps and bauxite dumps. The collected run off should be diverted to the sedimentation tank before final disposal.	Appropriate drains, check dam, sumps will be constructed before monsoon to arrest surface run off if any. The collected water at mine sump will be used for sprinkling and plantation.
xi	Ground water quality should be regularly monitored and the data recorded should be furnished to this Ministry and its Regional Office at Ranchi and the State Pollution Control Board/Central Pollution Control Board once in six months	Mining operation is confined within shallow depth (20 m max). It does not intersect the Ground Water Table.
xii	A green belt of adequate width by planting the native plant species should be raised around the lease area, township, roads, OB dump sites etc in consultation with the local DFO/Agricultural Department. The density of the plant should be at least 2500 plants/ha.	Being complied. Approx. 8 ha area plantation has been done in Pakhar area in 2012 uptill now. Further, plantation is being planned.
xiii	All Mined out areas should be reclaimed and afforested before abandonment of the mines	Mine is under operation since 2005. Backfilling and reclamation has been carried out.
xiv	The project authorities should augment socio-economic and afforestation measures. A time bound action plan for undertaking the socio-economic/community development measures should be submitted within two months to the Ministry	Being complied.
xv	Environmental laboratory should be established with adequate number and type of pollution monitoring and analysis equipments in consultation with the State Pollution Control Board.	Environmental monitoring and analysis is carried out periodically by authorized agency.

xvi	<p>Personnel working in dusty area should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.</p> <p>Occupational health surveillance programme of the workers should be undertaken periodically to observe any contraction due to exposure to dust.</p>	<p>All types of PPEs have been provided to the workers exposed to dust.</p> <p>Conducting Occupational Health check-up are being carried out periodically as per Mines Rule.</p>
xvii	<p>A separate Management cell with suitably qualified personnel should be set up under the control of Senior Executive, who will report directly to the Head of the Organization.</p>	<p>Already formed.(<b>copy submitted</b>)</p>
xviii	<p>The funds earmarked for environmental protection measures should be kept in a separate account and should not be diverted for other purposes and year wise expenditure should be reported to the Ministry</p>	<p>Separate budget has been prepared for the purpose.(<b>copy enclosed as annexure</b>)</p>
xvi	<p>The project would be monitoring by the Regional Office of this Ministry located at Ranchi. The project authorities should extend extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data/information / monitoring reports.</p>	<p>Being complied.</p>



## 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/167/07 / 4-806

Dated- 17.4.12

#### CONSENT TO OPERATE

With reference to the application dated 30.09.2011 of G.M. (Operation), M/s Hindalco Industries Ltd; Court Road, P.O.+ Dist Lohardaga, I/C Pakhar O.C. Bauxite Mines-115.13 Ha. 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, 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 0.30TPA of Bauxite ore At- Pakhar, P.O + Dist- Lohardaga for the period from 01.01.2012 to 31.12.2012 with the following conditions :

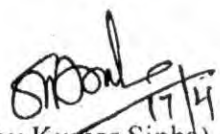
1. That, he(they) shall make any alteration, addition, deletion or modification in the ~~plant~~ <sup>plant</sup> without the prior clearance from the Board.
2. That, he(they) shall abide by the obligations provided under section 24, 31 and 33A of the Water (Prevention & Control of Pollution) Act, 1974 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.

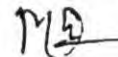
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8. That, he(they) shall monitor his(their) effluent(s), emission(s) and the ambient air, noise level regularly and shall submit the report to the Board in compliance of the condition laid in paragraph 7.
9. That, he(they) shall establish well equipped 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 30<sup>th</sup> 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;*

To,

M/s Hindalco Industries Ltd;  
(I/C Pakhar O.C. Bauxite Mines-115.13 Ha)  
Court Road, P.O. + Dist- Lohardaga.

  
( Sanjay Kumar Sinha )  
Member Secretary.





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)/**  
**BAUXITE MINES PAKHAR PLATEAU, LOCATION: PATRATOLI VILLAGE**  
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/m3		80 µg/m3
PARTICULATE MATTER(10)	IS:5182(PART 23)2006	89.5 µg/m3		100 µg/m3
PARTICULATE MATTER(2.5)	USPEA CFR40(50), Appendix L	42.4 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: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 (NOx)	IS 5182 PART 6:2006	7.5 µg/m3		80 µg/m3
PARTICULATE MATTER(10)	IS:5182(PART 23)2006	81.0 µg/m3		100 µg/m3
PARTICULATE MATTER(2.5)	USPEA CFR40(50), Appendix L	39.0 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. Nimai 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(COREZZ)  
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)/  
BAUXITE MINES PAKHAR PLATEAU, LOCATION:PAKHAR-115.13(PAKHAI)  
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 (NO <sub>x</sub> )	IS 5182 PART 6:2006	5.3 µg/m <sup>3</sup>		80 µg/m <sup>3</sup>
PARTICULATE MATTER(10)	IS:5182(PART 23)2006	89.9 µg/m <sup>3</sup>		100 µg/m <sup>3</sup>
PARTICULATE MATTER(2.5)	USPEA CFR40(50), Appendix L	35.4 µg/m <sup>3</sup>		60 µg/m <sup>3</sup>
SULPHUR DIOXIDE (SO <sub>2</sub> )	IS 5182:PART 2:2001	<4.0 µg/m <sup>3</sup>		80 µg/m <sup>3</sup>

\* 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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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: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 <sub>x</sub> )	IS 5182 PART 6:2006	6.0 µg/m <sup>3</sup>		80 µg/m <sup>3</sup>
PARTICULATE MATTER(10)	IS:5182(PART 23)2006	89.1 µg/m <sup>3</sup>		100 µg/m <sup>3</sup>
PARTICULATE MATTER(2.5)	USPEA CFR40(50), Appendix L	37.3 µg/m <sup>3</sup>		60 µg/m <sup>3</sup>
SULPHUR DIOXIDE (SO <sub>2</sub> )	IS 5182:PART 2:2001	<4.0 µg/m <sup>3</sup>		80 µg/m <sup>3</sup>

\* 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: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

JOF 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.

*Dr. Nirmal Ghosh*  
Dr. Nirmal 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

Table with 5 columns: TESTS, PROTOCOL, RESULT, REQUIREMENT/LIMIT (As per IS 10500:1991(REAFF 1993)), and sub-columns for Desirable and Permissible. Rows include ALKALINITY (as CaCO3), ALUMINIUM (as Al), ANIONIC DETERGENTS (as MBAS), ARSENIC (as As), and BORON.

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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
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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## 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 C6H5OH)	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 CaCO3)	IS 3025:PART 21 :1983(Reaff.2002)	<1.0 mg/l	300mg/l	600mg/l

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TEST REPORT

<b>Report No. : CA:GL:3120009661</b>	<b>DATE : 10/07/2012</b>
--------------------------------------	--------------------------

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>	
<b>TURBIDITY( in NTU )</b>	IS 3025:PART 10 :1984(Reaff.2002)	1.32	5.0NTU	10NTU
<b>ZINC (as Zn)</b>	IS 3025 Part 49:1991(Reaff.2003) BY ICPOES	0.13 mg/l	5mg/l	15mg/l
<b>TOTAL DISSOLVED SOLIDS</b>	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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## TEST REPORT

Report No. : CA:GL:3120010717

Date : 19.07.2012

JOE No 1212804732

Report Control No. 3125010862

### SAMPLE DRAWN BY SGS INDIA PVT. LTD.

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

LOCATION	RESULT		LIMIT IN dB(A) Leq ( INDUSTRIAL AREA )	
	Day Time (L <sub>eq</sub> ) in dB(A)	Night time (L <sub>eq</sub> ) 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. Nemai Ghosh*  
**Dr. Nemai Ghosh**  
Manager-Laboratory

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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 blue ink, appearing to read 'bkh'.

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
<b>Minerals &amp; Minerals Limited</b>					
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