

ADITYA BIRLA



HIL/SAM/CCF/158/2015

26.10.2015

To,  
**The Addl. Principal Chief Conservator of Forest (Central),  
MoEF Regional Office (Western Zone)**  
Kendriya Paryavaran Bhawan, Link Road-3, Ravisankar Nagar  
Bhopal-462016 (M P)

**Sub:-** Status of compliance of EC condition (Half yearly status of compliance report) Tatijharia Bauxite Mine (Lease area- 1218.762 Ha.) of Hindalco Industries Limited of Chhattisgarh state from April-2015 to September-2015.

Ref No:- Environment Clearance Letter No-J-11015/337/2007-IA. II(M) dated August 9, 2007

Dear Sir,

We do hereby submit half yearly status of compliance report of EC condition with respect of Tatijharia Bauxite Mine, Lease area -1218.762 Ha, of Hindalco Industries Limited, P.O- Kusmi, Dist- Balrampur-Ramanujanj, Chhattisgarh state, PIN-497224 from April-2015 to September-2015..

We assure that we comply all the conditions laid down in the consent letter and also abide to follow all the Rules and Regulations.

Thanking you,

Yours' faithfully

For, Hindalco Industries Limited

(M. K. Nayak)  
Agent of Mines

Encl:-


1. Half Yearly Status of compliance of Environment condition as annexure-I.
2. Copy of Diversion of Revenue Forest Land enclosed as annexure -II.
3. July-2015 to September-2015, Environment Status Report enclosed as annexure -III
4. Renewal copy of Consent to Operate from CECB enclosed as annexure -IV
5. Yearly Production report enclosed as annex-V.
6. Status report of mined out, reclaimed and afforested land as annexure-VI.
7. Actual expenditure incurred in environment measure from April-15 to September-15 as annex-VII.

26.10.2015


### Compliance Status of Talijharia Bauxite Mine(Apr-15 to Sep15)

The status of compliance of the conditions (as per point no.3) with reference to environment clearance letter no.J-11015/357/2007-11A.II(M) dated 09.08.07 of Ministry of Environment & Forests, New Delhi, for expansion of production capacity of Talijharia Bauxite Mine is as under.


| A. Specific Condition |  |  |
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| Sl.No.                | Compliances  | Status   |
| (i)                   | Environment clearance is subjected to obtaining clearance under the wild life (protection) Act, 1972 from the competent authority.   | The wild life management plan has been approved  |
| (ii).                 | Environment clearance is subjected to final order of the Hon'ble Supreme court of India in the matter of Goa Foundation vs. Union of India in writ petition (Civil) No. 460 of 2004 as may be applicable to this project.  | We accept the condition  |
| (iii).                | Conversation plan for Schedule I fauna (If found in the study area) shall be prepared in consultation with wildlife department. The company shall provide authenticated list of flora & fauna separately for core and buffer zone indicating schedule of species.  | The conservation plan for schedule I fauna have been prepared. The authenticated list of flora and fauna for core and buffer zone is enclosed for perusal please.  |
| (iv).                 | The mining operation shall be restricted to the above ground water table and it shall not intersect ground water table. Prior approval of the Ministry and CGWA should be obtained for mining if any below water table.  | The mining operation will be restricted to above ground water table during current mining operation. The ultimate depth of working is about 14 meters below whereas the water table in the core zone is about 50-52 meters.  |
| (v)                   | Topsoil if any shall be stacked properly with proper slope with adequate safeguards and shall not be used for reclamation and rehabilitation of mined out area   | Top soil and solid waste is being utilized for simultaneous back filling of mined out area for reclamation purpose and practice is followed.   |
| (vi)                  | Overburden shall be stacked at earmarked dumpsite(s) only and shall not be kept active for long period .The maximum height of the dump shall not exceed 30m ,each stage shall preferably be of 10m and overall slope of the dump shall not exceed 28°.The mine pit area shall be reclaimed by back filling the OB in a phased manner .The OB Dumps shall be scientifically | OB is being stacked at earmark location and slope of dump is maintained less than 28 degree/ concurrently reclaimed in the mined out area. All protective measure such as retaining walls, bunds and also plantation on available land are being taken to prevent erosion of soil. |

  
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|        | <p>vegetated with suitable native species to prevent erosion and surface run off .Monitoring and Management of rehabilitation area shall continue until the vegetation become self-sustaining .Compliance status shall be submitted to the ministry of Environment &amp; forest on six monthly basis.</p>   |   |
| (vii)  | <p>Garland drains shall be constructed to arrest silt and sediment flows from soil , and mineral dump .The water so collected shall be utilised for watering the mine area ,roads green belt development etc.The drains shall be regularly desilted particularly after monsoon and maintained properly .Garland drain (size ,gradient and length )shall be constructed for both mine pit and for waste dump and sump capacity shall be designed keeping 50% safety margin over above peak sudden rainfall(based on 50 years data) and maximum discharge in the area adjoining the mine site .Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at corners of the garland drain and desilted at regular intervals.</p> | <p>Garland drains have been made around the active mining pits coupled with arrester to arrest silt from soil and dumps are maintained. The garland drains are regularly desilted before the monsoon.</p>   |
| (viii) | <p>The project proponent shall ensure that no natural water course shall be obstructed due to mining operation</p>  | <p>We undertake that no natural water course is obstructed during mining operation.</p>   |
| (ix)   | <p>Blasting operation shall be carried out only during the day time. Controlled blasting shall be practiced .The drills should be operated with drill extractors. The mitigative measures for control of ground vibration and to arrest fly rocks shall be implemented.</p>   | <p>Controlled blasting is being practiced in the mine. Dust extractors are being used during drilling operations. Cord relay &amp; effective blast design are used to control blast vibration and fly rocks.</p>  |
| (x)    | <p>Plantation shall be raised in an areas of 40.84 ha including green belt of adequate width by planting the native species around the ML area, roads ,OB dump sites etc. in consultation with the local DFO/Agriculture Department .The density of the trees shall be around 2500 plant per ha. Selection of plant species shall be as per CPCB guideline .Herbs and scrubs</p>  | <p>The plantation in reclaimed area is carried out as per plan and is carried out as suggested. The density is being maintained about 2500 plant per hectare with the species like jatorpha, Kashia Samia, mango, babul, pears &amp; guava etc. Social forestry is also being encouraged among the local villagers. Year wise plantation is enclosed.</p> |


  
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|        | shall also form a part of afforestation programme besides tree plantation .   |   |
| (xi)   | The project authority shall implement suitable conservation measure to augment ground water resources in the area in consultation with the Regional Director, Central Ground water Board.   | The ground water table does not intersect during our mining operation because of shallow depth of mining. Till date one rain water harvesting ponds has been made at lease hold area to augment the ground water level. |
| (xii)  | Regular water sprinkling shall be carried in critical areas prone to air pollution and having high level of SPM and RSPM such as haul Road, Loading and transfer points and other vulnerable areas. It should be ensured that the ambient air quality parameters confirm to the norms prescribed by the CPCB in this regards.   | Regular water spraying with 12 KL water tanker in the mine lease hold area is being carried out regularly to control air pollution. The ambient air quality is within the stipulated norms.                             |
| (xiii) | Regular monitoring of Ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation .The monitoring shall 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 Groundwater Authority and Regional Director central Ground water Board. | Regular monitoring of ground water quality is being carried out. The analysis reports are being submitted to Regional Office, CECB, Ambikapur and other regulating authority.   |
| (xiv)  | Rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, CGWB.   | Till date three rain water harvesting ponds has been made at lease hold area.   |
| (xv)   | Prior permission from the competent authority shall be obtained for drawl of ground water if any.   | If required, the permission will be taken from competent authority.   |
| (xvi)  | Existing ecological status of the project area shall be conserved and protected .The project proponent should take all possible precautionary measures during mining operation for conservation and protection of endangered fauna  | No endanger fauna is present in mines area however all possible measures is taken to prevent ecological status of project area.   |
| (xvii) | Vehicular emission shall be kept under control and regularly monitored .Measures shall be taken for maintenance of Vehicles used in mining operation and  | Regular and periodic maintenance of HEMM is being carried out for control of vehicular emission in mines area. The bauxite ore are  |

  
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|         | in transportation of mineral .The vehicles shall be covered with tarpaulin and shall not be overloaded.  | transported in trucks with tarpaulin cover.   |
| (xviii) | A compressive report on the details of land oustees, their socio-economic profile and action plan for their rehabilitation including formation of self help groups who can facilitate promotion of economic opportunity for local indigenous people shall be submitted for record. | The report has been submitted to ministry. The rehabilitation of land oustees is not involved in the project.   |
| (xix)   | The company shall implement occupational health and safety measures for workers and engage a qualified doctor who is trained in occupational health surveillance.  | All workers are provided personal protective equipment and training are also being imparted to them for safety & health in our Group vocational training centre – Samri and will be continued. One doctor having MBBS qualification has been appointed for facilitation of OHS. All employees working in the mine have been under gone through medical test as per Mines ACT-1952. A sample copy of medical test has been enclosed. |
| (XX)    | A final Mine closure plan along with details of corpus fund shall be submitted to the Ministry of Environment & Forest 5 years in advance of Final Mine Closure for approval   | We accept the condition.  |

### B. General Conditions


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| i.)  | No change in Mining Technology and scope of working shall be made without prior approval of Ministry of Environment and Forest.   | No change in mining technology and scope of working will be done without approval of MOEF New Delhi.                             |
| ii)  | No change in the calendar plan including excavation, quantum of mineral bauxite ore shall be made.  | Calendar plan will be followed and there will not be any change in calendar plan.  |
| iii) | Conservation of measure for protection of flora and fauna in the core and buffer zone shall be drawn up in consultation with the local forest and wild life department. | The suggestion of local forest department will be implemented for conservation of flora and fauna in and around lease hold area. |
| iv)  | Four ambient air quality monitoring station shall be established in the core zone as well as in the buffer zone for RSPM ,SPM ,SO2,NOX monitoring location of the       | Ambient Air quality monitoring is being carried out as per guideline and will be followed.                                       |

  
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|       | 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 state pollution control Board.  |   |
| v)    | Data on ambient air quality (RPM, SPM, SO2, and NOx) 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.   | Data of ambient air quality (RPM, SPM, SO2, Nox) are being submitted to CECB and will be submitted as per guidelines. Data of ambient air quality (RPM, SPM, SO2 and Nox) from Apr-15 to Jul-15 is enclosed.                              |
| vi)   | Fugitive dust emission from all the sources shall be controlled regularly water spraying arrangement on the haul roads, Loading and unloading and at transfer points shall be provided and properly maintained   | Fugitive dust emission from generating sources is being controlled. The dust extractor, wet drilling, regular water spraying with 12 KL water tanker in the mine lease hold area is being carried out regularly.                          |
| vii)  | Measures shall be taken for control of noise level below 85 dBA in the work environment .Workers engaged in operation of HEMM etc shall be provided with ear plugs/muffs.  | The noise level in working are being maintained below the limit prescribed and will be maintained. The operators of HEMM are being provided earplug/muffs. The proper maintenance of HEMM is being carried out to control noise emission. |
| viii) | 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 st December ,1993 or as amend from time to time Oil and grease trap shall be installed before discharge of workshop effluents. | No waste water is generated from the mine however as suggested measures will be taken if required.  |
| ix)   | Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects.  | All workers are provided personal protective equipment and training are also being imparted to them for safety & health in our Group vocational training centre – Samri and will be continued as per guidelines.                          |


  
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| X)    | Occupational health surveillance program of the workers shall be undertaken periodically to observe any contraction due to exposure to dust and take corrective measure, if needed.  | Periodical and Initial medical examination of all workers are being carried out as per provision of Mines Act.   |
| xi)   | A separate environment management cell with suitable qualified personnel shall be set-up under the control of a senior executive, who will report directly to the Head of the Organization.  | Environment cell is already in place at Samri Mines Division headed by GM (Mines) and comprises of suitable qualified persons.   |
| xii)  | The project shall inform to the Regional office located at Bhopal regarding date of Financial closure and final approval of the project by the concerned authorities and the date of start of land development work.   | In case of final closure of mine the information will be submitted to Regional Office, Ministry of Environment & Forests, Bhopal.  |
| xiii) | The funds earmarked for environment protection measures shall be kept in separate account and should not be diverted for other purpose .Year wise expenditure shall be reported to the Ministry and its Regional office located at Bhopal.                                       | Adequate fund provision is already earmarked for environmental protection measures and will not be diverted to other purpose. The year wise expenditure will be submitted to concern authorities as per guidelines.  |
| xiv)  | The project authorities shall inform tom the Regional office located at Bhopal regarding date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.  | The same information also intimated to Regional Office, Ministry of Environment & Forests, Bhopal.   |
| xv)   | The Regional office of this ministry located at Bhopal shall monitor compliance of the stipulated condition .The project authorities should extend the full cooperation to the officers of the Regional office by furnishing the requisite data/information /monitoring reports. | All cooperation is being extended to regulatory authorities and will be extended as earlier.   |
| xvi)  | A copy of Clearance letter will be marked to the concerned Panchayat /Local NGO, if any from whom suggestion /representation has been received while processing the proposal.  | Although no suggestion/representation has been received by any Panchayat/Local NGO while processing the proposal. However we have forwarded the copy of clearance letter to Panchayat in our area. The copy of same has been already submitted at CECB office. |
| xvii) | State Pollution Control Board should display a copy of clearance letter at the   | The copy has been displayed by CECB in Balrampur Collectorate.   |

  
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|        | Regional office .District Industry centre and collectors office /Tehsildar's office for 30days.  |  |
| xviii) | The project authorities should advertise at least in two local newspaper 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 website of the Ministry of Environmnet and Forest at <a href="http://envfor.nic.in">http://envfor.nic.in</a> and a copy of the same shall be forwarded to the Regional Office of this Ministry located at Bhopal . | The information regarding environment clearance has been published in two local news papers namely Hari Bhumi & Ambika Vani. The copy of same has been already submitted at CECB office. |

  
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कार्यालय प्रधान मुख्य वन संरक्षक (वन्यप्राणी प्रबंधन एवं जैव विविधता  
संरक्षण सह मुख्य वन्यप्राणी अभिरक्षक), छत्तीसगढ़

अरण्य भवन, मेडिकल कॉलेज रोड, रायपुर

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क्रमांक/व.प्रा./प्रबंध-12/13/2967

रायपुर दिनांक 07/10/2013

प्रति,

संचालक,  
इन्चायरमेंट क्लियरेंस सेल  
भारत सरकार, वन एवं पर्यावरण मंत्रालय,  
पर्यावरण भवन, सी.जी.ओ. कॉम्प्लेक्स,  
लोधी रोड, नई दिल्ली-111003

विषय:- (जिला) छत्तीसगढ़ के बलरामपुर जिले (तत्कालीन सरगुजा जिला) में स्थित सामरी बॉक्साइट  
माईन्स, कुदाग बॉक्साइट माईन्स एवं टाटीझरिया बॉक्साइट माईन्स की क्षमता बढ़ाये हेतु  
इन्चायरमेंट क्लियरेंस।

- संदर्भ:-
1. पर्यावरण व वन मंत्रालय, भारत सरकार का पत्र क्रमांक J-11015/353/2007-IA.II(M) दिनांक 27 जुलाई 2007.
  2. पर्यावरण व वन मंत्रालय, भारत सरकार का पत्र क्रमांक J-11015/337/2007-IA.II(M) दिनांक 27 जुलाई 2007.
  3. पर्यावरण व वन मंत्रालय, भारत सरकार का पत्र क्रमांक J-11015/337/2007-IA.II(M) दिनांक 9 अगस्त 2007.

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कृपया आपके उपरोक्त संदर्भित पत्रों का अवलोकन करने का कष्ट करें। जिसके द्वारा बलरामपुर जिले (पुराने सरगुजा जिले) के सामरी बॉक्साइट खुली खदान (1 LTPA) की क्षमता बढ़ाकर (5LTPA) करने, कुदाग बॉक्साइट खदान (0.4 LTPA) की क्षमता बढ़ाकर (0.6 LTPA) करने तथा टाटीझरिया बॉक्साइट खदान (0.5 TPA) की क्षमता बढ़ाकर (4 TPA) करने के परियोजना प्रस्ताव के संबंध में वन्य प्राणी (संरक्षण) अधिनियम, 1972 के तहत अनुसूची-1 के वन्यप्राणियों हेतु "वन्य प्राणी संरक्षण व प्रबंधन योजना" तैयार की जाकर इस कार्यालय की सहमति दिये जाने का लेख किया है।

1. विषयांकित परियोजना हेतु खदान के लीज के अनुबंध दिसंबर 1996 एवं जून 1998 में हस्ताक्षरित हुये थे। सामरी क्षेत्र में भारत सरकार पर्यावरण व वन मंत्रालय के आदेश क्रमांक J-11015/353/2007-IA.II/M दिनांक 27 जुलाई, 2007 द्वारा 2146.746 हे. में, कुदाग क्षेत्र में भारत सरकार पर्यावरण व वन मंत्रालय आदेश क्रमांक J-11015/354/2007-IA.II/M दिनांक 27 जुलाई 2007 द्वारा 377.116 हे. में, तथा टाटीझरिया में भारत सरकार पर्यावरण व वन मंत्रालय के आदेश क्रमांक J-11015/337/2007-IA.II/M दिनांक 9 अगस्त 2007 द्वारा 1218.762 हे. में बॉक्साइट खनन की स्वीकृति प्राप्त कर संस्था द्वारा खनन का कार्य किया जा रहा है।

2. वर्तमान प्रस्ताव में उपरोक्त स्वीकृत खाद्यान्न राशियों के लिये 1.0 LPTA से बढ़ाकर 5.0 LPTA किया जाना, कुदाग के लिये 0.4 LPTA से बढ़ाकर 0.6 LPTA किया जाना एवं टाटीझरिया के लिये 50,000 TPA से बढ़ाकर 4,00,000 TPA किया जाना प्रस्तावित है। भारत सरकार पर्यावरण व वन मंत्रालय के द्वारा उपरोक्त वृद्धि हेतु प्रथम चरण की स्वीकृति क्रमांक J-11015/353/2007-IA.II/M दिनांक 27 जुलाई 2007, J-11015/354/2007-IA.II/M दिनांक 27 जुलाई 2007 एवं J-11015/337/2007-IA.II/M दिनांक 9 अक्टूबर 2007 द्वारा कुछ शर्तों के साथ दी गई है, जिसमें एक महत्वपूर्ण शर्त यह भी उल्लेखित है कि संबंधित क्षेत्र में वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के पाये जाने वाले वन्य प्राणियों के संरक्षण हेतु प्रबंध योजना तैयार की जाकर राज्य के मुख्य वन्य जीव अभिरक्षक के अभिमत सहित प्रस्तुत किया जाये। जिसके पालन में संस्था द्वारा एक वन्य प्राणी संरक्षण योजना तैयार की गयी है।
3. खनन क्षमता बढ़ाने से संबंधित प्रस्तावित तीनों ही परियोजनाओं के एक दूसरे से 4 कि.मी. की परिधि में स्थित होने एवं सभी के बफर क्षेत्र ओवरलैपिंग होने के कारण सभी के लिये संयुक्त रूप से वन्य प्राणी संरक्षण व प्रबंधन योजना तैयार की जाकर महाप्रबंधक, (खादान), हिन्डालको इन्डस्ट्रीज के पत्र क्रमांक HIL/SAM/300/2013 दिनांक 2.03.2013 द्वारा प्रस्तुत किया गया है जिसका समग्र रूप से परीक्षण किया गया। प्रस्तावित परियोजनाओं के कोर क्षेत्र से 10 कि.मी. की परिधि में आने वाले ओवरलैपिंग बफर क्षेत्र में वन्य प्राणियों एवं उपलब्ध वनस्पतियों का सर्वे किया जाकर पाये गये स्पेसिज को परियोजना प्रस्ताव में अनेक्सर-4 के में उल्लेखित किया गया है।
4. उल्लेखित सूचि में वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के वन्य प्राणी नहीं पाये गये हैं। परंतु इस कार्यालय द्वारा वन संरक्षक (वन्य प्राणी), सरगुजा से विगत दस वर्षों में वन्य प्राणियों द्वारा की गई क्षति की जानकारी चाही गयी। वन संरक्षक ने अपने पत्र क्रमांक 749 दिनांक 24.05.2012 से यह जानकारी उपलब्ध कराया है कि उक्त क्षेत्र में हाथियों का वर्ष 2005 में दो बार, वर्ष 2006 में आठ बार, 2007 में एक बार, 2008 में दो बार, 2009 में सात बार आना जाना हुआ है। इसी प्रकार भालुओं के द्वारा वर्ष 2007-08 में आठ, वर्ष 2008-09 में पाँच, वर्ष 2009-10 में छः एवं 2010-11 में 4 जनहानि व जनघायल के प्रकरण तथा वर्ष 2007-08 तथा 2008-09 में तेंदुआ द्वारा पशु हानि के दो प्रकरण तथा लकड़बग्घे के कारण एक प्रकरण दर्ज किये गये हैं। इस प्रकार वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के उपरोक्त उल्लेखित वन्य प्राणियों के परियोजना क्षेत्र में आने जाने के प्रमाण पाये गये हैं। प्रस्तावित क्षेत्र से 6 से 7 कि.मी.की दूरी पर झारखंड राज्य में भेड़िया अभ्यारण्य भी स्थापित है। अतः संस्था द्वारा दस वर्षों के लिये वन्य प्राणी संरक्षण व प्रबंध योजना श्री पी. के. सेन पूर्व वन्य प्राणी अभिरक्षक, झारखंड से तैयार कराया जाकर प्रस्तुत किया गया है। जिसका समग्र व विस्तृत अध्ययन किया गया। प्रबंधन योजना में प्रस्तावित प्रबंधन संबंधित मुख्य गतिविधियों का विवरण निम्नानुसार है।
5. योजना में वन्य प्राणियों के लिये जलग्रहण क्षेत्र विकास, रहवास-विकास, भेयजल व्यवस्था, विनाग के क्षेत्रीय अमले के सहयोग से क्षेत्र में पेट्रोलिंग व नॉनट्रिंग, अग्नि सुरक्षा, ईको विकास की गतिविधियों, स्थानीय ग्रामीणों के लिये आजीविका सृजन, टीकाकरण, जनजागृति कार्यक्रम जैसी गतिविधियों का

समावेश करले हुये 04 वर्षों के लिये राशि रुपये 160 लाख प्रावधानित की गयी है। जिसका क्रियान्वयन वन विभाग के द्वारा किया जायेगा। प्रस्ताव में प्रावधानित बजट का विवरण निम्नानुसार है :-

| Sr. No.      | Works to be done  | Cost for Four years (Rs. in lakhs) |                      |                      |                      |               | Remarks  |
|--------------|---|------------------------------------|----------------------|----------------------|----------------------|---------------|--|
|              |   | 1 <sup>st</sup> Year               | 2 <sup>nd</sup> Year | 3 <sup>rd</sup> Year | 4 <sup>th</sup> Year | Total         |  |
| 1            | Plantation including soil and moisture Conservation works as per norms of forest department surrounding the lease hold  | 5.00                               | 5.00                 | 5.00                 | 5.00                 | 20.00         |  |
| 2            | Silvicultural Operation on degraded forest land and cut back in rooted waste  | 2.00                               | 2.00                 | 2.00                 | 2.00                 | 8.00          |  |
| 3            | Habitat Management Eradication of unwanted species in buffer Zone area, Fire Protection work including wages for fire watchman, Creation of Fire line etc. surrounding lease hold and in buffer area. | 2.50                               | 2.50                 | 2.50                 | 2.50                 | 10.00         |  |
| 4            | Monitoring - One Staff of forest department to monitor movement of wild life, encroachment, illicit cutting, poaching, fire etc. including Salary of 1 staff  | 3.00                               | 3.00                 | 3.00                 | 3.00                 | 12.00         |  |
| 5            | Construction of water holes, their maintenance and patrolling (One per Annum)   | 10.00                              | 10.00                | 10.00                | 10.00                | 40.00         |  |
| 6            | Eco-development activities like poultry, piggery, bee keeping etc.  | 5.00                               | 5.00                 | 5.00                 | 5.00                 | 20.00         |  |
| 7            | Vocational Training to weaker section, females, old persons and minors of the surrounding villages in three centre in the buffer Zone of the mining lease @ 50000/- per centre.                       | 3.00                               | 3.00                 | 3.00                 | 3.00                 | 12.00         |  |
| 8            | Veterinary camp for immunization of Cattle with the help of block veterinary staff.   | 2.00                               | 2.00                 | 2.00                 | 2.00                 | 8.00          |  |
| 9            | Awareness Programme including Signages, distribution of Pamphlets related to wild life conservation etc.  | 2.50                               | 2.50                 | 2.50                 | 2.50                 | 10.00         |  |
| 10           | Provision for conservation of Biodiversity among flora and fauna of the area & Preparation of Biodiversity register   | 20.00                              | 0.00                 | 0.00                 | 0.00                 | 20.00         | The amount is to be deposited in the account of Biodiversity Board as this work is to be done by Bio-diversity management committees (BMC's) |
| <b>Total</b> |   | <b>55.00</b>                       | <b>35.00</b>         | <b>35.00</b>         | <b>35.00</b>         | <b>160.00</b> |  |

6. वन्यप्राणी संरक्षण योजना की लागत रु. 160.00 लाख वर्तमान दरों पर है. परियोजना में देरी होने से यह लागत बढ़ेगी जिसमें प्राईस इन्डेक्स के हिसाब से वृद्धि होगी। परियोजना के क्रियान्वयन के समय जो भी लागत आयेगी यह परियोजना प्रस्तावकों को वन विभाग में एकमुश्त जमा करानी होगी। जिससे गूल्फ वृद्धि के प्रभाव को समाप्त किया जा सके। वन विभाग एकमुश्त जमा की गई राशि से वन्यप्राणी संरक्षण योजना क्रियान्वित करेगा।
7. अनुमोदित वन्यप्राणी संरक्षण योजना की एक प्रति संलग्न प्रेषित है। कृपया वन्यप्राणी संरक्षण योजना में प्रावधानित राशि रु. 160.00 लाख एकमुश्त जमा कराने हेतु परियोजना प्रस्तावकों को आदेशित करने का कष्ट करें।

संलग्न:-उपरोक्तानुसार।

*A. Prakash*  
(रामप्रकार) 01/11/13

प्रधान मुख्य वन संरक्षक (वन्यप्राणी)

छत्तीसगढ़, रायपुर

रायपुर दिनांक 07/10/2013

पृष्ठा क्रमांक/व.प्रा./प्रबंध-12/13/2968.

प्रतिलिपि :-

1. प्रमुख सचिव, छत्तीसगढ़ शासन, वन विभाग, महानदी मंत्रालय भवन, नया रायपुर की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।
2. श्री एम. के. नायक, जी. एम. माइन्स हिन्डालको इन्डस्ट्रीज लिमिटेड, सामरी बॉक्सईट माइन्स, पोस्ट-कुसमी, जिला-सरगुजा, छत्तीसगढ़ की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।

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(M. K. Nayak)  
Agent of mines  
Samri mines Division  
Hindalco Industries Ltd

Annexure-6

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Details of Flora and Fauna

TATIJHARIA

**ANNEXURE-6**  
**DETAILS OF FLORA & FAUNA**

**TABLE-1**  
**DETAILS OF DOMINANT PLANT SPECIES IN MINE LEASE AREA (CORE ZONE)**

| Name of the plant Species       | Local Name     | Family         |
|---------------------------------|----------------|----------------|
| <i>Butea monosperma</i>         | Palas          | Fabaceae       |
| <i>Acacia Arabica</i>           | Babul          | Mimosaceae     |
| <i>Leucena leucophloe</i>       | Sabubal        | Mimosaceae     |
| <i>Mangifera indica</i>         | Aam            | Anacardiaceae  |
| <i>Citrus lemon</i>             | Nimbu          | Rutaceae       |
| <i>Emblica officinalis</i>      | Amla           | Euphorbiaceae  |
| <i>Ficus hispida</i>            | Jungli anjir   | Moraceae       |
| <i>Spondias cythera</i>         | Kathjamun      | Myrtaceae      |
| <i>Terminalia catapa</i>        | Badam          | Combretaceae   |
| <i>Apluda mutica</i>            | Grass          | Poaceae        |
| <i>Chloris dolichosta</i>       | Grass          | Poaceae        |
| <i>Dichanthium annulatum</i>    | Grass          | Poaceae        |
| <i>Inpurta cylindrica</i>       | Grass          | Poaceae        |
| <i>Themeda quadrivalvis</i>     | Grass          | Poaceae        |
| <i>Aristida adscensionis</i>    | Grass          | Poaceae        |
| <i>Eragrostis biferia</i>       | Grass          | Poaceae        |
| <i>Eragrostis tenella</i>       | Grass          | Poaceae        |
| <i>Setaria glauca</i>           | Grass          | Cyperaceae     |
| <i>Thysanolaena maxima</i>      | Grass          | Graminae       |
| <i>Parthenium hysterophorus</i> | Congress grass | Compositae     |
| <i>Cassia tora</i>              | -              | Caesalpinaceae |
| <i>Delonix regia</i>            | Kachnar        | Caesalpinaceae |
| <i>Dalbergia Sissoo</i>         | Sisoo          | Caesalpinaceae |

**TABLE-2**  
**FLORA/VEGETATION IN STUDY AREA (BUFFER ZONE)**

| Sr. No.  | Technical Name                 | Family         | Life Form       |
|--|--------------------------------|----------------|-----------------|
| <b>I. Agricultural Crops</b>                       |                                |                |                 |
| 1  | <i>Hordium vulgare</i>         | Poaceae        | Hemicryptophyte |
| 2  | <b>Sorghum vulgare</b>         | Poaceae        | Hemicryptophyte |
| 3  | <i>Triticum vulgare</i>        | Poaceae        | Hemicryptophyte |
| 4  | <i>Zea mays</i>                | Poaceae        | Hemicryptophyte |
| 5  | <i>Oryza sativa</i>            | Poaceae        | Hemicryptophyte |
| 6  | <i>Pennisetum typholideum</i>  | Poaceae        | Hemicryptophyte |
| <b>II. Commercial Crops (including Vegetables)</b> |                                |                |                 |
| 7  | <i>Abelmoschus indicus</i>     | Malvaceae      | Therophyte      |
| 8  | <i>Allium cepa</i>             | Liliaceae      | Geophyte        |
| 9  | <i>Allium sativum</i>          | Liliaceae      | Geophyte        |
| 10   | <i>Annona squamosa</i>         | Annonaceae     | Phanerophyte    |
| 11   | <i>Arachis hypogla</i>         | Fabaceae       | Geophyte        |
| 12   | <i>Catharanthes pusillus</i>   | Compositae     | Therophyte      |
| 13   | <b>Cicer arietinum</b>         | Fabaceae       | Hemicryptophyte |
| 14   | <i>Citrus lemon</i>            | Rutaceae       | Therophyte      |
| 15   | <i>Colocasia esculenta</i>     | Areaceae       | Geophyte        |
| 16   | <i>Coreandrum sativum</i>      | Umbelliferae   | Hemicryptophyte |
| 17   | <i>Daucus carota</i>           | Umbelliferae   | Geophyte        |
| 18   | <i>Lycopersicum esculentus</i> | Solanaceae     | Therophyte      |
| 19   | <i>Mangifera indica</i>        | Anacardiaceae  | Phanerophyte    |
| 20   | <i>Memordia charantia</i>      | Cucurbitaceae  | Therophyte      |
| 21   | <i>Pisum sativum</i>           | Fabaceae       | Therophyte      |
| 22   | <i>Psidium guava</i>           | Myrtaceae      | Phanerophyte    |
| 23   | <i>Solanum tuberosum</i>       | Solanaceae     | Geophyte        |
| 24   | <i>Litchi chinensis</i>        | Sapindaceae    | Phanerophyte    |
| <b>III. Plantations</b>                            |                                |                |                 |
| 25   | <i>Bauhinia cormbosa</i>       | Caesalpinaceae | Phanerophyte    |
| 26   | <i>Acacia nilotica</i>         | Mimosaceae     | Phanerophyte    |
| 27   | <i>Albizia lebbeck</i>         | Mimosaceae     | Phanerophyte    |
| 28   | <i>Albizia odorattissima</i>   | Mimosaceae     | Phanerophyte    |
| 29   | <i>Albizia procera</i>         | Mimosaceae     | Phanerophyte    |

| Sr. No.                                   | Technical Name                 | Family         | Life Form    |
|---|--------------------------------|----------------|--------------|
| 30  | <i>Azadirachta indica</i>      | Meliaceae      | Phanerophyte |
| 31  | <i>Bauhinia variegata</i>      | Caesalpinaceae | Phanerophyte |
| 32  | <i>Bauhinia purpuria</i>       | Caesalpinaceae | Phanerophyte |
| 33  | <i>Bambusa arundanaceae</i>    | Poaceae        | Phanerophyte |
| 34  | <i>Butea monosperma</i>        | Caesalpinaceae | Phanerophyte |
| 35  | <i>Butea frondosa</i>          | Caesalpinaceae | Phanerophyte |
| 36  | <i>Eucalyptus sp</i>           | Myrtaceae      | Phanerophyte |
| 37  | <i>Delonix regia</i>           | Caesalpinaceae | Phanerophyte |
| 38  | <i>Leucena leucophloe</i>      | Caesalpinaceae | Phanerophyte |
| <b>IV. Natural Vegetation/Forest Type</b> |                                |                |              |
| 39  | <i>Abrus precatorius</i>       | Fabaceae       | Therophyte   |
| 40  | <i>Abutilon indicum</i>        | Malvaceae      | Phanerophyte |
| 41  | <i>Acacia Arabica</i>          | Mimosaceae     | Phanerophyte |
| 42  | <i>Acacia auriculiformis</i>   | Mimosaceae     | Phanerophyte |
| 43  | <i>Acacia catechu</i>          | Mimosaceae     | Phanerophyte |
| 44  | <i>Acacia intinsia</i>         | Mimosaceae     | Phanerophyte |
| 45  | <i>Acacia fernacea</i>         | Mimosaceae     | Phanerophyte |
| 46  | <i>Acacia leucophloe</i>       | Mimosaceae     | Phanerophyte |
| 47  | <i>Acalypha lanceolata</i>     | Euphorbiaceae  | Therophyte   |
| 48  | <i>Acanthospermum hispidum</i> | Compositae     | Therophyte   |
| 49  | <i>Achyranthes aspera</i>      | Amaranthaceae  | Therophyte   |
| 50  | <i>Adathoda vasica</i>         | Acanthaceae    | Therophyte   |
| 51  | <i>Adina cordifolia</i>        | Rubiaceae      | Phanerophyte |
| 52  | <i>Aegle marmelos</i>          | Rutaceae       | Phanerophyte |
| 53  | <i>Aerva lanata</i>            | Compositae     | Phanerophyte |
| 54  | <i>Ageratum conyzoides</i>     | Compositae     | Therophyte   |
| 55  | <i>Allanthes excelsa</i>       | Simaroubaceae  | Phanerophyte |
| 56  | <i>Alangium salivus</i>        | Alangiaceae    | Phanerophyte |
| 57  | <i>Albizia odoratissima</i>    | Caesalpinaceae | Phanerophyte |
| 58  | <i>Albizia procera</i>         | Caesalpinaceae | Phanerophyte |
| 59  | <i>Akstonia scholaris</i>      | Apocyanaceae   | Phanerophyte |
| 60  | <i>Alternanthera sessilis</i>  | Amaranthaceae  | Therophyte   |
| 61  | <i>Alysicarpus hamosus</i>     | Fabaceae       | Therophyte   |
| 62  | <i>Anogeissus latifolia</i>    | Combretaceae   | Phanerophyte |
| 63  | <i>Anogeissus sericea</i>      | Combretaceae   | Phanerophyte |
| 64  | <i>Argemone mexicana</i>       | Papaveraceae   | Phanerophyte |
| 65  | <i>Azadirachta indica</i>      | Meliaceae      | Phanerophyte |
| 66  | <i>Barleria prionites</i>      | Acanthaceae    | Therophyte   |
| 67  | <i>Bidens biternata</i>        | Compositae     | Therophyte   |
| 68  | <i>Blepharis asperima</i>      | Acanthaceae    | Phanerophyte |
| 69  | <i>Blepharis madaraspatens</i> | Acanthaceae    | Therophyte   |
| 70  | <i>Blumea lacera</i>           | Compositae     | Therophyte   |
| 71  | <i>Boerhaavia chinensis</i>    | Nyctaginaceae  | Therophyte   |
| 72  | <i>Boerhaavia diffusa</i>      | Nyctaginaceae  | Therophyte   |
| 73  | <i>Bombax ceiba</i>            | Bombacaceae    | Phanerophyte |
| 74  | <i>Borreria hispida</i>        | Rubiaceae      | Therophyte   |
| 75  | <i>Borreria stricta</i>        | Rubiaceae      | Therophyte   |
| 76  | <i>Boswellia serrata</i>       | Burseraceae    | Phanerophyte |
| 77  | <i>Brassica campestris</i>     | Cruciferae     | Therophyte   |
| 78  | <i>Bridelia retusa</i>         | Euphorbiaceae  | Phanerophyte |
| 79  | <i>Bridelia superba</i>        | Euphorbiaceae  | Phanerophyte |
| 80  | <i>Caesalpinia pulcherima</i>  | Caesalpinaceae | Phanerophyte |
| 81  | <i>Calotropis procera</i>      | Asclepiadaceae | Phanerophyte |
| 82  | <i>Canthium diddymum</i>       | Rubiaceae      | Phanerophyte |
| 83  | <i>Capparis aphylla</i>        | Capparidaceae  | Therophyte   |
| 84  | <i>Capparis deciduas</i>       | Capparidaceae  | Phanerophyte |
| 85  | <i>Carissa carandus</i>        | Apocyanaceae   | Phanerophyte |
| 86  | <i>Carissa spinarium</i>       | Apocyanaceae   | Phanerophyte |
| 87  | <i>Casuaria graveolens</i>     | Samydiaceae    | Phanerophyte |
| 88  | <i>Cassia absus</i>            | Caesalpinaceae | Phanerophyte |
| 89  | <i>Cassia absus</i>            | Caesalpinaceae | Therophyte   |
| 90  | <i>Cassia auriculata</i>       | Caesalpinaceae | Therophyte   |
| 91  | <i>Cassia occidentalis</i>     | Caesalpinaceae | Therophyte   |
| 92  | <i>Cassia tora</i>             | Caesalpinaceae | Phanerophyte |
| 93  | <i>Cestrum diurnum</i>         | Rubiaceae      | Therophyte   |
| 94  | <i>Cestrum nocturnum</i>       | Rubiaceae      | Therophyte   |

| Sr. No. | Technical Name                    | Family         | Life Form       |
|---------|-----------------------------------|----------------|-----------------|
| 95      | <i>Chloris varigata</i>           | Poaceae        | Therophyte      |
| 96      | <i>Cissus quadrangularis</i>      | Vitaceae       | Therophyte      |
| 97      | <i>Citrus limon</i>               | Rutaceae       | Phanerophyte    |
| 98      | <i>Cleome gynandra</i>            | Capparidaceae  | Therophyte      |
| 99      | <i>Combretum ovalifolium</i>      | Rubiaceae      | Phanerophyte    |
| 100     | <i>Cordia myxa</i>                | Rubiaceae      | Phanerophyte    |
| 101     | <i>Crotalaria medicagenia</i>     | Fabaceae       | Therophyte      |
| 102     | <i>Croton bonplandinum</i>        | Amoryllidaceae | Therophyte      |
| 103     | <i>Cuscuta reflexa</i>            | Cuscutaceae    | Epiphyte        |
| 104     | <i>Datura fastulosa</i>           | Solanaceae     | Therophyte      |
| 105     | <i>Datura metel</i>               | Solanaceae     | Therophyte      |
| 106     | <i>Desmodium triflorum</i>        | Asclepiadaceae | Therophyte      |
| 107     | <i>Diospyros melanoxylon</i>      | Lythraceae     | Phanerophyte    |
| 108     | <i>Diospyros Montana</i>          | Lythraceae     | Phanerophyte    |
| 109     | <i>Echinops echinatus</i>         | Compositae     | Therophyte      |
| 110     | <i>Eclipta prostrate</i>          | Compositae     | Hemicryptophyte |
| 111     | <i>Emblca officinale</i>          | Euphorbiaceae  | Phanerophyte    |
| 112     | <i>Emilia lajerium</i>            | Compositae     | Hemicryptophyte |
| 113     | <i>Erythrina indica</i>           | Papilionaceae  | Phanerophyte    |
| 114     | <i>Euphorbia geniculata</i>       | Euphorbiaceae  | Therophyte      |
| 115     | <i>Euphorbia hirta</i>            | Euphorbiaceae  | Therophyte      |
| 116     | <i>Euphorbia hyperocifolia</i>    | Euphorbiaceae  | Therophyte      |
| 117     | <i>Euphorbia neruri</i>           | Euphorbiaceae  | Therophyte      |
| 118     | <i>Euphorbia nivula</i>           | Euphorbiaceae  | Therophyte      |
| 119     | <i>Euphorbia piluliflora</i>      | Euphorbiaceae  | Hemicryptophyte |
| 120     | <i>Euphorbia tricauli</i>         | Euphorbiaceae  | Hemicryptophyte |
| 121     | <i>Evolvulus alsinoides</i>       | Convolvulaceae | Therophyte      |
| 122     | <i>Evolvulus numularis</i>        | Convolvulaceae | Therophyte      |
| 123     | <i>Feronia elephantum</i>         | Rutaceae       | Phanerophyte    |
| 124     | <i>Ficus benghalensis</i>         | Moraceae       | Phanerophyte    |
| 125     | <i>Ficus carica</i>               | Moraceae       | Phanerophyte    |
| 126     | <i>Ficus glomerata</i>            | Moraceae       | Phanerophyte    |
| 127     | <i>Ficus hispida</i>              | Moraceae       | Phanerophyte    |
| 128     | <i>Ficus racemosus</i>            | Moraceae       | Phanerophyte    |
| 129     | <i>Ficus religiosa</i>            | Moraceae       | Phanerophyte    |
| 130     | <i>Ficus gibbosa</i>              | Moraceae       | Phanerophyte    |
| 131     | <i>Gardenia latifolia</i>         | Rubiaceae      | Phanerophyte    |
| 132     | <i>Gardenia lucida</i>            | Rubiaceae      | Phanerophyte    |
| 133     | <i>Garuga pinnata</i>             | Burseraceae    | Phanerophyte    |
| 134     | <i>Glossocardia boswellia</i>     | Compositae     | Hemicryptophyte |
| 135     | <i>Gmelina arborea</i>            | Rubiaceae      | Phanerophyte    |
| 136     | <i>Gomphrena globosa</i>          | Amaranthaceae  | Therophyte      |
| 137     | <i>Gossypium herbaceum</i>        | Malvaceae      | Therophyte      |
| 138     | <i>Grewia abutilifolia</i>        | Tiliaceae      | Phanerophyte    |
| 139     | <i>Grewia salivifolia</i>         | Tiliaceae      | Phanerophyte    |
| 140     | <i>Grewia subinaqualis</i>        | Tiliaceae      | Phanerophyte    |
| 141     | <i>Gynandropis gynandra</i>       | Capparidaceae  | Hemicryptophyte |
| 142     | <i>Helictis isora</i>             | Rubiaceae      | Phanerophyte    |
| 143     | <i>Heliotropium indicum</i>       | Rubiaceae      | Hemicryptophyte |
| 144     | <i>Heliotropium ovalifolium</i>   | Rubiaceae      | Hemicryptophyte |
| 145     | <i>Hemidesmus indicus</i>         | Asclepiadaceae | Phanerophyte    |
| 146     | <i>Hibiscus caesus</i>            | Malvaceae      | Hemicryptophyte |
| 147     | <i>Holarrhena antidysenterica</i> | Asclepiadaceae | Phanerophyte    |
| 148     | <i>Holostemma annularia</i>       | Asclepiadaceae | Phanerophyte    |
| 149     | <i>Hygrophylla auriculata</i>     | Acanthaceae    | Hemicryptophyte |
| 150     | <i>Hyptis suaveolens</i>          | Labiatae       | Therophyte      |
| 151     | <i>Ichnocarpus frutens</i>        | Poaceae        | Hemicryptophyte |
| 152     | <i>Impatiens balsamania</i>       | Balsaminaceae  | Therophyte      |
| 153     | <i>Indigofera hirsute</i>         | Caesalpinaceae | Therophyte      |
| 154     | <i>Indigofera limnacea</i>        | Caesalpinaceae | Therophyte      |
| 155     | <i>Indigofera tinctoria</i>       | Caesalpinaceae | Therophyte      |
| 156     | <i>Ipomoea aquatica</i>           | Convolvulaceae | Hydrophyte      |
| 157     | <i>Ipomoea coccinea</i>           | Convolvulaceae | Therophyte      |
| 158     | <i>Ipomoea tuba</i>               | Convolvulaceae | Hemicryptophyte |
| 159     | <i>Isora arborea</i>              | Rubiaceae      | Phanerophyte    |
| 160     | <i>Isora parviflora</i>           | Rubiaceae      | Phanerophyte    |



| Sr. No. | Technical Name                   | Family           | Life Form       |
|---------|----------------------------------|------------------|-----------------|
| 161     | <i>Ixora singapuriensis</i>      | Rubiaceae        | Phanerophyte    |
| 162     | <i>Jasminum arborens</i>         | Oleaceae         | Phanerophyte    |
| 163     | <i>Jatropha gossypifolia</i>     | Euphorbiaceae    | Therophyte      |
| 164     | <i>Jussiaea suffruticosa</i>     | Onagraceae       | Hydrophyte      |
| 165     | <i>Justia diffusa</i>            | Acanthaceae      | Therophyte      |
| 166     | <i>Justicia diffusa</i>          | Acanthaceae      | Therophyte      |
| 167     | <i>Lactuca punctata</i>          | Compositae       | Therophyte      |
| 168     | <i>Lanea coramandalica</i>       | Anacardiaceae    | Phanerophyte    |
| 169     | <i>Lanea grandis</i>             | Anacardiaceae    | Phanerophyte    |
| 170     | <i>Lanea procumbens</i>          | Anacardiaceae    | Therophyte      |
| 171     | <i>Lantana camara</i>            | Verbinaceae      | Phanerophyte    |
| 172     | <i>Lawsonia inermis</i>          | Lythraceae       | Phanerophyte    |
| 173     | <i>Lepidogathis cristata</i>     | Acanthaceae      | Therophyte      |
| 174     | <i>Leptodenia reticulata</i>     | Asclepiadaceae   | Phanerophyte    |
| 175     | <i>Leucas aspera</i>             | Labiatae         | Therophyte      |
| 176     | <i>Leucas longifolia</i>         | Labiatae         | Therophyte      |
| 177     | <i>Leucas longifolia</i>         | Labiatae         | Therophyte      |
| 178     | <i>Leucena leucophloe</i>        | Caesalpinaceae   | Phanerophyte    |
| 179     | <i>Linderbergia indica</i>       | Scrophulariaceae | Therophyte      |
| 180     | <i>Lindenbergia ciliate</i>      | Scrophulariaceae | Therophyte      |
| 181     | <i>Lophophora tridinatus</i>     | Scrophulariaceae | Geophyte        |
| 182     | <i>Luffa acutangularia</i>       | Cucurbitaceae    | Therophyte      |
| 183     | <i>Lycopersicum esculentus</i>   | Solanaceae       | Therophyte      |
| 184     | <i>Madhuca latifolia</i>         | Sapotaceae       | Phanerophyte    |
| 185     | <i>Mallotus philippinus</i>      | Euphorbiaceae    | Phanerophyte    |
| 186     | <i>Malvastrum coramandalicum</i> | Malvaceae        | Therophyte      |
| 187     | <i>Mangifera indica</i>          | Anacardiaceae    | Phanerophyte    |
| 188     | <i>Marselia quadrifolia</i>      | Marseliaceae     | Phanerophyte    |
| 189     | <i>Melia azadirachta</i>         | Meliaceae        | Phanerophyte    |
| 190     | <i>Memordica diocea</i>          | Cucurbitaceae    | Therophyte      |
| 191     | <i>Merremia emerginata</i>       | Convolvulaceae   | Therophyte      |
| 192     | <i>Michaelia champaca</i>        | Annonaceae       | Phanerophyte    |
| 193     | <i>Millingtonia hartensis</i>    | Bignoniaceae     | Phanerophyte    |
| 194     | <i>Mimosa hamata</i>             | Mimosaceae       | Therophyte      |
| 195     | <i>Mitragyna parviflora</i>      | Rubiaceae        | Phanerophyte    |
| 196     | <i>Mollugo cerviana</i>          | Aizoaceae        | Therophyte      |
| 197     | <i>Mollugo hirta</i>             | Aizoaceae        | Therophyte      |
| 198     | <i>Moringa oleifera</i>          | Moringaceae      | Phanerophyte    |
| 199     | <i>Morus alba</i>                | Moraceae         | Phanerophyte    |
| 200     | <i>Mucuna prurita</i>            | Papilionaceae    | Hemicryptophyte |
| 201     | <i>Murraya exotica</i>           | Rutaceae         | Phanerophyte    |
| 202     | <i>Murraya koenigii</i>          | Rutaceae         | Phanerophyte    |
| 203     | <i>Musa paradisiaca</i>          | Musaceae         | Therophyte      |
| 204     | <i>Nymphia sp</i>                | Magnoliaceae     | Hydrophyte      |
| 205     | <i>Ocimum americanum</i>         | Labiatae         | Therophyte      |
| 206     | <i>Ocimum basilium</i>           | Labiatae         | Therophyte      |
| 207     | <i>Ocimum canum</i>              | Labiatae         | Therophyte      |
| 208     | <i>Ocimum sanctum</i>            | Labiatae         | Therophyte      |
| 209     | <i>Oldenlandia umbellata</i>     | Convolvulaceae   | Therophyte      |
| 210     | <i>Oldenlandia corymbosa</i>     | Rubiaceae        | Therophyte      |
| 211     | <i>Ooginia oojensis</i>          | Papilionaceae    | Phanerophyte    |
| 212     | <i>Opuntia dillinii</i>          | Opuntiaceae      | Therophyte      |
| 213     | <i>Opuntia elator</i>            | Cactaceae        | Therophyte      |
| 214     | <i>Oxalis corniculata</i>        | Oxalidaceae      | Therophyte      |
| 215     | <i>Panicum milliria</i>          | Poaceae          | Hemicryptophyte |
| 216     | <i>Panicum notatum</i>           | Poaceae          | Hemicryptophyte |
| 217     | <i>Papaver somniferum</i>        | Papaveraceae     | Hemicryptophyte |
| 218     | <i>Parkinsonia aculata</i>       | Mimosaceae       | Phanerophyte    |
| 219     | <i>Parthenium hysterophorus</i>  | Compositae       | Therophyte      |
| 220     | <i>Paspalum strobilanthus</i>    | Passifloraceae   | Hemicryptophyte |
| 221     | <i>Passiflora foetida</i>        | Passifloraceae   | Phanerophyte    |
| 222     | <i>Pavonia zeylanica</i>         | Malvaceae        | Phanerophyte    |
| 223     | <i>Peltophorum ferrusinum</i>    | Caesalpinaceae   | Phanerophyte    |
| 224     | <i>Phoenix aculis</i>            | Palmae           | Phanerophyte    |
| 225     | <i>Phyllanthus asperulatus</i>   | Euphorbiaceae    | Phanerophyte    |
| 226     | <i>Phyllanthus emblica</i>       | Euphorbiaceae    | Phanerophyte    |

| Sr. No.              | Technical Name                   | Family           | Life Form       |
|----------------------|----------------------------------|------------------|-----------------|
| 227                  | <i>Phyllanthus niruri</i>        | Euphorbiaceae    | Therophyte      |
| 228                  | <i>Phyllanthus reticulatus</i>   | Euphorbiaceae    | Therophyte      |
| 229                  | <i>Physalis minima</i>           | Solanaceae       | Therophyte      |
| 230                  | <i>Pithecolobium dulce</i>       | Mimosaceae       | Phanerophyte    |
| 231                  | <i>Polyalthia longifolia</i>     | Annonaceae       | Phanerophyte    |
| 232                  | <i>Polygala ererptera</i>        | Polygalaceae     | Therophyte      |
| 233                  | <i>Pongamia pinnata</i>          | Fabaceae         | Phanerophyte    |
| 234                  | <i>Portulaca oleracea</i>        | Portulacaceae    | Therophyte      |
| 235                  | <i>Psidium guava</i>             | Myrtaceae        | Phanerophyte    |
| 236                  | <i>Punica granatum</i>           | Puniaceae        | Therophyte      |
| 237                  | <i>Randia dumetorum</i>          | Rubiaceae        | Phanerophyte    |
| 238                  | <i>Rosa indica</i>               | Rosaceae         | Therophyte      |
| 239                  | <i>Rosa machata</i>              | Rosaceae         | Therophyte      |
| 240                  | <i>Saccharum munja</i>           | Poaceae          | Hemicryptophyte |
| 241                  | <i>Saccharum officinarum</i>     | Poaceae          | Therophyte      |
| 242                  | <i>Salmalia malabarica</i>       | Salmaliaceae     | Phanerophyte    |
| 243                  | <i>Sapindus emarginatus</i>      | Sapindaceae      | Phanerophyte    |
| 244                  | <i>Schleichera trifuga</i>       | Combretaceae     | Phanerophyte    |
| 245                  | <i>Schrebera swietenoides</i>    | Sapindaceae      | Phanerophyte    |
| 246                  | <i>Schleichera oleosa</i>        | Sapindaceae      | Phanerophyte    |
| 247                  | <i>Sesamum indicum</i>           | Pedaliaceae      | Hemicryptophyte |
| 248                  | <i>Shorea robusta</i>            | Dipterocarpaceae | Phanerophyte    |
| 249                  | <i>Sida orientalis</i>           | Malvaceae        | Phanerophyte    |
| 250                  | <i>Sida vernanifolia</i>         | Malvaceae        | Hemicryptophyte |
| 251                  | <i>Solanum nigrum</i>            | Solanaceae       | Therophyte      |
| 252                  | <i>Solanum xanthocarpum</i>      | Solanaceae       | Therophyte      |
| 253                  | <i>Sterculia villosa</i>         | Tiliaceae        | Therophyte      |
| 254                  | <i>Stereospermum chelinoides</i> | Bignoniaceae     | Phanerophyte    |
| 255                  | <i>Syzygium cumini</i>           | Myrtaceae        | Phanerophyte    |
| 256                  | <i>Tamarindus indica</i>         | Caesalpinaceae   | Phanerophyte    |
| 257                  | <i>Tecomella undulate</i>        | Bignoniaceae     | Therophyte      |
| 258                  | <i>Tectona grandis</i>           | Verbinaceae      | Phanerophyte    |
| 259                  | <i>Tephrosia purpuria</i>        | Fabaceae         | Therophyte      |
| 260                  | <i>Terminalia bellarica</i>      | Combretaceae     | Phanerophyte    |
| 261                  | <i>Terminalia chebula</i>        | Combretaceae     | Phanerophyte    |
| 262                  | <i>Terminalia tomentosa</i>      | Combretaceae     | Phanerophyte    |
| 263                  | <i>Tinospora cordifolia</i>      | Rhamnaceae       | Therophyte      |
| 264                  | <i>Tragus biflorus</i>           | Poaceae          | Hemicryptophyte |
| 265                  | <i>Tribulus terrestris</i>       | Zygophyllaceae   | Therophyte      |
| 266                  | <i>Trixis procumbens</i>         | Compositae       | Therophyte      |
| 267                  | <i>Triumferta pilosa</i>         | Tiliaceae        |                 |
| 268                  | <i>Vernonia cinera</i>           | Compositae       | Therophyte      |
| 269                  | <i>Vicia indica</i>              | Compositae       | Phanerophyte    |
| 270                  | <i>Vitex Negundo</i>             | Verbinaceae      | Phanerophyte    |
| 271                  | <i>Vitex negundo</i>             | Verbinaceae      | Therophyte      |
| 272                  | <i>Vitis vermicifera</i>         | Vitaceae         | Therophyte      |
| 273                  | <i>Viverra zizanoides</i>        | Poaceae          | Therophyte      |
| 274                  | <i>Wrightia tomentosa</i>        | Apocyanaceae     | Phanerophyte    |
| 275                  | <i>Xanthium strumariumk</i>      | Compositae       | Therophyte      |
| 276                  | <i>Yucca gloriosa</i>            | Agavaceae        | Therophyte      |
| 277                  | <i>Zizyphus jujube</i>           | Rhamnaceae       | Phanerophyte    |
| 278                  | <i>Zizyphus mauritiana</i>       | Rhamanaceae      | Phanerophyte    |
| <b>V. Grasslands</b> |                                  |                  |                 |
| 279                  | <i>Aeluca mutica</i>             | Poaceae          | Hemicryptophyte |
| 280                  | <i>Chloris dolichosta</i>        | Poaceae          | Hemicryptophyte |
| 281                  | <i>Cynodactylon sp</i>           | Poaceae          | Geophyte        |
| 282                  | <i>Dichanthium annulatum</i>     | Poaceae          | Hemicryptophyte |
| 283                  | <i>Inpura cylendrica</i>         | Poaceae          | Hemicryptophyte |
| 284                  | <i>Saccharum spontansem</i>      | Poaceae          | Hemicryptophyte |
| 285                  | <i>Themeda quadrivalvis</i>      | Poaceae          | Hemicryptophyte |
| 286                  | <i>Arbida adscensionsis</i>      | Poaceae          | Hemicryptophyte |
| 287                  | <i>Cenchrus ciliaris</i>         | Poaceae          | Therophyte      |
| 288                  | <i>Cenchrus setifera</i>         | Poaceae          | Therophyte      |
| 289                  | <i>Cymbopogon jwarancusa</i>     | Cyperaceae       | Hemicryptophyte |
| 290                  | <i>Cyperus aristatus</i>         | Cyperaceae       | Therophyte      |
| 291                  | <i>Cyperus triceps</i>           | Cyperaceae       | Therophyte      |

| Sr. No. | Technical Name                   | Family  | Life Form       |
|---------|----------------------------------|---|-----------------|
| 292     | <i>Dactylectinium annualatum</i> | Poaceae   | Therophyte      |
| 293     | <i>Digetaria bicornis</i>        | Poaceae   | Hemicryptophyte |
| 294     | <i>Digetaria Segetaria</i>       | Poaceae   | Hemicryptophyte |
| 295     | <i>Eragrostis biferia</i>        | Poaceae   | Therophyte      |
| 296     | <i>Eragrostis tenella</i>        | Poaceae   | Therophyte      |
| 297     | <i>Ischaemum rugosum</i>         | Poaceae   | Hemicryptophyte |
| 298     | <i>Setaria glauca</i>            | Cyperaceae  | Hemicryptophyte |
| 299     | <i>Eulaliopsis binata</i>        | Graminae  | Hemicryptophyte |
| 300     | <i>Thysanolaena maxima</i>       | Graminae  | Hemicryptophyte |
|         | <b>Endangered plants</b>         | <b>No endangered plant species observed during study period and also from records of Botanical Survey of India (Red data of Books of Indian Plants)</b> |                 |

**TABLE-3**  
**FAUNA AND THEIR CONSERVATION STATUS FROM MINE LEASE AREA (CORE ZONE)**

| Technical Name                       | English Name/<br>Local Name      | Wild Life Protection Act<br>(1972) Status |
|--------------------------------------|----------------------------------|---|
| <b>Aves</b>                          |                                  |   |
| <i>Phalacrocorax niger</i>           | Little cormorant                 | Sch-IV                                    |
| <i>Nycticorax nycticorax</i>         | Night heron                      | Sch-IV                                    |
| <i>Ardeola grayii grayii</i>         | Paddy bird                       | Sch-IV                                    |
| <i>Bubulcus ibis coromandus</i>      | Cattle egret                     | Sch-IV                                    |
| <i>Eudynamis scolopacea</i>          | Indian koel                      | Sch-IV                                    |
| <i>Meops philippinus philippinus</i> | Bluetailed bee-eater             | Sch-IV                                    |
| <i>Dinopium benghalense tehminae</i> | Malabar golden backed Woodpecker | Sch-IV                                    |
| <i>Acridotheres tristis tristis</i>  | Common myna                      | Sch-IV                                    |
| <i>Nectarinia minima</i>             | Small sunbird                    | Sch-IV                                    |
| <i>Passer domesticus indicus</i>     | Indian house sparrow             | Sch-IV                                    |
| <b>Butterflies</b>                   |                                  |   |
| <i>Hypolimnas bolina Lin.</i>        | Great eggfly                     | -   |
| <i>Euploea core Cramer</i>           | Common crow                      | -   |
| <i>Neptis hylas Moore</i>            | Common sailor                    | -   |
| <i>Eurema hecabe Lin.</i>            | Common grass yellow              | -   |
| <i>Parantica aglea Stoll.</i>        | Glassy tiger                     | -   |
| <b>Mammals</b>                       |                                  |   |
| <i>Funambulus palmarum</i>           | Squirrel                         | Sch-IV                                    |
| <i>Sus surofa</i>                    | Wild pig                         | Sch-III                                   |
| <i>Herpestes edwardii</i>            | Common mongoose                  | Sch-IV                                    |
| <i>Vulpus benghalensis</i>           | Wild fox                         | Sch-II                                    |
| <i>Hystrix indica</i>                | Porcupine                        | Sch-IV                                    |

**TABLE-4**  
**FAUNA AND THEIR CONSERVATION STATUS IN STUDY AREA (BUFFER ZONE)**

| Technical Name                        | English Name/Local Name          | Wild Life Protection Act<br>(1972) |
|---------------------------------------|----------------------------------|------------------------------------|
| <b>Aves</b>                           |                                  |                                    |
| <i>Phalacrocorax niger</i>            | Little cormorant                 | Sch-IV                             |
| <i>Ardea purpurea manilensis</i>      | Eastern purple heron             | Sch-IV                             |
| <i>Nycticorax nycticorax</i>          | Night heron                      | Sch-IV                             |
| <i>Ardeola grayii grayii</i>          | Paddy bird                       | Sch-IV                             |
| <i>Dupetor flavicollis</i>            | Black bittern                    | Sch-IV                             |
| <i>Ardea alba modesta</i>             | Large egret                      | Sch-IV                             |
| <i>Bubulcus ibis coromandus</i>       | Cattle egret                     | Sch-IV                             |
| <i>Milvus migrans govinda</i>         | Common pariah kite               | Sch-IV                             |
| <i>Haliastur indus indus</i>          | Brahminy kite                    | Sch-IV                             |
| <i>Vanellus indicus indicus</i>       | Redwattled lapwing               | Sch-IV                             |
| <i>Tringa hypoleucos</i>              | Common sandpiper                 | Sch-IV                             |
| <i>Gelochelidon nilotica nilotica</i> | Gullbilled tern                  | Sch-IV                             |
| <i>Eudynamis scolopacea</i>           | Indian koel                      | Sch-IV                             |
| <i>Halcyon smyrnensis fusca</i>       | Indian white breasted Kingfisher | Sch-IV                             |

| Technical Name                                | English Name/Local Name          | Wild Life Protection Act (1972) |
|---|----------------------------------|---------------------------------|
| <i>Meops philippinus philippinus</i>          | Bluetailed bee-eater             | Sch-IV                          |
| <i>Coracias benghalensis indica</i>           | Southern Indian Roller           | Sch-IV                          |
| <i>Dinopium benghalense tehminae</i>          | Malabar golden backed Woodpecker | Sch-IV                          |
| <i>Acridotheres tristis tristis</i>           | Common myna                      | Sch-IV                          |
| <i>Corvus splendens protegatus</i>            | Ceylon house crow                | Sch-IV                          |
| <i>Nectarinia minima</i>                      | Small sunbird                    | Sch-IV                          |
| <i>Nectarinia zeylonica sola</i>              | Indian purple rumped sunbird     | Sch-IV                          |
| <i>Arachnothera longirostris longirostris</i> | Little spinder hunter            | Sch-IV                          |
| <i>Passer domesticus indicus</i>              | Indian house sparrow             | Sch-IV                          |
| <i>Copsychus saularis ceylonensis</i>         | Southern magpie-robin            | Sch-IV                          |
| <i>Orthotomus sutorius</i>                    | Tailor bird guzurata             | Sch-IV                          |
| <i>Pavocristatus</i>                          | Peacock                          | Part-III of Sch-I               |
| <b>Amphibians</b>                             |                                  |                                 |
| <i>Rana tigrana</i>                           | Common frog                      | Sch-IV                          |
| <i>Hyla melanosticus</i>                      | Toad                             | Sch-IV                          |
| <b>Reptiles</b>                               |                                  |                                 |
| <i>Calotes versicolor</i>                     | Lizard                           | Sch-IV                          |
| <i>Calotes versicolor</i>                     | Common garden lizard             | Sch-IV                          |
| <i>Chamaeleon zeylanicus</i>                  | Indian chamaeleon                | Sch-II                          |
| <i>Lycodon spp.</i>                           | Wolf snake                       | Sch-III                         |
| <i>Holga spp.</i>                             | Cat snake                        | Sch-III                         |
| <i>Bangarus spp.</i>                          | Krait                            | Sch-II                          |
| <i>Naja naja</i>                              | Indian cobra                     | Sch-III                         |
| <i>Viper a spp.</i>                           | Russels viper                    | Sch-III                         |
| <i>Phyton sp</i>                              | Python sp                        | Sch-I                           |
| <b>Butterflies</b>                            |                                  |                                 |
| <i>Pachliopta hector Lin.</i>                 | Crimson rose                     | -                               |
| <i>Papilio demoleus Lin.</i>                  | Lime butterfly                   | -                               |
| <i>Graphium agamemnon Lin.</i>                | Tailed jay                       | -                               |
| <i>Junonia almana Lin.</i>                    | Peacock pansy                    | -                               |
| <i>Hypolimnys bolina Lin.</i>                 | Great eggfly                     | -                               |
| <i>Euploea core Cramer</i>                    | Common crow                      | -                               |
| <i>Nymphis hylas Moore</i>                    | Common sailor                    | -                               |
| <i>Eurema hecabe Lin.</i>                     | Common grass yellow              | -                               |
| <i>Calymnilla sp.</i>                         | Emigrant                         | -                               |
| <b>Mammals</b>                                |                                  |                                 |
| <i>Rattus sp.</i>                             | Rat                              | Sch-IV                          |
| <i>Lepus nigricollis</i>                      | Hare                             | Sch-IV                          |
| <i>Canis aureus</i>                           | Jackal                           | Sch-III                         |
| <i>Presbytis entellus</i>                     | Langur                           | Sch-II                          |
| <i>Presbytis phayrei</i>                      | Monkey                           | Sch-I                           |
| <i>Lusambulus spp.</i>                        | Squirrel                         | Sch-IV                          |
| <i>Lusambulus palmarum</i>                    | Squirrel                         | Sch-IV                          |
| <i>Sus scrofa</i>                             | Wild pig                         | Sch-III                         |
| <i>Rattus norvegicus</i>                      | Field mouse                      | Sch-V                           |
| <i>Rattus rattus</i>                          | House rat                        | Sch-V                           |
| <i>Rhinomyotis spp.</i>                       | Bat                              | Sch-V                           |
| <i>Hipposheltes spp.</i>                      | Bat                              | Sch-V                           |
| <i>Herpestes eswardii</i>                     | Common mongoose                  | Sch-IV                          |
| <i>Bandicota indica</i>                       | Bandicoot                        | Sch-V                           |
| <i>Bandicota bengalensis</i>                  | Bandicoot                        | Sch-V                           |
| <i>Vulpus benghalensis</i>                    | Wild fox                         | Sch-III                         |
| <i>Helionus ursinus</i>                       | Bear                             | Sch-III                         |
| <i>Hystrix indica</i>                         | Porcupine                        | Sch-IV                          |
| <i>Axis axis</i>                              | Spotted deer                     | Sch-III                         |
| <i>Canis lupus pallipes</i>                   | Indian wolf                      | Part-I of Sch-I                 |
| <i>Pellionia capensis</i>                     | Indian Ratel                     | Part-I of Sch-I                 |
| <i>Elephas maximus</i>                        | Indian Elephant                  | Part-I of Sch-I                 |
| <i>Felis chaus</i>                            | Jungle cat                       | Part-II of sch-II               |
| <i>Paradoxurus hermiphroiditus</i>            | Indian Small civet               | Part-I of sch-I                 |
| <i>Muntiacus muntiacus</i>                    | Barking deer                     | Sch-III                         |
| <i>Macaca mulata</i>                          | Monkey                           | Part-I of Sch-I                 |

Part VII-B  
(18)

417  
Telegram : PARYAVARAN,  
NEW DELHI  
दूरभाष :  
Telephone :  
टेलिग्राफ (द्विभाषीय) :  
Telex : (bi-lingual) : W-66135 DOE IN  
FAX : 4360673

TATIJHARIA

भारत सरकार  
पर्यावरण एवं वन मंत्रालय  
GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FORESTS  
पर्यावरण भवन, नं. १०, आ. सं. केंद्र, नए  
PARYAVARAN BHAWAN, C.G.O. COMPLEX  
लॉडी रोड, नए दिल्ली - 110003  
LOOHI ROAD, NEW DELHI-110003  
Dated: 13<sup>th</sup> March, 1996.

No.3-2/95-FC

To

The Secretary (Forests),  
Government of Madhya Pradesh  
Bhopal.

*Sgr*  
Suraj Gupta  
R.O.P.

R.O.P./N.G.P./344/2006/A

Sub: Diversion of 514.019 ha. of revenue forest land in  
favour of M/s HINDALCO Industries Ltd. for Bauxite  
mining in District Sarguja.

Sir,

I am directed to refer to your letter no.F.5/19/95/C/3 dated 9.3.95 on the above mentioned subject seeking prior approval of the Central Government in accordance with Section-2 of the Forest (Conservation) Act, 1980 and to say that the proposal has been examined by the Advisory Committee constituted by the Central Government under Section-3 of the aforesaid Act.

2. After careful consideration of the proposal of the State Government and on the basis of the recommendation of the above mentioned Advisory Committee, the Central Government hereby conveys its approval under Section-2 of the Forest (Conservation) Act, 1980 for diversion of 514.019ha. of revenue forest land in favour of M/s HINDALCO Industries Ltd. for Bauxite mining in District Sarguja subject to the following conditions:

- 1) Legal status of forest land shall remain unchanged.
- 11) Compensatory afforestation shall be carried out over double the degraded forest land at the project cost.

APPROVED

- iii) Reclamation of the mining area will be done in consultation with the State Forest Deptt. at the project cost as per plan prepared in this regard.
- iv) Demarcation of the mining area will be done on the ground at the project cost.
- v) Forest land will not be used for construction of buildings etc. and any purpose other than those mentioned in the proposal.
- vi) Lease period shall remain coterminus with lease under MWLD Act subject to maximum of 20 years.
- vii) Free fuelwood will be provided to the labourers and staff working at the project site at the project cost.
- viii) Any other condition the State Govt. may impose.
- ix) This clearance is subject to the environmental clearance of the project under the Environment Protection Act.

Yours faithfully,

( R.K. CHAUDHRY )  
Asstt. Inspector General of Forests.

Copy to:

1. The Principal Chief Conservator of Forests Government of Madhya Pradesh, Bhopal.
2. Nodal Officer, Office of the Principal Chief Conservator of Forests, Govt. of Madhya Pradesh, Bhopal.
3. The CCF (Central), Regional Office, Bhopal.
4. RO(HQ), New Delhi.
5. Guard file.

( R.K. CHAUDHRY )  
AIGF.

APPROVED

Environmental Status Report  
 For  
 Tatijharia Bauxite Mine  
 at  
 Post & Teh.: Samri, (Kusmi)  
 Dist: Balrampur-Ramanujganj (C.G.)

Duration: July-August-September-2015

Sponsor:-



(M. K. Nayak)  
 Agent of mines  
 Samri mines Division  
 Hindalco Industries Ltd

M/s. Hindalco Industries Limited,

Prepared By :-



Recognized by MoEF (GOI) as per EPA and valid up to Jan'2019  
 Accredited by NABL for Chemical & Biological, valid up to 03.10.2016  
 Accredited under the QCI-NABET Scheme for EIA Consultant  
 Certified by ISO 9001:2008, ISO 14001:2004, ISO 18001:2007  
 Head Office: 60, Bajiprabhu Nagar, Nagpur-446 033, MS  
 Lab, : FP-34, 35, Food Park, MIDC, Butibori, Nagpur - 441122  
 Ph. : (0712) 2242077, 9373287475 Fax: (0712) 2242077  
 Email: info@anacon.in, labngp@anacon.in  
 Website: www.anaconlaboratories.com



**CHHATTISGARH ENVIRONMENT CONSERVATION BOARD**  
Commercial Complex, Housing Board Colony,  
Kabir Nagar, Raipur (C.G.)

No. ~~1974~~ ITS/CECB/2014Raipur, dated: 02/17/2014

To,

✓ M/s Hindalco Industries Limited,  
 (Tatijharia Bauxite Mine)  
 Village- Tatijharia, & Betapani,  
 Tehsil-Samri,  
 District- Balrampur (C.G.)

Recd  
 [Signature]  
 2/17/14

Sub: - Renewal of consent of the Board for Mining of Bauxite Ore Mine under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974.

- Ref: - 1. Consent and Last renewal of consent of the Board for Mining of Bauxite Ore Mine issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974. vide letter no. 6884/TS/CECB/2007 Raipur, dated: 24/12/2007.
2. Last renewal of the Board for Mining of Bauxite Ore Mine issued under section 25/26 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 1826/TS/CECB/2013 Raipur, dated: 05/07/2013.
3. Your application letter no. HIL/SAM/CECB/119/2013/7, Dated: 26/07/2013 and subsequent correspondence ending dated: 06/02/2014.

--: 00 :--

With reference to your above application, consent is hereby renewed for a period of two years from 01/12/2013 to 30/11/2015, subject to the fulfillment of the terms and conditions incorporated in the consent letter no. 6884/TS/CECB/2007 Raipur, dated: 24/12/2007, subsequent renewal of consent issue by Board and additional conditions mentioned below.

This renewal of consent is valid for production capacity of :

| Name of Product       | Production Capacity  |
|-----------------------|--|
| Mining of Bauxite Ore | 4.0 Lakhas Tonnes Per Year<br>[Four Lakhs Tonnes Per Year] |

**Additional Conditions**

1. Industry shall ensure the treated effluent quality within prescribed effluent standards all the time. Industry shall not discharge effluent out side the mine lease area in any circumstances; hence zero discharge condition shall be maintained all the time.


[Signature]



2. All internal roads shall be made pucca. Good house keeping practices shall be adopted. Dust muck generated on the road shall be disposed off properly.
3. Bauxite Ore shall be transported in duly covered vehicles.
4. Industry shall submit Environment Statement to the Board as per provision of Environment (Protection) amendment Rule, 1993 for the previous year ending 31<sup>st</sup> March on or before 30<sup>th</sup> September every year.
5. All the solid waste rejects shall be disposed off properly and reclaimed scientifically. Industry shall obtain letter of authorization under Hazardous Wastes (Management, Handling and Trans Boundary Movement) Rules, 2008 (as amended up to date) from the Board (If required).
6. Extensive tree plantation shall be carried out in the reclaimed areas within the mining lease area.

Please acknowledge the receipt of this letter.

For & on behalf of  
Chhattisgarh Environment Conservation Board Raipur (C.G.)

  
Member Secretary


Chhattisgarh Environment Conservation Board  
Raipur (C.G.)

Endt. No. /TS/CECB/2014

Raipur, dated: \_\_\_ / \_\_\_ /2014

Copy to: -

- 1- Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Ambikapur (C.G.). Please ensure compliance and report, if any condition/conditions are violated by the industry.
- 2- Cess Section, Chhattisgarh Environment Conservation Board, Raipur (C.G.).

  
Member Secretary

Chhattisgarh Environment Conservation Board  
Raipur (C.G.)





**CHHATTISGARH ENVIRONMENT CONSERVATION BOARD**  
Commercial Complex, Housing Board Colony,  
Kabir Nagar, Raipur (C.G.)

No. 1976 ITS/CECB/2014

Raipur, dated: 02/17/2014

To,

✓ M/s Hindalco Industries Limited,  
 (Tatijharia Bauxite Mine)  
 Village- Tatijharia, & Betapani,  
 Tehsil-Samri,  
 District- Balrampur (C.G.)

Recd:  
  
 7/3/14

Sub: - Renewal of consent of the Board for Mining of Bauxite Ore Mine under section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

- Ref: - 1. Consent of the Board for Bauxite Ore Mine issued under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 6886/TS/CECB/2007 Raipur, dated: 24/12/2007.
2. Last renewal of the Board for Bauxite Ore Mine I issued Under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 1827/TS/CECB/2013 Raipur, dated: 05/07/2013.
3. Your application letter no. HIL/SAM/CECB/119/2013/7, Dated: 26/07/2013 and subsequent correspondence ending dated: 06/02/2014.

--:: 00 ::--

With reference to your above application, consent is hereby renewed for a period of two years from 01/12/2013 to 30/11/2015, subject to the fulfillment of the terms and conditions incorporated in the consent letter no. 6884/TS/CECB/2007 Raipur, dated: 24/12/2007, subsequent renewal of consent issue by Board and additional conditions mentioned below.

This renewal of consent is valid for production capacity of :

| Name of Product       | Production Capacity  |
|-----------------------|--|
| Mining of Bauxite Ore | 4.0 Lakhas Tonnes Per Year<br>[Four Lakhs Tonnes Per Year] |


**Additional Conditions**

1. Industry shall operate and maintain the existing pollution control systems regularly to ensure the emission of air pollutants within the prescribed emission standard the all time. Industry shall install some additional fixed type water sprinklers in haul roads approach roads for dust suppression. The industry shall also maintain the ambient air quality in and around the mine lease area within latest prescribed limits.

2. All internal roads shall be made pucca. Good house keeping practices shall be adopted by the industry. Dust muck generated on the road shall be disposed off properly.
3. Blasting operations shall be carried out as per the standards prescribed by Director General of Mine Safety.
4. Industry shall transport Bauxite Ore in duly covered vehicles to avoid dust emission during transportation.
5. Industry shall submit Environment Statement to the Board as per provision of Environment (Protection) amendment Rule, 1993 for the previous year ending 31<sup>st</sup> March on or before 30<sup>th</sup> September every year.
6. Extensive tree plantation shall be carried out in the reclaimed areas and with mining lease area to the plants.

Please acknowledge the receipt of this letter.

For & on behalf of  
Chhattisgarh Environment Conservation Board Raipur (C.G.)

  
**Member Secretary**

Chhattisgarh Environment Conservation Board  
Raipur (C.G.)

Endt. No.                    /TS/CECB/2014  
Copy to: -

Raipur, dated: \_\_\_ / \_\_\_ /2014

Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Ambikapur (C.G.). Please ensure compliance and report, if any condition/conditions are violated by the industry.

  
**Member Secretary**

Chhattisgarh Environment Conservation Board  
Raipur (C.G.)



Hindalco Industries Ltd.  
Mines Division, Samri

Lease wise Production 2015-16 (1<sup>st</sup> April 2015 to 30<sup>th</sup> Sep. 2015)

| Lease        | Production (MT)   |
|--------------|-------------------|
| Samri        | 199979.000        |
| Kudag        | 32222.000         |
| Tatijharia   | 174880.000        |
| <b>Total</b> | <b>407081.000</b> |

  
(M. K. Nayak)  
Agent of mines  
Samri mines Division  
Hindalco Industries Ltd

Hindalco Industries Ltd.  
Mines Division, Samri

Lease wise Details 2015-16 (1<sup>st</sup> April 2015 to 30<sup>th</sup> Sep. 2015)

| Lease        | Mined Out Area<br>(Hact.) | Reclaimed<br>Area<br>(Hact.) | Nos. of<br>Sapling | Area of<br>Sapling<br>(Hact.) |
|--------------|---------------------------|------------------------------|--------------------|-------------------------------|
| Samri        | 5.888                     | 7.246                        | 10219              | 4.087                         |
| Kudag        | 1.991                     | 3.272                        | 2378               | 0.951                         |
| Tatijharia   | 4.119                     | 3.985                        | 5172               | 2.068                         |
| <b>Total</b> | <b>11.998</b>             | <b>14.503</b>                | <b>17769</b>       | <b>7.106</b>                  |

  
(M. K. Nayak)  
Agent of mines  
Samri mines Division  
Hindalco Industries Ltd

Actual Expenditure incurred in Environment Management Plan:-

Total cost for protection of environment in Samri, Tatijharia & Kudag Bauxite Mine of Hindalco Industries Ltd. of Chhattisgarh state during the F.Y. 2015-16 (April- September).

| Sl No- | Environment Protection Measures  | Actual Cost<br>(Lacs) (F.Y. 2015-16)<br>(April- September) |
|--------|--|--|
| 1      | Pollution Control  | 1.60   |
| 2      | Environment Monitoring   | 1.35   |
| 3      | Green Belt   | 7.40   |
| 4      | Reclamation/Rehabilitation of<br>mined out area  | --   |
| 5      | This is part cost of construction of<br>village road within all three leases as<br>mentioned above , | 600.00   |
| 6      | Total  | 610.35   |

- Environment monitoring jobs has been out sourced to Annacon Lab, recognized by MoEF (GOI) & NABL etc.
- One centralized nursery has been established at Samri mines among three leases viz, Samri, Tatijharia & Kudag.
- Cost of Reclamation and rehabilitation are incurred in mining operation.
- Mined out area concurrently backfilled by mines rejects, laterite, morrum and followed top of surface by top soil. As per nature of land we are doing cultivation or plantation in reclaimed land.

(M. K. Nayak)  
Agent of mines  
Samri mines Division  
Hindalco Industries Ltd