



15.5.2018.

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) of Tatijharia Bauxite Mine (Lease area- 1218.762 Ha.) of Hindalco Industries Limited of Chhattisgarh state from October-2017 to March-2018.

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 of Tatijharia Bauxite Mine, Lease area -1218.762 Ha. of Hindalco Industries Limited, P.O- Kusmi, Dist- Balrampur- Ramanujganj, Chhattisgarh state, PIN-497224 from October-2017 to March-2018.

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 and extension of Revenue Forest Land enclosed as annexure -II.
3. Environment Status Report from October-2017 to March-2018, enclosed as annexure -III
4. Renewal copy of Consent to Operate from CECB enclosed as annexure -IV
5. Production report from April-2017 to March-2018 enclosed as annexure-V.
6. Status report of mined out, reclaimed and afforested land as annexure-VI.
7. Actual expenditure incurred in protection of environment from October-2017 to March-2018 as annexure-VII.

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Sami Mines Division, Baba Chowk,
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15.5.2018.

Status of Compliance from October-2017 to March-2018 of Environmental Condition laid down by MOEF

Tatijharia Bauxite Mine

The status of compliance of the conditions (as per point no.3) with reference to the environment clearance letter no.J-11015/337/2007-IA. II(M) dated 9.8.2012 of Ministry of Environment & Forests, New Delhi, to maintain the production capacity of Tatijharia Bauxite Mine as under.

A Specific condition:-

- (i) The wild life management plan has been approved.- Annexure-A
- (ii) We accept the condition.
- (iii) 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. (Annexure- B).
- (iv) The mining operation is restricted to well above ground water table during currency of mining operation. The ultimate depth of working will be about 15 meters below whereas the water table in the core zone is about 50-52 meters.
- (v) Top soil and solid waste is being utilized for simultaneous back filling of mined out area for reclamation purpose and practice is followed.
- (vi) OB is stacked at earmark location and slope of dump is maintained less than 28 degree. All protective measure such as retaining walls, bunds and also plantation on available land are being taken to prevent erosion of soil.
- (vii) 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.
- (viii) We undertake that no natural water course is obstructed during mining operation.


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 Samri Mines Division
 Hindalco Industries Ltd

- (ix) Controlled blasting is in practiced in the mine. Dust extractors are being used during drilling operations. Cord relay & effective blast design are used to control blast vibration and fly rocks. Blasting is carried out only in day hours.
- (x) 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 Karanj, Amla, Accasia, Kasia-Samia, mango, babul, pears, & guava etc. Social forestry is also being encouraged among the local villagers.
- (xi) The ground water table does not intersect during our mining operation because of shallow depth of mining
- (xii) 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 quality is being carried out. The analysis reports are being submitted to Regional Office, CECB, Ambikapur and other regulating authority.
- (xiv) Till date three rain water harvesting ponds has been made at lease area.
- (xv) We are not drawing ground water for industrial use, if required, the permission will be taken from competent authority.
- (xvi) No endanger fauna is present in mines area however all possible measures is taken to prevent ecological status of project area.
- (xvii) Regular and periodic maintenance of HEMM is being carried out for control of vehicular emission in mines area. The bauxite ore are transported in trucks with tarpaulin cover.
- (xviii) All workers are provided personal protective equipment and training are also being imparted to them for safety & health, sanitation and will be continued. Health awareness camps including HIV are organized for all workmen. One doctor having MBBS qualification has been appointed for facilitation of OHS. We have undergone through initial & periodical test of all workers employed in the mines by the certified team. The records related to initial and periodical medical examination of all workmen is maintained.
- (xix) We accept the condition.


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(B) General Condition.

- (i) No change in mining technology and scope of working will be done without approval of MOEF New Delhi.
- (ii) Calendar plan will be followed and there will not be any change in calendar plan.
- (iii) The suggestion of local forest department will be implemented for conservation of flora and fauna in and around lease hold area.
- (iv) Ambient Air quality monitoring is being carried out as per guideline and will be followed.
- (v) Data of ambient air quality (RPM, SPM, SO₂, Nox) are being submitted to CECB and will be submitted to other regulatory authorities as per guidelines.
- (vi) 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) 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) No waste water is generated from the mine however as suggested measures will be taken if required.
- (ix) All workers are provided personal protective equipment and training are also being imparted to them for safety & health and will be continued as per guidelines.
- (x) Periodical and initial medical examination of all workers are being carried out as per provision of Mines Act.
- (xi) Separate Environment cell is already in place at Samri Mines Division headed by GM (Mines) and comprises of suitable qualified persons.
- (xii) In case of final closure of mine the information will be submitted to Regional Office, Ministry of Environment & Forests, Bhopal.
- (xiii) 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 same will be intimated to Regional Office, Ministry of Environment & Forests, Bhopal.
- (xv) All cooperation is being extended to regulatory authorities and will be extended as earlier.
- (xvi) 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 to your good office.
- (xvii) The copy has been displayed by CECB in Balrampur Collectorate.
- (xviii) The information regarding environment clearance has been published in two local new papers namely Hari Bhumi & Ambika Vani. The copy of same has been already submitted to your good office.

Hope the above compliance will be found in order.

Yours truly,
For Hindalco Industries Limited


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

Encl. : As Above

कार्यालय प्रधान मुख्य वन सहायक (वन्यप्राणी प्रबंधन एवं जीव विविधता)
राजधानी सह मुख्य वन्यप्राणी अभिरक्षक, छत्तीसगढ़
प्रमुख गठन वैदिकल कॉलेज रोड, रायपुर

पत्र क्रमांक: 11015/353/2007-IA,II(M)

फोन: 0771-2512125 Fax: 0771-2573223

क्रमांक/प.आ./प्र.प्र. 12/13/2967

रायपुर दिनांक 07/10/2013

प्रति,

संचालक,
इन्सपेरन्मेंट वलीयर्स सेल
भारत सरकार, वन एवं पर्यावरण मंत्रालय,
पर्यावरण भवन, सी.जी.ओ. कॉम्प्लेक्स,
लोधी रोड, नई दिल्ली-110003

विषय:- छत्तीसगढ़ के बलरामपुर जिले (तत्कालीन सरगुजा जिला) में स्थित सामूची बॉक्सवुड
नाईन्स, कुदाग बॉक्सवुड, नाईन्स एवं टाटीझरिया बॉक्सवुड, नाईन्स की क्षमता बढ़ाये कि
इन्सपेरन्मेंट वलीयर्स।

- 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.

कृपया आपके उपरोक्त संदर्भित पत्रों का अवलोकन करने का कष्ट करें। जिसके द्वारा बलरामपुर जिले
(पुराने सरगुजा जिले) के सामूची बॉक्सवुड खुली खदान (3 LTPA) की क्षमता बढ़ाकर (5LTPA) करने, कुदाग बॉक्सवुड
खदान (0.4 LTPA) की क्षमता बढ़ाकर (0.6 LTPA) करने तथा टाटीझरिया बॉक्सवुड 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।

- विषयवस्तु परियोजना हेतु खदान के लीज के अनुबंध दिसंबर 1996 एवं जून 1998 में हस्ताक्षरित
हुये थे। सामूची 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 बॉक्सवुड खनन की स्वीकृति प्राप्त कर संस्था द्वारा खनन
का कार्य किया जा रहा है।

1.998 LPTA से 3.11 में अपभ्रंश को बलु खादानों की क्षमता समूची के लिये 10 LPTA से बढ़ाकर 50 LPTA किया गया। वन संरक्षण के लिये 0.4 LPTA से बढ़ाकर 0.6 LPTA किया गया एवं टाटीडारिया के लिये 34000 TPA से बढ़ाकर 400000 TPA किया गया प्रस्तावित है। भारत सरकार पर्यावरण व वन संरक्षण के द्वारा जनसंकेत वृद्धि हेतु प्रथम चरण की स्वीकृति क्रमशः आदेश 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 अगस्त 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 प्रायः 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 फलतः में संस्था द्वारा एक वन्य प्राणी संरक्षण योजना तैयार की गयी है।

3. खनन क्षमता बढ़ाने से संबंधित प्रस्तावित तीन ही परियोजनाओं के एक दूसरे से 4 कि.मी. की परिधि में स्थित होने एवं सभी को बफर क्षेत्रों में आंतरलेपिंग होने के कारण सभी के लिये संयुक्त रूप से वन्य प्राणी संरक्षण व प्रबंधन योजना तैयार की जाकर मलप्रबंधक, (खादान), हिन्डालको इन्डस्ट्रीज के पत्र क्रमांक HIL/SAM/300/2013 दिनांक 2.05.2013 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 आंतरलेपिंग बफर क्षेत्र में वन्य प्राणियों एवं उपलब्ध वनस्पतियों का सर्वे किया जाकर प्रायः नये स्पेसिज का 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 प्रायः गये हैं। परंतु इस कार्यालय द्वारा वन संरक्षक (वन्य प्राणी), सरगुजा से विगत दस वर्षों में वन्य प्राणियों द्वारा की गई क्षति की जानकारी चाली 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 लकड़बगंध के कारण एक प्रकरण दर्ज किये गये हैं। इस प्रकार वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के उपरोक्त उल्लेखित वन्य प्राणियों के परिसंरक्षण क्षेत्र में आने जाने के प्रमाण प्रायः गये हैं। प्रस्तावित क्षेत्र से 6 से 7 कि.मी. की दूरी पर झारखंड राज्य में मेड़िया 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, रहस्य-विकास, पंचजल व्यवस्था, विनाम के क्षेत्रीय अंमल के सहयोग से क्षेत्र में पैदावार व मॉनिटरिंग, अग्नि सुरक्षा, ईको विकास की गतिविधियाँ, स्थानीय प्राणीओं के लिये आजीविका सृजन, टीकाकरण, जनजागृति कार्यक्रम जैसी गतिविधियों का

परियोजना का कुल निवेश 16000 लाख वर्तमान दस पर है परियोजना में दस लाख से यह लागत
परियोजना के लिए 16000 लाख का बजट है। परियोजना के क्रियान्वयन के समय जो भी लागत आवेगी
परियोजना के क्रियान्वयन के लिए सरकार ने एकमुश्त खर्च करानी होगी। कितना मूल्य मुद्दे के प्रभाव को समाप्त
करने के लिए परियोजना के क्रियान्वयन के लिए एकमुश्त खर्च की गई राशि से वन्यप्राणी संरक्षण योजना क्रियान्वित करेगा।

अनुमोदित वन्यप्राणी संरक्षण योजना की एक प्रति संलग्न प्रेषित है। कृपया वन्यप्राणी संरक्षण योजना में
प्राधान्यित शशि रु. 16000 लाख एकमुश्त खर्च करने हेतु परियोजना प्रस्तावकों को आदेशित करने का कन्
करें।

संलग्न:- उपरोक्तानुसार।

(Signature)
(रामप्रकाश) 01/10/13

प्रधान मुख्य वन संरक्षक (वन्यप्राणी)
छत्तीसगढ़, रायपुर

रायपुर दिनांक 01/10/2013

पृष्ठ क्रमांक/ब.प्र./प्रबंध-12/13/2968

प्रतिलिपि:-

1. प्रमुख सचिव, छत्तीसगढ़ शासन, वन विभाग, महानदी मंत्रालय भवन, नया रायपुर की ओर मय योजना की प्रति सहित सूचनाएं प्रेषित।
2. श्री एन. के. नायक, जी. एन. माइन्स इन्डस्ट्रीज लिमिटेड, सामरी बाईपास हाईवे, पोस्ट-कुसनी, जिला-सुरगुड़, छत्तीसगढ़ की ओर मय योजना की प्रति सहित सूचनाएं प्रेषित।

(Signature)
प्रधान मुख्य वन संरक्षक (वन्यप्राणी) 01/10/13
छत्तीसगढ़, रायपुर

संरक्षण-व्ययों का वर्षों के लिये प्रति वर्ष 160 लाख प्रावधानित की गयी है। जिसका क्रियान्वयन आ.प्र.म.क. द्वारा किया जायेगा। प्रस्ताव में प्रावधानित बजट का विवरण निम्नानुसार है -

Sl. No.	Work to be done	Cost for Four years (Rs. in lakhs)					Remarks
		1 st Year	2 nd Year	3 rd Year	4 th 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	Agro-cultural 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 Biodiversity management committees (BMC's)
	Total	55.00	35.00	35.00	35.00	160.00	

IV

1. विभाग में प्रस्तावित एकमुस्त खतम 160.00 लाख बतौरान इस पर है परियोजना में देरी होने से यह लागत बढ़ेगी। इससे वन विभाग में एकमुस्त खतम करने में देरी होगी। परियोजना के क्रियान्वयन के समय जो भी लागत आसानी से बचाया जा सके उसे वन विभाग में एकमुस्त खतम कराया जाये। जिससे वृक्ष वृद्धि के प्रभाव को संचालित करके वन विभाग में एकमुस्त खतम की गई राशि से वन्यप्राणी संरक्षण योजना क्रियान्वित करेगा।

2. अनुसंधान व वन्यप्राणी संरक्षण योजना की एक प्रति सलगत प्रेषित है। कृपया वन्यप्राणी संरक्षण योजना में प्रावधानित राशि रु. 100.00 लाख एकमुस्त खतम कराने हेतु परियोजना प्रस्तावकों को आदेशित करने का प्रयत्न करें।

संलग्न-उपरोक्तानुसार।

Alpana Singh
(समप्रकार) 01/12/13

प्रधान मुख्य वन संरक्षक (वन्यप्राणी)
छत्तीसगढ़, रायपुर
रायपुर दिनांक 01/10/2013

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

प्रतिलिपि:-

1. प्रमुख सचिव, छत्तीसगढ़ शासन, वन विभाग, महानदी मंत्रालय भवन, नया रायपुर की ओर भय योजना की प्रति सहित सूचनाथ प्रेषित।
2. श्री एन. के. नायक, जी. एम. माइन्स हिन्डालको इन्डस्ट्रीज लिमिटेड, सामरी बॉक्साइट नईन्स, पोरट-कुसनी, जिला-सिद्धपुरा, छत्तीसगढ़ की ओर भय योजना की प्रति सहित सूचनाथ प्रेषित।

Alpana Singh
प्रधान मुख्य वन संरक्षक (वन्यप्राणी) 01/12/13
छत्तीसगढ़, रायपुर

TATIJHARIA BAUXITE MINE LEASE AREA

Annexure-6
Details of Flora and Fauna

**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>Spandias cythera</i>	Kathjamun	Myrtaceae
<i>Terminalia catapa</i>	Badam	Combretaceae
<i>Aplusa mutica</i>	Grass	Poaceae
<i>Chloris dolichosta</i>	Grass	Poaceae
<i>Dichanthium annulatum</i>	Grass	Poaceae
<i>Impata cylindrica</i>	Grass	Poaceae
<i>Themeda quadrivalvis</i>	Grass	Poaceae
<i>Aristida adscensionsis</i>	Grass	Poaceae
<i>Fragrostis biferia</i>	Grass	Poaceae
<i>Fragrostis tenella</i>	Grass	Poaceae
<i>Setaria glauca</i>	Grass	Cyperaceae
<i>Physanolaena 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
I. Agricultural Crops			
1	<i>Tardium vulgare</i>	Poaceae	Hemicryptophyte
2	Sorghum vulgare	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 typhoideum</i>	Poaceae	Hemicryptophyte
II. Commercial Crops (including Vegetables)			
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 hypogia</i>	Fabaceae	Geophyte
12	<i>Catharanthes pusillus</i>	Compositae	Therophyte
13	Cicer arietinum	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>Momordia charantia</i>	Cucurbitaceae	Therophyte
21	<i>Phum 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
III. Plantations			
25	<i>Bauhinia cormbosa</i>	Caesalpinaceae	Phanerophyte
26	<i>Acacia nilotica</i>	Mimosaceae	Phanerophyte
27	<i>Albizia lebbek</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
IV. Natural Vegetation/Forest Type			
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>Ailanthus 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>Alostonia 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>Caesalpina pulcherima</i>	Caesalpinaceae	Phanerophyte
81	<i>Calotropis procera</i>	Ascladiadaceae	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>Casearia 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 variegata</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>	Amaryllidaceae	Therophyte
103	<i>Cuscuta reflexa</i>	Cuscutaceae	Epiphyte
104	<i>Datura fastuosa</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>Embilica 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 abutifolia</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 antidycenterica</i>	Asclepiadaceae	Phanerophyte
148	<i>Holostemma annularia</i>	Asclepiadaceae	Phanerophyte
149	<i>Hygrophylla auriculata</i>	Acanthaceae	Hemicryptophyte
150	<i>Hyptis suavealens</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>Ipomea aquatica</i>	Convolvulaceae	Hydrophyte
157	<i>Ipomea coccinea</i>	Convolvulaceae	Therophyte
158	<i>Ipomea tuba</i>	Convolvulaceae	Hemicryptophyte
159	<i>Ixora arborea</i>	Rubiaceae	Phanerophyte
160	<i>Ixora parviflora</i>	Rubiaceae	Phanerophyte

Sr. No.	Technical Name	Family	Life Form
161	<i>Ixora singaporensis</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>Lannea coramandalica</i>	Anacardiaceae	Phanerophyte
169	<i>Lannea grandis</i>	Anacardiaceae	Phanerophyte
170	<i>Lannea 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>Lindenbergia indica</i>	Scrophulariaceae	Therophyte
180	<i>Lindenbergia ciliata</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>Mangifer 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>Oogonia oojensis</i>	Papilionaceae	Phanerophyte
212	<i>Opuntia dillini</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 trijuga</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 veranifolia</i>	Malvaceae	Hemicryptophyte
251	<i>Solanum nigrum</i>	Solanaceae	Therophyte
252	<i>Solanum xanthocarpum</i>	Solanaceae	Therophyte
253	<i>Steculia 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>Triplax procumbens</i>	Compositae	Therophyte
267	<i>Triumferta pilosa</i>	Tiliaceae	
268	<i>Vernonia cinera</i>	Compositae	Therophyte
269	<i>Vicoa 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>Vivipera zizanoides</i>	Poaceae	Therophyte
274	<i>Wrightia tomentosa</i>	Apocyanaceae	Phanerophyte
275	<i>Xanthium strumarium</i>	Compositae	Therophyte
276	<i>Yucca gloriosa</i>	Agavaceae	Therophyte
277	<i>Zizyphus jujube</i>	Rhamnaceae	Phanerophyte
278	<i>Zizyphus mauritiana</i>	Rhamnaceae	Phanerophyte
V. Grasslands			
279	<i>Aplixia mutica</i>	Poaceae	Hemicryptophyte
280	<i>Chloris dolichosta</i>	Poaceae	Hemicryptophyte
281	<i>Cyanodactylon sp</i>	Poaceae	Geophyte
282	<i>Dichanthium annulatum</i>	Poaceae	Hemicryptophyte
283	<i>Impatiens cylindrica</i>	Poaceae	Hemicryptophyte
284	<i>Saccharum spontaneum</i>	Poaceae	Hemicryptophyte
285	<i>Themeda quadrivalvis</i>	Poaceae	Hemicryptophyte
286	<i>Aristida adscensionis</i>	Poaceae	Hemicryptophyte
287	<i>Cenchrus ciliaris</i>	Poaceae	Therophyte
288	<i>Cenchrus setifera</i>	Poaceae	Therophyte
289	<i>Cymbopogon fwarancusa</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>Eulalopsis binata</i>	Graminae	Hemicryptophyte
300	<i>Thysanolaena maxima</i>	Graminae	Hemicryptophyte
	Endangered plants	No endangered plant species observed during study period and also from records of Botanical Survey of India (Red data of Books of Indian Plants)	

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

Technical Name	English Name/ Local Name	Wild Life Protection Act (1972) Status
Aves		
<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>Eudynamys scolopacea</i>	Indian koel	Sch-IV
<i>Meops philippinus philippinus</i>	Bluetailed bee-eater	Sch-IV
<i>Dinopium benghalense tehrinae</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
Butterflies		
<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	-
Mammals		
<i>Funambulus palmarum</i>	Squirrel	Sch-IV
<i>Sus sucrofa</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 (1972)
Aves		
<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>Dupestor 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>Eudynamys 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>Nectarenia 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 ceyonensis</i>	Southern magpie-robin	Sch-IV
<i>Orthotomus sutorius</i>	Tailor bird guzurata	Sch-IV
<i>Pavocristatus</i>	Peacock	Part-III of Sch-I
Amphibians		
<i>Rana tigrina</i>	Common frog	Sch-IV
<i>Bufo melanosticus</i>	Toad	Sch-IV
Reptiles		
<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>Boiga spp.</i>	Cat snake	Sch-III
<i>Bangarus spp.</i>	Krait	Sch-II
<i>Naja naja</i>	Indian cobra	Sch-III
<i>Vipera spp.</i>	Russels viper	Sch-III
<i>Phyton sp</i>	Python sp	Sch-I
Butterflies		
<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>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>Catopsilia sp.</i>	Emigrant	-
Mammals		
<i>Rattus sp.</i>	Rat	Sch-IV
<i>Lepus nigricollis</i>	Hare	Sch-IV
<i>Canis auries</i>	Jackal	Sch-III
<i>Presbytis entellus</i>	Langur	Sch-II
<i>Presbytis phayrei</i>	Monkey	Sch-I
<i>Funambulus spp.</i>	Squirrel	Sch-IV
<i>Funambulus palmarum</i>	Squirrel	Sch-IV
<i>Sus sucrofa</i>	Wild pig	Sch-III
<i>Rattus norvegicus</i>	Field mouse	Sch-V
<i>Rattus rattus</i>	House rat	Sch-V
<i>Rhinokypus spp.</i>	Bat	Sch-V
<i>Hipposkferus spp.</i>	Bat	Sch-V
<i>Hesperetes edwardii</i>	Common mongoose	Sch-IV
<i>Bandicota indica</i>	Bandicoot	Sch-V
<i>Bandicota bengalensis</i>	Bandicoot	Sch-V
<i>Vulpes benghalensis</i>	Wild fox	Sch-III
<i>Melurus ursinus</i>	Bear	Sch-III
<i>Hystrix indica</i>	Porcupine	Sch-IV
<i>Axis axis</i>	Spotted deer	Sch-III
<i>Canis lupas pallipes</i>	Indian wolf	Part-I of Sch-I
<i>Mellivora capensis</i>	Indian Ratel	Part-I of Sch-I
<i>Elephas maximas</i>	Indian Elephant	Part-I of Sch-I
<i>Felis chaus</i>	Jungle cat	Part-II of sch-II
<i>Paradoxurus hermaphroditus</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

4. जिला क्षेत्र (सर्वांगीण) कावचव्यवस्था जमावी पर भू-उत्पन्न वसूली का कार्य करना होगा।
5. जमावी जमाव में 150 मुक्त विगडों का वही स्थान 2001 में निर्धारित क्षेत्रों में सम्पन्न करने का इरादा रखते हैं। जमाव क्षेत्रों में 150 मुक्त विगडों का वही स्थान 2001 में निर्धारित क्षेत्रों में सम्पन्न करने का इरादा रखते हैं। 45 विगडों में अंदर इस कार्यक्षेत्र में प्रस्ताव करने कावचव्यवस्था में-सिद्धि में सम्पन्न करीबत कर दिया जाएगा।
6. अतीवगत करदाता का विभाग द्वारा अधिविगत करदाता को जमाव करे जाती है तो साफ करवा होगा।

वनमंडलाधिकारी

बलरामपुर वनमंडल बलरामपुर
बलरामपुर, दिनांक 24/6/2017

सं. क्रमिक/वा.सि./ 24/57

प्रतिसिद्धि :-

1. जमाव प्रस्ताव (पुस्तक) सम्पन्न करने (सु-समय/व.स.स.) जमाव जमाव को अवलोकनार्थ सादर सम्प्रेषित।
2. मुक्त वनमंडल (पुस्तक) बलरामपुर अधिविगत करदाता को अवलोकनार्थ हेतु सादर सम्प्रेषित।
3. जमाव वनमंडल अधिकारी बलरामपुर/रा.व.प. एवं अधिकारी (आर्डी/बुसर्ग) को प्रस्ताव उपरोक्त कर निर्दिष्ट है कि बलरामपुर अधिविगत करदाता को अवलोकन करके सादर सम्प्रेषित करे तथा जमाव जमाव में विगडों का वही स्थान 2001 में निर्धारित क्षेत्रों में सम्पन्न करने का इरादा रखते हैं।

वनमंडलाधिकारी

बलरामपुर वनमंडल बलरामपुर



HIL/SBM/DFG/164/2017/7

Date: 4-9-2017

To,
Divisional Forest Officer
Balrampur (Bamanjgarj)

Sub: Extension of validity of approval accorded under Forest (conservation) Act, 1980 for diversion of 514.615 Hect Revenue forest land for non-forest (mining operation) purpose in respect of Tatiyharia Bauxite Mine of M/s Hindalco Industries Limited.

Ref: Your letter number cramank/ma.chi/2017/2451, dated 24/07/2017

With reference to ~~Clause no-5~~ of your above said letter, herewith we are depositing a sum of Rs. 74,84,984.00 (Seventy four Lac Eighty four thousand Nine Hundred Eighty four Only) in-favour of DFO, Balrampur, vide Cheque no 918132, Dated 04.09.2017 at your good office for the plantation to be carried out by yourselves in degraded forest land @ 1.5 times of safety zone of Tatiyharia Bauxite Mine.

Hope you find the above in order.

Kindly acknowledge the receipt.

Thanking You,
Yours Faithfully,
For Hindalco Industries Limited

Signature of Agent
Date: 04/09/2017

- 1. Chief Executive Officer, Aranya Bhawan, Raipur
- 2. Chief Engineer, Aranya Bhawan, Raipur
- 3. Chief Engineer, Aranya Bhawan, Raipur
- 4. Forest Ranger, Kusmi & Chando

Signature of Agent
Agent of EITHEW
Bamanjgarj Division
Hindalco Industries Ltd.

Annexure - II
(18)

सं. १
Telegram : PARYAVARAN,
NEW DELHI
दूरभाष :
Telephone :
टैलेक्स (द्विभाषी) :
Telex : (bi-lingual) : W-66195 DOE IN
FAX : 4360678

TATIHARIA

पर्यावरण एवं वन संचालन
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सं. ई. सं. कॉम्प्लेक्स
PARYAVARAN BHAWAN, C.G.O. COMPLEX
सं. ई. सं. कॉम्प्लेक्स - 110003
LODHI ROAD, NEW DELHI-110003
Dated: 13th March, 1996.

No. B-2/95-FC

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

Sf
Suraj Gupta
R.O.P.
R.O.P./N.G.P./348/2006/4

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.5/19/95/10/3 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 514.019 ha. 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

Declaration 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.

Demarcation of the mining area will be done on the ground at the project cost.

Forest land will not be used for construction of buildings etc. and any purpose other than those mentioned in the proposal.

Lease period shall remain coterminous with lease under MWLD Act subject to maximum of 20 years.

Free fuelwood will be provided to the labourers and staff working at the project site at the project cost.

Any other condition the State Govt. may impose.

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:

The Principal Chief Conservator of Forests
Government of Madhya Pradesh, Bhopal.

Nodal Officer, Office of the Principal Chief Conservator
of Forests, Govt. of Madhya Pradesh, Bhopal.

The CCF (Central), Regional Office, Bhopal.

RO(HQ), New Delhi.

Guard file.

(R.K. CHAUDHRY)
AIGF.

APPROVE

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

Duration: January-February-March-2018

Name of Industry:-



M/s. Hindalco Industries Limited.,

Name of Laboratory:-




Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Recognised by MoEF (GOI) Notifn. No. D.L.33004/99 Dt.24.10.2007
NABL T-1550 (Chemical), T-1826 (Biological), T-2344 (Mechanical) dt.04/10/2016 valid up to 03.10.2018

Accredited under the QCI-NABET Scheme for EIA Consultant

BIS vide No.CL/CQAPD/OSL (7124116) dt.16.12.2011

Certified by ISO 9001:2008, ISO 14001:2004, ISO 18001:2007

Head Office: 60, Bajiprabhu Nagar, Nagpur-440 033, MS

Lab. : FP-34, 35, Food Park, MIDC, Butibori, Nagpur - 441122

Ph.: (0712) 2242077, 9373287475 Fax: (0712) 2242077

Email: labngp@anacon.in

info@anacon.in

Website: www.anaconlaboratories.com,

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

Duration: October-November-December-2017

Name of Industry:-



M/s. Hindalco Industries Limited.,

Name of Laboratory:-



[Signature]
Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

NABL T-1550 (Chemical), T-1826 (Biological), T-2344 (Mechanical) dt.04/10/2016 valid up to 03.10.2018
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Ph.: (0712) 2242077, 9373287475 Fax: (0712) 2242077

Email: labngp@anacon.in

info@anacon.in

Website: www.anaconlaboratories.com,



REGIONAL OFFICE

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

Bank Colony, Behind B.T.I., Nawapara, Ambikapur (C.G.) Fax/Phone 07774-231936

No. 983 /RO/TS/CECB/2016
To:

Ambikapur, Dt. 02/11/2016

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

Subject: Renewal of consent of the board under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981.
Ref: Your letter No. HIL/SAM/CECB/118/2016/T dated 18/07/2016 and subsequent correspondence letter ending dated 23/09/2016.

With reference to your above, application consent and license are hereby renewed for a period from **01/12/2016 to 19/05/2018** with the terms and conditions incorporated in the consent issued by Board Office letter No. 6886/TS/CECB/2007, Raipur, dated 24/12/2007, subsequent renewal of consent issued by Board and additional condition mentioned below:-

NAME	PRODUCTION CAPACITY
Mining of Bauxite Ore	4.0 Lakhs Tonnes per Annum (Four Lakhs Tonnes Per Annum)

Additional Conditions:

- The industry shall operate & maintain the air pollution control system effectively & regularly. Effective steps shall be taken to control fugitive dust emission. Fixed type automatic water sprinkling system shall be installed at haul roads/other roads, ore stock yard etc. Dust suppression system (water sprinkling arrangement) shall be made more effective to ensure ambient air quality within prescribed limit in and around the mine area all the time.
- Regular monitoring for the measurement of air pollutants level in ambient shall be carried out. Industry shall submit air quality monitoring reports to the Board regularly.
- Industry shall ensure safe and scientific arrangement for disposal of all solid wastes. Excavated area shall be reclaimed scientifically.
- All internal roads shall be made pucca & shall be maintained properly. Dust, muck & sludge generated due to transportation on the road shall be cleaned and disposed off properly. Industry shall maintain good house keeping within mine lease area. Industry shall ensure the transportation of ore in duly covered vehicles.
- Industry shall use fly ash brick, fly ash blocks or fly ash based products in their construction/repairing activities.
- Wide green belt of broad leaf local species shall be developed along the mine lease area. As far as possible maximum area of open spaces shall be utilized for plantation purposes.
- Industry shall submit Environment statement to the Board as per provision of Environmental (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
- Chhattisgarh Environment Conservation Board reserves the rights to revoke the Consent at any time for any violation/non-compliance.

Please acknowledge the receipt of this letter

For and on behalf of
CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

Hindalco Industries Ltd
Samri Mine - Operator
Date - Bairampur (C.G.)
Date - 2/11/16 (59)
Received By: [Signature]

[Signature]
Regional Officer,
Chhattisgarh Environment Conservation Board,
Ambikapur



REGIONAL OFFICE

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

Bank Colony, Behind B.T.I., Nawapara, Ambikapur (C.G.) Fax/Phone 07774-231936

No. 982 /RO/TS/CECB/2016

Ambikapur, Dt. 02/11/2016

To,

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

Subject : Renewal of consent of the board under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.
Ref. : Your letter No. HIL/SAM/CECB/118/2016/T dated 18/07/2016 and subsequent correspondence letter ending dated 23/09/2016.

With reference to your above, application consent and license are hereby renewed for a period from 01/12/2016 to 19/05/2018 with the terms and conditions incorporated in the consent issued by Board Office letter No. 6884/TS/CECB/2007, Raipur, dated 24/12/2007, subsequent renewal of consent issued by Board and additional condition mentioned below:-

NAME	PRODUCTION CAPACITY
Mining of Bauxite Ore	4.0 Lakhs Tonnes per Annum (Four Lakhs Tonnes Per Annum)

Additional Conditions:

1. Industry shall operate and maintain the effluent treatment system effectively and regularly. Industry shall ensure treated effluent quality within the standards prescribed by Board published in Gazette Notification dated 25.03.1988. Treated effluent shall be used for dust suppression, domestic use, irrigation, other useful purposes etc. Industry shall not discharge any treated/untreated effluent into the river or any other surface water bodies. No effluent shall be discharged outside of the mine premises in any circumstances; hence zero discharge condition shall be maintained all the time; failing which, this renewal of consent may be cancelled.
2. Industry shall ensure safe and scientific arrangement for disposal of all solid wastes. Excavated area shall be reclaimed scientifically.
3. All internal roads shall be made pucca & shall be maintained properly. Dust, muck & sludge generated due to transportation on the road shall be cleaned and disposed off properly. Industry shall maintain good house keeping within mine lease area. Industry shall ensure the transportation of ore in duly covered vehicles.
4. Industry shall use fly ash brick, fly ash blocks or fly ash based products in their construction/repairing activities.
5. Industry shall submit monitoring report of effluent regularly.
6. Wide green belt of broad leaf local species shall be developed along the mine lease area. As far as possible maximum area of open spaces shall be utilized for plantation purposes.
7. Provision of water harvesting system should be provided in the industry premises.
8. Industry shall submit Environment statement to the Board as per provision of Environmental (Protection) Amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
9. Chhattisgarh Environment Conservation Board reserves the rights to revoke the Consent at any time for any violation/non-compliance.

Please acknowledge the receipt of this letter.

For and on behalf of

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

Regional Officer

Chhattisgarh Environment Conservation Board,
Ambikapur

Hindalco Industries Ltd.
Samri, Dist. - Balrampur
Date- 02/11/16 (58)
Received by: [Signature]

Lease wise Production 2017-18

Lease	Production (MT)
Samri	426690.000
Kudag	55485.000
Tatijharia	357700.000
Total	839875.000


Agent of Mines
Samri Mines Division,
Hindalco Industries Ltd.

Lease wise Details 2017-18

Lease	Mined Out Area (Hact.)	Reclaimed Area (Hact.)	Nos. of Sapling	Area of Sapling (Hact.)
Samri	15.974	13.863	11681	4.970
Kudag	2.656	0.344	2960	1.220
Tatijharia	11.863	10.678	8868	3.540
Total	30.493	24.885	23509	9.730


Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Actual Expenditure incurred in Environment Management Plan:-

Total cost incurred for protection of environment in Samri, Tatijharia & Kudag Bauxite Mine of Hindalco Industries Ltd. of Chhattisgarh state during the second half period of F.Y. 2017-18 (October-17 - March'18).

Sl No-	Environment Protection Measures	Actual Cost (Lac) (F.Y. 2017-18) (Oct'17- Mar'18))
1	Pollution Control	1.78
2	Environment Monitoring	1.25
3	Green Belt	1.94
4.	Occupational Health monitoring	0.14
5.	OH monitoring Instrument(ECG, PFT, X-rays, Auditmete) procured for group OHS centre	6.06
6.	Deposited to Balrampur DFO for fencing of forest land	211.50
7.	Reclamation/Rehabilitation of mined out area (Samri – 13.401 Ha. Tatijharia-9.707 Ha. Kudag- 0.148 Ha. Total – 23.256 Ha.)	697.68
	Total	920.35

- 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 for, Samri, Tatijharia & Kudag lease.
- Reclamation of mined out land has been out sourced along with production. Average cost of reclamation considered @ Rs. 30.0 Lac per Ha.


Agent of Mines
Samri Mines Division
Hindalco Industries Ltd.