ADITYA BIRLA

HINDALCO

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 Kudag Bauxite Mine(Lease area- 377.116 Ha.) of Hindalco Industries Limited of Chhattisgarh state from October-2017 to March-2018.
Ref No:- Environment Clearance Letter No-J-11015/354/2007-IA. II(M) dated July27,2007

Dear Sir,

We do hereby submit half yearly compliance status report of EC condition with respect of Kudag Bauxite Mine, Lease area -377.116 Ha. of Hindalco Industries Limited, P.O- Kusmi in Balrampur- Ramanujganj, district,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-2017 enclosed as annexure-V.
6. Status report of mined out, reclaimed and afforestated 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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E-mail : hindalco@adityabirla.com,
corporate Identity No. L220MH1958PLCO11238.

Annexure - 1

15.5.2018.

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

Kudag Bauxite Mine

The status of compliance of the conditions (as per point no.3) with reference to environment clearance letter no.J-11015/354/2007-11A.II(M) dated 27.07.07 of Ministry of Environment & Forests, New Delhi, for expansion of production capacity of Kudag Bauxite Mine is 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 will be restricted to above ground water table As per our current mining operation. The ultimate depth of working is 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 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.

(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 being 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.

(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, Kashia Samia, mango, babul, pears & guava etc. Social forestry is also being encouraged among the local villagers. Year wise plantation is enclosed as annexure-C.

(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) One rain water harvesting ponds has been made at lease hold area.

(xv) 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) The report has been submitted to ministry. The rehabilitation of land oustees is not involved in the project.

(xix) 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 as annexure-4.

(xx) 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 as per guidelines. Data of ambient air quality (RPM, SPM, SO_2 and Nox) from Oct-17 to March-18 is enclosed as annex-3.

(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 area is being maintained below the limit prescribed and will be maintained. The operators of HEMM are being provided earplag/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 in our Group vocational training centre – Samri 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) Environment cell is already in place at Samri Mines Division headed by Sr. 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 information also 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.
Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Encl. : As Above

Annexure A 1

प्रधान मुख्य वन संरक्षक (वन्यप्राणी) प्रबंधन एवं जैव विविधता
प्रधान मुख्य वन्यप्राणी अभिरक्षक), छत्तीसगढ़
अरण्य भवन, मेकिंजी कॉलेज रोड, रायपुर
फोन 0771-2512328 Fax 0771-2512327

क्रमांक/वन्य/प्रबंध/ 12/13/2967 रायपुर दिनांक 07/10/2013

प्रति,

संचालक,
इन्वायरनमेंट क्लीयरेंस सेल
भारत सरकार, वन एवं पर्यावरण मंत्रालय,
पर्यावरण भवन, सी.जी.ओ. काम्प्लेक्स,
लोधी रोड, नई दिल्ली–110003

विषय :– छत्तीसगढ़ के बलरामपुर जिले (तत्कालीन सरगुजा जिला) में स्थित सामरी बॉक्साईट माईन्स, कुदाग बॉक्साईट माईन्स एवं टाटीझरिया बॉक्साईट माईन्स की क्षमता बढ़ाने हेतु ईन्वायरमेंट क्लीयरेंस।

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-11015/354/2007-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 बॉक्साईट खुली खदान (1 LTPA) की क्षमता बढ़ाकर (5LTPA) करने, कुदाग बॉक्साईट खदान (0.4 LTPA) की क्षमता बढ़ाकर (0.6 LTPA) करने तथा टाटीझरिया बॉक्साईट 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 है. मी, 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 है. मी 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 है. मी बॉक्साईट खनन की स्वीकृति प्राप्त कर संस्था द्वारा खनन का कार्य किया जा रहा है।

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[illegible] मौजूद ग्राहकों की क्षमता स्थापी के लिये 1.0 LPTA से बढ़ाकर 5.0 LPTA [illegible] के लिये 0.4 LPTA से बढ़ाकर 0.6 LPTA किया जाना एवं टाटीझरिया के लिये [illegible] LPTA से बढ़कर 4.00,000 TPA किया जाना प्रस्तावित है। भारत सरकार पर्यावरण व वन [illegible] के द्वारा उपरोक्त वृद्धि हेतु प्रथम चरण की स्वीकृति क्रमश 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 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 मेसर्स 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 स्पीसिज 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 है। प्रस्तावित क्षेत्र से 6 से 7 कि.मी.की दूरी पर झारखंड राज्य में मेदिया 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, पेयजल व्यवस्था, विभाग के क्षेत्रीय अमले के सहयोग से क्षेत्र में पेट्रोलिंग व मॉनिटरिंग, अग्नि सुरक्षा, ईको विकास की गतिविधियों, स्थानीय ग्रामीणों के लिये आजीविका सृजन, टीकाकरण, जनजागृति कार्यक्रम जैसी गतिविधियों का

[illegible] 160.00 लाख वर्तमान दर पर है, परियोजना में देरी होने से यह लागत [illegible] वृद्धि होगी। परियोजना के क्रियान्वयन के समय जो भी लागत आयेगी [illegible] एकमुश्त जमा करानी होगी। जिससे भूमि पृष्ठि के प्रभाव को समाप्त [illegible] एकमुश्त जमा की गई राशि से वन्यप्राणी संरक्षण योजना क्रियान्वित करेगा।

अनुमोदित वन्यप्राणी संरक्षण योजना की एक प्रति संलग्न प्रेषित है। कृपया वन्यप्राणी संरक्षण योजना में प्रावधानित राशि रू. 160.00 लाख एकमुश्त जमा कराने हेतु परियोजना प्रस्तावकर्ता को आदेशित करने का कष्ट करें।

संलग्नः—उपरोक्तानुसार।

(रामप्रकाश) 01/X/13
प्रधान मुख्य वन संरक्षक (वन्यप्राणी)
छत्तीसगढ़, रायपुर

पृष्ठां क्रमांक/व.प्र./प्रबंध–12/13/ 2168 रायपुर दिनांक 01/10/2013

प्रतिलिपि :—

1. प्रमुख सचिव, छत्तीसगढ़ शासन, वन विभाग, महानदी भंत्रालय भवन, नया रायपुर की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।
2. श्री एन. के. नायक, जी. एम. माइन्स हिन्डालको इन्डस्ट्रीज लिमिटेड, सामरी बॉक्साईट माईन्स, पोस्ट–कुसनी, जिला–सरगुजा, छत्तीसगढ़ की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।

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

Additional 4 yrs 01 वर्षों के लिये राशि रुपये 160 लाख प्रावधानित की गयी है। जिसका क्रियान्वयन [illegible] किया जायेगा। प्रस्ताव - प्रावधानित बजट का विवरण निम्नानुसार है :-

S.No.	Work to be done	Cost for Four years (Rs. in lakhs)					Remarks
		1st Year	2nd Year	3rd Year	4th 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	08.00	
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 sataff.	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)
	Total	55.00	35.00	35.00	35.00	160.00	

6. [illegible] 160.00 लाख वर्तमान दरों पर है. परियोजना में देरी होने से उक्त लागत [illegible] वृद्धि होगी। परियोजना के क्रियान्वयन के समय जो भी लागत आयेगी [illegible] विभाग में एकमुश्त जमा कराना होगी। जिससे मूल्य वृद्धि के प्रभाव को समाप्त [illegible] 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 रू. 160.00 लाख एकमुश्त जमा कराने हेतु परियोजना प्रस्तावणी में समुचित करने का कष्ट करें।

संलग्नः—उपरोक्तानुसार।

(रामप्रकाश) 01/X/13
प्रधान मुख्य वन संरक्षक (वन्यप्राणी)
छत्तीसगढ़, रायपुर

पृष्ठां क्रमांक/व.प्रा./प्रबंध-12/13/ 2968. रायपुर दिनांक 07/10/2013

प्रतिलिपि :—

1. प्रमुख सचिव, छत्तीसगढ़ शासन, वन विभाग, महानदी भंडालय भवन, नया रायपुर की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।
2. श्री एस. के. नायक, जी एम, माइन्स हिन्डालको इन्डस्ट्रीज लिमिटेड, सामरी बॉक्साईट माईन्स, पोस्ट—जुरली, जिला—सरगुजा, छत्तीसगढ़ की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।

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

Annexure-B

KUDAG BAUXITE MINE LEASE AREA.

Annexure-6
Details of Flora and Fauna

Agent of Mines
Samri Mines Division.
Hindalco Industries Ltd

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

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

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

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

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

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

Sr. No.	Technical Name	Family	Life Form
227	*Phyllanthes nirurii*	Euphorbiaceae	Therophyte
228	*Phyllanthes reticulates*	Euphorbiaceae	Therophyte
229	*Physalis minima*	Solanaceae	Therophyte
230	*Pithocolobium dulce*	Mimosaceae	Phanerophyte
231	*Polyalthia longifolia*	Annonaceae	Phanerophyte
232	*Polygala ererptera*	Polygalaceae	Therophyte
233	*Pongamia pinnata*	Fabaceae	Phanerophyte
234	*Portulaca oleracea*	Portulaccaceae	Therophyte
235	*Psidium guava*	Myrtaceae	Phanerophyte
236	*Punica granulatum*	Puniaceae	Therophyte
237	*Randia dumatorum*	Rubiaceae	Phanerophyte
238	*Rosa indica*	Rosaceae	Therophyte
239	*Rosa machata*	Rosaceae	Therophyte
240	*Saccharum munja*	Poaceae	Hemicryptophyte
241	*Saccharum officinarum*	Poaceae	Therophyte
242	*Salmalia malabarica*	Salmaliaceae	Phanerophyte
243	*Sapindus emerginatus*	Sapindaceae	Phanerophyte
244	*Schleichera trijuga*	Combretaceae	Phanerophyte
245	*Scherebera sweitenoides*	Sapindaceae	Phanerophyte
246	*Schleichera oleosa*	Sapindaceae	Phanerophyte
247	*Sesamum indicum*	Pedaliaceae	Hemicryptophyte
248	*Shorea robusta*	Dipterocarpaceae	Phanerophyte
249	*Sida orientalis*	Malvaceae	Phanerophyte
250	*Sida vernanifolia*	Malvaceae	Hemicryptophyte
251	*Solanum nigrum*	Solanaceae	Therophyte
252	*Solanum xanthocarpum*	Solanaceae	Therophyte
253	*Sterculia villosa*	Tiliaceae	Therophyte
254	*Stereospermum chelinoides*	Bignoniaceae	Phanerophyte
255	*Sygyglum cumini*	Myrtaceae	Phanerophyte
256	*Tamarindus indica*	Caesalpinaceae	Phanerophyte
257	*Tecomella undulate*	Bignoniaceae	Therophyte
258	*Tectona grandis*	Verbinaceae	Phanreophyte
259	*Tephrosia purpuria*	Fabaceae	Therophyte
260	*Terminalia bellarica*	Combretaceae	Phanerophyte
261	*Terminalia chebula*	Combretaceae	Phanerophyte
262	*Terminalia tomentosa*	Combretaceae	Phanerophyte
263	*Tinospora cordifolia*	Rhamnaceae	Therophyte
264	*Tragus biflorus*	Poaceae	Hemicryptophyte
265	*Tribulus terrestris*	Zygophyllaceae	Therophyte
266	*Tridax procumbens*	Compositae	Therophyte
267	*Triumferta pilosa*	Tiliaceae	
268	*Vernonia cinera*	Compositae	Therophyte
269	*Vicoa indica*	Compositae	Phanerophyte
270	*Vitex Negundo*	Verbinaceae	Phanerophyte
271	*Vitex negungo*	Verbinaceae	Therophyte
272	*Vitis vermifera*	Vitaceae	Therophyte
273	*Vivevera zizanoides*	Poaceae	Therophyte
274	*Wrightia tomentosa*	Apocyanaceae	Phanerophyte
275	*Xanthium strumariumk*	Compositae	Therophyte
276	*Yucca gloriosa*	Agavaceae	Therophyte
277	*Zizyphus jujube*	Rhamnaceae	Phanerophyte
278	*Zizyphus mauritiana*	Rhamanaceae	Phanrophyte
V. Grasslands			
279	*Apluda mutica*	Poaceae	Hemicryptophyte
280	*Chloris dolichosta*	Poaceae	Hemicryptophyte
281	*Cyanodactylon sp*	Poaceae	Geophyte
282	*Dichanthium annulatum*	Poaceae	Hemicryptophyte
283	*Inpurta cylendrica*	Poaceae	Hemicryptophyte
284	*Sachharum spontanseum*	Poaceae	Hemicryptophyte
285	*Themeda quadrivalvis*	Poaceae	Hemicryprophyte
286	*Aristida adscensionsis*	Poaceae	Hemicryptophyte
287	*Cenchrus ciliaris*	Poaceae	Therophyte
288	*Cenchrus setifgera*	Poaceae	Therophyte
289	*Cymbopogon jwarancusa*	Cyperaceae	Hemicrptophyte
290	*Cyperus aristatus*	Cyperaceae	Therophyte
291	*Cyperus triceps*	Cyperaceae	Therophyte

Sr. No.	Technical Name	Family	Life Form
292	*Dactylectinium annualatum*	Poaceae	Therophyte
293	*Digetaria bicornis*	Poaceae	Hemicryptophyte
294	*Digetaria Segetaria*	Poaceae	Hemicryptophyte
295	*Eragrostis biferia*	Poaceae	Therophyte
296	*Eragrostis tenella*	Poaceae	Therophyte
297	*Ischaemum rugosum*	Poaceae	Hemicryptophyte
298	*Setaria glauca*	Cyperaceae	Hemicryptophyte
299	*Eulaliopsis binata*	Graminae	Hemicryptophyte
300	*Thysanolaena maxima*	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		
Phlacrocorax niger	Little cormorant	Sch-IV
Nycticorax nycticorax	Night heron	Sch-IV
Ardeola grayii grayii	Paddy bird	Sch-IV
Bubulcus ibis coromandus	Cattle egret	Sch-IV
Eudynamys scolopacea	Indian koel	Sch-IV
Meops philippinus philippinus	Bluetailed bee-eater	Sch-IV
Dinopium benghalense tehminae	Malabar golden backed Woodpecker	Sch-IV
Acridotheres tristis tristis	Common myna	Sch-IV
Nectarinia minima	Small sunbird	Sch-IV
Passer domesticus indicus	Indian house sparrow	Sch-IV
Butterflies		
Hypolimnas bolina Lin.	Great eggfly	-
Euploea core Cramer	Common crow	-
Neptis hylas Moore	Common sailor	-
Eurema hecabe Lin.	Common grass yellow	-
Parantica aglea Stoll.	Glassy tiger	-
Mammals		
Funambulus palmarum	Squirrel	Sch-IV
Sus sucrofa	Wild pig	Sch-III
Herpestes edwardii	Common mongoose	Sch-IV
Vulpus benghalensis	Wild fox	Sch-II
Hystrix indica	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		
Phlacrocorax niger	Little cormorant	Sch-IV
Ardea purpurea manilensis	Eastern purple heron	Sch-IV
Nycticorax nycticorax	Night heron	Sch-IV
Ardeola grayii grayii	Paddy bird	Sch-IV
Dupetor flavicollis	Black bittern	Sch-IV
Ardea alba modesta	Large egret	Sch-IV
Bubulcus ibis coromandus	Cattle egret	Sch-IV
Milvus migrans govinda	Common pariah kite	Sch-IV
Haliastur indus indus	Brahminy kite	Sch-IV
Vanellus indicus indicus	Redwattled lapwing	Sch-IV
Tringa hypoleucos	Common sandpiper	Sch-IV
Gelochelidon nilotica nilotica	Gullbilled tern	Sch-IV
Eudynamys scolopacea	Indian koel	Sch-IV
Halcyon smyrnensis fusca	Indian white breasted Kingfischer	Sch-IV
Meops philippinus philippinus	Bluetailed bee-eater	Sch-IV

Technical Name	English Name/Local Name	Wild Life Protection Act (1972)
Coracias benghalensis indica	Southern Indian Roller	Sch-IV
Dinopium benghalense tehminae	Malabar golden backed Woodpecker	Sch-IV
Acridotheres tristis tristis	Common myna	Sch-IV
Corvus splendens protegatus	Ceylon house crow	Sch-IV
Nectarinia minima	Small sunbird	Sch-IV
Nectarenia. zeylonica sola	Indian purple rumped sunbird	Sch-IV
Arachnothera longirostris longirostris	Little spinder hunter	Sch-IV
Passer domesticus indicus	Indian house sparrow	Sch-IV
Copsychus saularis ceyonensis	Southern magpie-robin	Sch-IV
Orthotomus sutorius	Tailor bird guzurata	Sch-IV
Pavocristatus	Peacock	Part-III of Sch-I
Amphibians		
Rana tigriana	Common frog	Sch-IV
Buto melanosticus	Toad	Sch-IV
Reptiles		
Calotes versicolor	Lizard	Sch-IV
Calotes versicolor	Common garden lizard	Sch-IV
Chamaleon zeylanicus	Indian chamaeleon	Sch-II
Lycodon spp.	Wolf snake	Sch-III
Boiga spp.	Cat snake	Sch-III
Bangarus spp.	Krait	Sch-II
Naja naja	Indian cobra	Sch-III
Vipera spp.	Russels viper	Sch-III
Phyton sp	Python sp	Sch-I
Butterflies		
Pachliopta hector Lin.	Crimson rose	-
Papilio demoleus Lin.	Lime butterfly	-
Graphium agamemnon Lin.	Tailed jay	-
Junoria almana Lin.	Peacock pansy	-
Hypolimnas bolina Lin.	Great eggfly	-
Euploea core Cramer	Common crow	-
Neptis hylas Moore	Common sailor	-
Eurema hecabe Lin.	Common grass yellow	-
Catopsilia sp.	Emigrant	-
Mammals		
Rattus sp.	Rat	Sch-IV
Lepus nigricollis	Hare	Sch-IV
Canis auries	Jackal	Sch-III
Presbytis entellus	Langur	Sch-II
Presbytis phayrei	Monkey	Sch-I
Funambulus spp.	Squirrel	Sch-IV
Funambulus palmarum	Squirrel	Sch-IV
Sus sucrofa	Wild pig	Sch-III
Rattus norvegicus	Field mouse	Sch-V
Rattus rattus	House rat	Sch-V
Rhinolopus spp.	Bat	Sch-V
Hipposiderus spp.	Bat	Sch-V
Herpestes edwardii	Common mongoose	Sch-IV
Bandicota indica	Bandicoot	Sch-V
Bandicota bengalensis	Bandicoot	Sch-V
Vulpus benghalensis	Wild fox	Sch-III
Melsurus ursinus	Bear	Sch-III
Hystrix indica	Porcupine	Sch-IV
Axis axis	Spotted deer	Sch-III
Canis lupaspallipes	Indian wolf	Part-I of Sch-I
Mellivora capensis	Indian Ratel	Part-I of Sch-I
Elephas maximas	Indian Elephant	Part-I of Sch-I
Felis chaus	Jungle cat	Part-II of sch-II
Parodoxurus hermophroiditus	Indian Small civet	Part-I of sch-I
Muntiacus muntiacus	Barking deer	Sch-III
Macaca mulata	Monkey	Part-I of Sch-I

Annexure - II

ANNEXURE - II

Annexure-II

KUDAG

Telegram : PARYAVAPAN
NEW DELHI
Telephone :
Telex : (bi-lingual) : W-66185 OOE IN
FAX : 4360678

भारत सरकार
पर्यावरण एवं वन मंत्रालय
GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT & FORESTS
पर्यावरण भवन, सी० जी० ओ० कॉम्प्लेक्स
PARYAVARAN BHAWAN, C.G.O. COMPLEX
लोदी रोड, नई दिल्ली - 110003
LODHI ROAD, NEW DELHI - 110003

Dated: 8th March, 1996.

No.8-24/95-FC

To

The Secretary (Forests)
Government of Madhya Pradesh
Bhopal.

Sub: Diversion of 124.109 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.5/17/95/10/3 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 124.109 ha. of revenue forest land in favour of M/s HINDALCO Industries Ltd. for Bauxite mining in District Sarguja subject to the following conditions:

i) Legal status of forest land shall remain unchanged.

ii) Compensatory afforestation shall be carried out over double the degraded forest land at the project cost.

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 MMRD 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) A ny 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 P rincipal 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.

19.3.96
(R.K. CHAUDHRY)
AIGF.

कार्यालय वनमण्डलाधिकारी, बलरामपुर
वनमण्डल बलरामपुर (छत्तीसगढ़)

दूरभाष - 07831-273091,273092 (Office), 273093 (Fax)   ई-मेल dfobalrampur@gmail.com

क्रमांक/मा.चि./2017/ [illegible]   बलरामपुर दिनांक [illegible]/2017

प्रति,

महाप्रबंधक,
मेसर्स हिण्डाल्को इण्डस्ट्रीज लि.
सामरी माइन्स डिवीजन,
बाबा चौक, पोस्ट कुसमी पिन नं. 497224
जिला बलरामपुर रामानुजगंज छ0ग0

24/7/17 (12)
Nig

विषय :- बलरामपुर रामानुजगंज जिले के बलरामपुर वनमण्डल अंतर्गत मेसर्स हिण्डाल्को इण्डस्ट्रीज लिमिटेड के कुदाग बाक्साईट खदान हेतु रकबा 124.109 हे. वन भूमि में बाक्साईट खनिज उत्खनन के लीज अवधि के एम.एम.डी.आर. अधिनियम 2015 के अनुरूप विस्तारीकरण बाबत्।

संदर्भ :- (1) छ0ग0 शासन वन विभाग का पत्र क्रमांक /एफ 5-17/2017/10-2 दिनांक [illegible]/2017
(2) अपर प्रधान मुख्य वनसंरक्षक (भू-प्रबंध/व.स.अ.) छ0ग0 का पत्र क्रमांक/भू-प्रबंध/खनिज/[illegible]/2209 रायपुर 12.07.2017
(3) मुख्य वनसंरक्षक सरगुजा वनवृत्त अम्बिकापुर का पत्र क्रमांक/मा.चि./[illegible]-21 /2011 अम्बिकापुर दिनांक [illegible]/2017
(4) आपका पत्र क्रमांक / HIL/SBM/DFO/120/2017/S date 21-07-2017

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विषयांतर्गत संदर्भित पत्र से छ0ग0 शासन वन विभाग द्वारा हिण्डाल्को इण्डस्ट्रीज लिमिटेड के कुदाग बाक्साईट खदान हेतु रकबा 124.109 हे. वन भूमि में बाक्साईट खनिज उत्खनन हेतु वनसंरक्षण अधिनियम 1980 अंतर्गत गैर वानिकी कार्य की स्वीकृति माईनिंग लीज अवधि के समानांतर दिनांक 23.12.2046 तक अधिरोपित शर्तों के अधीन जारी की गई है। जिसके पालन में आपके द्वारा संदर्भित पत्र क्रमांक 04 से पालन प्रतिवेदन एवं कलेक्टर बलरामपुर का अनुमोदन पत्र प्रस्तुत किए जाने पर बाक्साईट उत्खनन हेतु निम्नानुसार शर्तों के अधीन कार्य की अनुमति दी जाती है :-

1. भारत सरकार पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा जारी पत्र क्रमांक /एफ.नं. 8-24/95-एफसी दिनांक 19.01.1996 एवं पत्र क्रमांक /एफ.नं. 11-51/2014-एफसी दिनांक 01.01.2015 व 01.05.2015 तथा खनिज साधन विभाग, छत्तीसगढ़ शासन के पत्र क्रमांक/एफ 7-9/2015/12 दिनांक 19.05.2015 में उल्लेखित समस्त शर्तें व आवश्यक सभी दिशा-निर्देश बंधनकारी होंगे।
2. लीज क्षेत्र के सीमा निर्धारण के मुनारों का भौतिक रूप से हस्तांतरण करना होगा।
3. सम्पूर्ण खनन क्षेत्र की [illegible] 4 फीट के आर.सी.सी. मुनारों को [illegible] कर हर मुनारों में डी.जी.पी.एस. की [illegible] एक मुनार से दूसरे मुनार की [illegible] जी.पी.एस. को-आर्डिनेट एवं [illegible] होना चाहिए।

4. [illegible] अंतर्गत आवश्यक [illegible] का स्वयं करना होगा।
5. [illegible] संख्या 15 [illegible] कक्ष क्रमांक 12 566 है, में रोपण हेतु [illegible] के अनुसार राशि रु. 20,33,165.00 का डी.डी. अथवा चेक [illegible] वनमण्डलाधिकारी बलरामपुर के नाम से [illegible] दिवस के अंदर इस कार्यालय में प्रस्तुत करेंगे अन्यथा [illegible] किया जाएगा।
6. छत्तीसगढ़ शासन वन विभाग द्वारा अतिरिक्त कोई शर्त लागू की जाती है तो पालन करना होगा।

वनमण्डलाधिकारी
बलरामपुर वनमण्डल बलरामपुर

पृ. क्रमांक/मा.चि./ [illegible]
बलरामपुर, दिनांक [illegible]/2017

प्रतिलिपि:

1. अपर प्रधान मुख्य वनसंरक्षक (भू-प्रबंध/[illegible]) अरण्य भवन रायपुर को अवलोकनार्थ सादर सम्प्रेषित।
2. मुख्य वनसंरक्षक सरगुजा वृत्त अम्बिकापुर को अवलोकनार्थ हेतु सादर सम्प्रेषित।
3. उपवनमण्डलाधिकारी बलरामपुर/राजपुर एवं परिक्षेत्राधिकारी [illegible]/ कुसमी को सूचनार्थ अग्रेषित कर निर्देशित हो कि उपरोक्तानुसार उल्लिखित शर्तों का पालन कराया जाना सुनिश्चित करें तथा कक्ष 12 566 के बिगड़े वन भूमि में रोपण हेतु [illegible] प्रतिवेदन प्रस्तुत करें।

वनमण्डलाधिकारी
बलरामपुर वनमण्डल बलरामपुर

ADITYA BIRLA

HINDALCO

HIL/SBM/DFO/ [illegible]

Date: 4-9-2017

To,
Divisional Forest Officer
Balrampur-Ramanujganj

Sub:- Extension of validity of approval accorded under Forest (conservation) Act, 1980 for diversion of 124.109 Hect Revenue forest land for non-forest (Mining operation) purpose in respect of Kudag Bauxite Mine of M/s Hindalco Industries Limited.

Ref: Your letter number cramank/ma.chi/2017/2447, dated 24/07/2017

With reference to Clause No. 5 of your above said letter, herewith we are depositing a sum of:- Rs. 20,33,166.00 (Twenty Lac Thirty three thousand One Hundred Sixty Six Only) in favour of DFO, Balrampur, vide Cheque no.918133, 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 Kudag Bauxite Mine.

Hope you find the above in order.

Kindly acknowledge the receipt.

Thanking You,
Yours Faithfully,
For Hindalco Industries Limited

M. K.Nayak
(Agent of Mines)

Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

CC: 1. Addl. PCCF, Aranya Bhawan, Raipur
2. PCCF, Aranya Bhawan, Raipur
3. CCF, Ambikapur
4. Forest Ranger, Kusmi & Chando

Hindalco [illegible]
Samri Mines, [illegible]
At & Post - Kusmi [illegible]
Distt - Balrampur-Ramanujganj [illegible]
Telephone [illegible]
FAX [illegible]

Corporate Identity No. - L27020MH1958PLC011238

State Bank Of India

11594037306

CURRENT A/C

Authorised Signatory - Authorised Signatory
FOR GOLDEN PEACOCK INDUSTRIES LTD.

Annexure - III

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

Duration: January-February-March-2018

Name of Industry

HINDALCO
ADITYA BIRLA GROUP

M/s. Hindalco Industries Limited.,

Name of Laboratory:-

ANACON LABS

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.

Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

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

Duration: October-November-December-2017

Name of Industry

HINDALCO
ADITYA BIRLA GROUP

M/s. Hindalco Industries Limited.,

Name of Laboratory:-

ANACON LABS

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
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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.

Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Apur/water/R/Aug 2017/ 1125/ 05/8/2017

Annexure - IV.

REGIONAL OFFICE

CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

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

No. 233/RO/TS/CECB/2017 Ambikapur, Dt. 05/8/2017

To,

M/s Hindalco Industries Limited,
(Kudag Bauxite Mine)
Village- Kudag, Tehsil - Samri,
District - Balrampur-Ramanujganj (C.G.)

Subject : Renewal of consent of the board under Section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974.

Ref. : Your online application no. 486480 dated 21/07/2017 and subsequent correspondence ending dated 04/08/2017.

With reference to your above, application consent and license are hereby renewed for a period of Five years i.e. from **01/12/2017 to 30/11/2022** with the terms and conditions incorporated in the consent issued by Board Office letter No. 6880/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	***0.6 Lakhs T./Annum (Zero point Six Lakhs Tones 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 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 all along the mine lease area. As for 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

5/8/17

Regional Officer
Chhattisgarh Environment Conservation Board,
Ambikapur

Hindalco Industries Ltd.
Samri Mines Division
Distt.Balrampur (C.G.)
Date 7/8/17 (122)
Received by

Apur/Air/R/Aug 2017/1125/05/8/2017

REGIONAL OFFICE
CHHATTISGARH ENVIRONMENT CONSERVATION BOARD

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

No. 834 /RO/TS/CECB/2017 Ambikapur, Dt. 05/8/2017

To,

M/s Hindalco Industries Limited,
(Kudag Bauxite Mine)
Village- Kudag, Tehsil - Samri,
District - Balrampur-Ramanujganj (C.G.)

Subject : Renewal of consent of the board under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981.

Ref. : Your online application no. 486480 dated 21/07/2017 and subsequent correspondence ending dated 04/08/2017.

With reference to your above, application consent and license are hereby renewed for a period of Five years i.e. from **01/12/2017 to 30/11/2022** 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	***0.6 Lakhs T./Annum (Zero point Six Lakhs Tones Per Annum)***

Additional Conditions:-

1. 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.
2. 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.
3. Industry shall ensure safe and scientific arrangement for disposal of all solid wastes. Excavated area shall be reclaimed scientifically.
4. 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.
5. Industry shall use fly ash based products in their construction/ repairing activities.
6. Wide green belt of broad leaf local species shall be developed all along the mine lease area. As for as possible maximum area of open spaces shall be utilized for plantation purposes.
7. 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.
8. 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

05/8/17

Regional Officer,
Chhattisgarh Environment Conservation Board,
Ambikapur

Hindalco Industries Ltd.
Samri Mines Division
Distt.Balrampur (C.G.)
Date. 7/8/17 (123)
Received by .....

Hindalco Industries Ltd.
Mines Division, Samri

Annexure - V

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

Hindalco Industries Ltd.
Mines Division, Samri

Annexure - VI

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.

Annexure-VII

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