



UAIL-Mines/DFO/88/2017

Date: 19th August, 2017

To
The Divisional Forest Officer
Rayagada Division, Rayagada

Sub: Diversion of 233.343 ha. of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhal, Dhuturapas and Karanj-Kupakhal under kasipur Tehsil of Rayagada District within total mining lease area of 1388.74 ha for bauxite mining in their Baphlimali bauxite Mines in Kalahandi and Rayagada districts of Odisha by M/s Utkal Alumina International Ltd.

Ref:

1. Proposal No. FP/OR/MIN/14006/2015.
2. In-principle approval letter no. F.No. 8-18/2016-FC dated 29.06.2017 from MoEF & CC, GoI, New Delhi and letter no. 10F (Con) 2/ 2017/4843/F & E Dated 15.07.2017 from F & E Department, GoO.
3. Your letter No.4131/4F (Misc) 1263/2017 dated 03.08.2017

Dear Sir,

This has reference to the Stage-1 conditions as imposed by MoEF & CC, GoI, New Delhi & F & E Department, GoO. Regards to this, We sincerely thank you for your necessary guidance and co-operation for arranging the in-principle grant of Stage-1 approval against the diversion of 233.343 ha. of DLC forest land involved within the Baphlimali Mining Lease area of 1388.740 Ha.

The point wise compliance of the conditions as stipulated thru in-principle approval by MoEF & CC, GoI & F & E Department, Govt of Odisha is furnished as below -

Sl.No	Conditions	Compliance
(i)	Legal status of the diverted forest land shall remain unchanged	Legal status of the land will not be changed. Undertaking addressed in Sl.No-1of Annexure-1.
(ii)	Compensatory afforestation over the non-forest land equal in extent to the forest land being diverted shall be raised within a period of three years with effect from the date of issue of Stage-ii clearance and maintained thereafter as per approved plan by the State Forest Department at the cost of the user agency	Towards raising compensatory afforestation over the non-forest land by the State Forest Department an amount of Rs 8,82,21,400.00/- has been deposited vide UTR No. SBIN52017081700056182 dated 14.08.2017 in Corporation Bank FCS Bangalore in Account No: 15082109140062015343.

UAIL-Mines/DFO/88/2017

Date: 19th August, 2017

To
The Divisional Forest Officer
Kalahandi(S) Division
Bhawanipatna

Sub: Diversion of 233.343 ha. of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhal, Dhuturapas and Karanj-Kupakhal under kasipur Tehsil of Rayagada District within total mining lease area of 1388.74 ha for bauxite mining in their Baphlimali bauxite Mines in Kalahandi and Rayagada districts of Odisha by M/s Utkal Alumina International Ltd.

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(ii)	Compensatory afforestation over the non-forest land equal in extent to the forest land being diverted shall be raised within a period of three years with effect from the date of issue of Stage-ii clearance and maintained thereafter as per approved plan by the State Forest Department at the cost of the user agency	Towards raising compensatory afforestation over the non-forest land by the State Forest Department an amount of Rs 8,82,21,400.00/- has been deposited vide UTR No. SBIN52017081700056182 dated 14.08.2017 in Corporation Bank FCS Bangalore in Account No: 15082109140062015343.

Sl.No	Conditions	Compliance
		<p>A copy of the payment receipt/challan is attached as Annexure-2.</p> <p>However an Undertaking to provide the vehicle within the approved cost of Rs 20,000,00/-addressed in Sl.No-2 of Annexure-1.</p>
(iii)	The land identified for the purpose of CA shall be clearly depicted on a Survey of India topo-sheet of 1:50,000 scale;	The CA land identified is clearly shown on a Survey of India topo sheet of 1:50,000 scale and drawings are submitted herewith as Annexure-3 .
(iv)	The non-forest land identified for raising compensatory afforestation shall be transferred and mutated in favour of the State Forest Department before issue of the Stage-11 clearance;	Non-forest land identified for compensatory afforestation is at the proclamation stage. Subsequently shall be mutated in favour of the State Forest Department followed with transfer of the said land for which UAIL will extend all necessary facilities.
(v)	The non-forest land identified for raising Compensatory Afforestation shall be notified by the State Government as RF under Section-4 or PF under Section-20 of the Indian Forest Act, 1927 or under the relevant Section(s) of the local Forest Act, as the case may be, within a period of six months. The Nodal Officer (Forest Conservation) shall report compliance in this regard;	UAIL will extend all sorts of necessary facilities, as & when required, towards transfer of CA land and its mutation in favour of the Forest Department.
(vi)	The User Agency shall transfer the cost of raising and maintaining the compensatory afforestation at the current wage rate in consultation with State Forest Department in the account of Ad-hoc CAMPA of the concerned State through online portal. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years;	<p>An amount of Rs 8,82,21,400.00/-towards raising and maintaining compensatory afforestation as per the demand note raised by the DFO-Rayagada vide letter no. 4165/ 4F(Misc) 1263/2017 dated 4th August-2017 has been deposited vide UTR No. SBIN52017081700056182 dated 14.08.2017 in Corporation Bank FCS Bangalore in Account No: 15082109140062015343 through NEFT /RTGS.</p> <p>The scheme includes the appropriate provision for anticipated cost increase for works scheduled for the subsequent years.</p> <p>Undertaking addressed in Sl.No-3 of Annexure-1.</p>

Sl.No	Conditions	Compliance
(vii)	The User Agency shall transfer online, the Net Present Value (NPV) of the forest land being diverted under this proposal, as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No. 202/1995 and the guidelines issued by this Ministry vide its letter No. 5-3/2007-FC dated 05.02.2009. The requisite funds shall be transferred through online portal into Ad-hoc CAMPA account of the State Concerned;	An amount of Rs 14,60,72,718/- towards Net Present Value (NPV) for 233.343 ha of DLC forest land diverted has been deposited through RTGS into the Ad-hoc CAMPA fund. A copy of the receipt is enclosed as Anneure-4 . Hence Complied.
(viii)	At the time of payment of the Net Present Value (NPV) at the then prevailing rate, the User Agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India	Undertaking addressed in Sl.No-4 of Annexure-1 .
(ix)	Action may be initiated against the erring officials by the state government for negligence and ignoring land records while processing and executing mining lease in the year 1998 and 2000.	No Comments.
(x)	Fencing, protection and regeneration of the safety zone area [7.5 meters strip shall be kept within the mining lease boundary and area of the safety zone shall be part of the total area of mining lease as per the Ministry's guidelines dated 27.05.2015] shall be done within three years at the project cost as per approved scheme. Besides this afforestation on degraded forest land to be selected elsewhere measuring one & a half times the area under safety zone shall also be done at the project cost. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files and afforestation will be done within three years from the date of Stage-II clearance;	Agreed. Vide Memo no.4272 /4F dated 09.08.2017 of DFO, Rayagada, site visit of the range officer, Kashipur & Tikiri has been completed over the degraded forest land identified to undertake the afforestation. In-principle the team has been agreed about the suitability of the said land keeping in view the location, accessibility and type of the forest land. Survey is on-going through DGPS and subsequently shape file shall be created. A detailed Scheme is attached as Annexure-5 . Undertaking addressed in Sl.No-5 of Annexure-1 .

Sl.No	Conditions	Compliance
(xi)	Period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development and Regulation) Act, 1957, as amended and the Rules framed there-under.	Noted, Shall be complied with. Undertaking addressed in Sl.No-6 of Annexure-1.
(xii)	Any fund received from the user agency under the project and deposited in the State Forest Department account, except the funds realized for regeneration/ demarcation of safety zone, shall be transferred through online portal into Ad-hoc CAMPA account of the State Concerned;	Noted & shall be complied with.
(xiii)	The User Agency shall obtain the Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required;	It is in place. A copy of the Environmental Clearance is attached as Annexure-6.
(xiv)	No labour camp shall be established on the forest land	No labour camp will be established within the Forest land. Undertaking addressed in Sl.No-7 of Annexure-1.
(xv)	The User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas	LPG cooking gas is being used as alternative fuel in all canteens/residential town-ship / contractor camps. However, we have instructed to all the contractors not to use any illegally procured fire wood in order to cause any damage and pressure on the nearby forest areas. Undertaking addressed in Sl.No-8 of Annexure-1.
(xvi)	The boundary of the diverted forest land, mining lease and safety zone, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed, with its serial number, distance from pillar to pillar and GPS co-ordinates	The boundary of the diverted forest land has been demarcated on ground by erecting the four feet high PCC pillars of adequate size & each inscribed with its serial number, GPS coordinates and forward & backward bearings of the adjoining pillars. Hence Complied.
(xvii)	The User Agency shall undertake mining in a phased manner after taking due care	Mining activities shall be undertaken as per the commitment given in the Mining

Sl.No	Conditions	Compliance
	for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report, on implementation Thereof shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned State Government and the concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the Addl. Principle Chief Conservator of Forests (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities area satisfactorily executed.	Plan. Moreover, the implementation of concurrent mining & reclamation through backfilling started in the on-going year i.e. 2017-18 & annual report shall be submitted to all concerned in due date without fail. Undertaking addressed in Sl.No-9 of Annexure-1.
(xviii)	The layout plan of the mining plan/ proposal shall not be changed without the prior approval of the Central Government	Agreed & shall be complied with. Undertaking addressed in Sl.No-10 of Annexure-1.
(xix)	The forest land shall not be used for any purpose other than that specified in the proposal	Agreed & shall be complied with. Undertaking addressed in Sl.No-11 of Annexure-1.
(xx)	The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government	Agreed & shall be complied with. Undertaking addressed in Sl.No-12 of Annexure-1.
(xxi)	No damage to the flora and fauna of the adjoining area shall be caused	Agreed & shall be complied with. Undertaking addressed in Sl.No-13 of Annexure-1.
(xxii)	Any tree telling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department;	Tree falling is not necessary as all the trees exist at the slope of the ML, where there is no scope/proposal of mining. Undertaking addressed in Sl.No-14 of Annexure-1.

Sl.No	Conditions	Compliance
(xxiii)	The user agency will abide by the applicable recommendations of the State Government	Agreed & shall be complied with.
(xxiv)	Following activities, as per approved plan / schemes, shall be undertaken by the User Agency under the supervision of the State Forest Department	The following conditions will be fulfilled in co-ordination with State Forest Department at the cost of M/s UAIL.
	a) Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three year with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department.	Shall be met as per the scheme. A detailed Scheme is enclosed as Annexure-7
	b) Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme;	Shall be met as per the scheme. A detailed Scheme is enclosed as Annexure-8
	c) Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme;	Shall be met as per the scheme. A detailed Scheme is enclosed as Annexure-9
	d) Stabilize the overburden dumps by appropriate grading/benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 28 ° and	Shall be met as per the scheme. A detailed Scheme is enclosed as Annexure-10
	e) No damage shall be caused to the top-soil and the user agency will follow the top soil management plan.	Shall be met as per the scheme. A detailed Scheme is enclosed as Annexure-11 Undertaking addressed in Sl.No-15 of Annexure-1.
(xxv)	The State Government shall complete settlement of rights, in terms of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in its letter No. 11-9/1998-FC (pt.) dated 03.08.2009 read with 05.07.2013, in support thereof;	Certificate on completion of settlement of right under the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has been issued by the Collector, Rayagada and was furnished in the Forest diversion proposal. Hence Complied.

Sl.No	Conditions	Compliance
(xxvi)	User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.40), if any, located in the area within 100 m. from outer perimeter of the mining lease. The plan for plantation and SMC activities will be prepared and submitted to MoEF &CC before Stage-II Clearance	The User Agency will undertake gap plantation and soil and moisture conservation activities to restock and rejuvenate the degraded open forests in consultation with the State Forest Department duly involving the local communities at their own cost. A detailed Scheme for plantation and SMC activities is enclosed as Annexure-12 .
(xxvii)	The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km. from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/water bodies. A detailed plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC before Stage-II approval;	The user agency has prepared a list of the existing village tanks and other water bodies along with the GPS Co-ordinates located within the 5 Km radius from the ML boundary. Regularly desilting of the villages tanks and other water bodies shall be done to mitigate the impact of siltation. A detailed Scheme for desilting of identified ponds and water bodies is enclosed as Annexure-13 .
(xxviii)	The User Agency shall submit the annual self-compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and to this Ministry by the end of March every year;	Noted & shall be complied with. Undertaking addressed in Sl.No-16 of Annexure-1 .
(xxix)	Any other condition that the concerned Regional Office of this Ministry may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife; and	Shall be followed, once stipulated by the Regional Offices specific to the interest of conservation, protection and development of forests & wildlife. Undertaking addressed in Sl.No-17 of Annexure-1 .
(xxx)	The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines & Hon'ble Court Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project	All the applicable Acts, Rules, Regulations, Guidelines & Hon'ble Court Order (s) pertaining to this project will be followed. Undertaking addressed in Sl.No-18 of Annexure-1 .

Additional conditions stipulated by State govt. vide letter no.10F (Con) 2/2017/4843/F & E dated 15.07.2017

1.	User Agency has to execute phased Reclamation Plan at their cost.	<p>Phased Reclamation plan will be executed as per the Mining Plan duly approved by IBM, BBSR at our own cost.</p> <p>However, execution shall be done as per Reclamation, afforestation & biological reclamation plan submitted herewith as Annexure-14.</p>
2.	<p>The User Agency shall pay the cost of duly approved Site Specific Conservation Plan with Adhoc-CAMPA account for execution of activities by DFO, Rayagada in project impact area. The lease shall also undertake that they will implement the approved components of plan within the lease hold area at their cost.</p> <p>Besides, the proportionate contribution towards implementation of Regional Wildlife Management Plan at revised rate on ML area basis shall also be deposited by user agency in Adhoc-CAMPA Account.</p>	<p>An amount of Rs.535.715 lakhs towards the cost of the Site Specific Conservation Plan for Rayagada Forest Division and Kalahandi (South) Division already approved by the CWLW, Odisha in his Memo No.5609 dated 27.06.2017 for its implementation in impact area of Rayagada and Kalahandi district through RTGS in Ad-hoc CAMPA account No. CA1585. The UTR No. along with the receipt in support of payment is enclosed as Annexure- 15</p> <p>Addition to this Rs 134.00 has been earmarked in the said proposal to undertake the components of the plan within the lease hold area at the cost of UAIL.</p> <p>Further, addition to this above two payments, an amount of Rs.8,05,46,920.00i.e@ 58,000/- per hectares for the whole ML area, which is 1388.74 Ha covering Kalahandi and Rayagada district, has been deposited in Adhoc-CAMPA Account towards implementation of Regional Wildlife Management Plan. The UTR No. along with the receipt in support of payment is enclosed as Annexure- 16</p>

3.	The User Agency shall undertake demarcation of the lease on the ground posting four feet high cement concrete pillars embedded two feet inside the soil with serial number, forward and backward bearings and distance from pillar to pillar. The user agency shall also submit the map of lease area showing different kinds of forest land using DGPS survey data and latitude and longitude of each pillar to the Divisional Forest Officer, Rayagada for his reference before commencement of work on final forest clearance.	Boundary of the lease has already been demarcated. However, as per this condition the boundary of the diverted forest land has been demarcated on ground by erecting the four feet high PCC pillars of adequate size & each inscribed with its serial number mentioning the directions of position of pillars, GPS coordinates and forward & backward bearings of the adjoining pillars. The map of the ML area showing the forest land using DGPS survey data is enclosed as Annexure-17 . This activity was taken up at the beginning stage & shall be maintained till commencement of work on final forest clearance.
4.	Reclamation and afforestation scheme and biological reclamation for this mining project shall be provided by the user agency.	Refer point no. 1 above .Scheme enclosed above as Annexure-14.
5.	Memorandum of Association, Articles of Association and certification of incorporation of the Applicant company shall be furnished.	A copy of the Memorandum of Association, Articles of Association and certification of incorporation of the Applicant company is enclosed as Annexure-18 .
6.	The user agency shall have valid CTO of SPCB beyond 31.03.2016	Consent to operate for 5.3MTPA bauxite mining has been obtained from OSPCB, BBSR vide letter no.2884/IND-I-CON-5450 dated 1.03.2017 valid up to 31.03.2018. Copy of the CTO is enclosed as Annexure-19 .
7.	Land schedule of DLC forest land applied for diversion duly authenticated by Tahasildar, Kashipur and DFO, Rayagada shall be furnished.	A copy of the Land schedule of DLC forest land duly authenticated by Tahasildar, Kashipur is enclosed as Annexure-20 .
8.	The existing and proposed land use plan shall indicate the component wise land use for whole ML Area.	The existing and proposed land use plan indicating the component wise land use for whole ML Area is enclosed as Annexure-21 .
9.	Lease profile shall be furnished by the lessee.	Not applicable as UAIL has the single bauxite mining lease in the State.
10.	Details of safety zone coming under non-forest land/DLC forest land shall be indicated in the proposed land use plan.	The proposed land use plan indicating the safety zone area coming under non-forest land/DLC forest land is enclosed as Annexure-22 .

11.	Non-encroachment and non-encumbrance certificate for 233.50 ha of non-forest land may be obtained from Tahasildar, Kashipur	Non-encroachment and non-encumbrance certificate for 233.50 ha of non-forest land identified for Compensatory Afforestation has been obtained vide letter no.643 dated 28.04.2016 from the Tahasildar, Kashipur. Copy of the same is enclosed as Annexure-23 .
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Hope above compliance is in order.

Furnished for your kind perusal and necessary action.

Thanking you

Yours faithfully,

For **UTKAL ALUMINA INTERNATIONAL LIMITED.**


Biswaranjan K. Padhi
Vice President-Mines

OFFICE OF THE DIVISIONAL FOREST OFFICER- RAYAGADA DIVISION.

Memo No. 4871 -4F(Misc) 1263 /2017
Dated, Rayagada the 15 th September 2017.

To

Regional Chief Conservator of Forests,
Koraput Circle, Koraput.

Subj. -

Diversion of 233.343 ha of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhai, Dhuturapass and Karanj-kupakhai under Kashipur Tahasil of Rayagada district within mining lease area of 1388.74 ha for bauxite Mining in their Baphilimali bauxite Mines in Kalahandi and Rayagada district of Odisha by M/s UAH (State S/No/OR-98/2016 dt.15.02.2016).

Ref:

1. Copy of letter No.F.No.8-18/2016-FC dated 29.06.2017 of Govt. of India, MoEF & C.C. (F.C. Division), New Delhi.
2. Memo No.14846/F&E dated 15.07.2017 of Govt. of Odisha, F & E Department to your address.
3. Your memo No.3004 dated 03.08.2017.

In inviting a kind reference to the above cited correspondence on the subject and the compliance report on fulfillment of conditions stipulated by Govt. of India, MoEF & CC (F.C. Division), New Delhi while according stage - I approval in their letter No. F.No.8-18/2016-FC dated 29.06.2017 and additional conditions imposed by Govt. of Odisha, F & E Department in their above memo under reference are submitted herewith for favour of kind information and necessary action.

Sl. No.	Conditions stipulated by Govt of India, MoEF & Climate Change (F.C. Division), New Delhi in their letter No. F.No.8-18/2016-FC dated 29.06.2017	Compliance report submitted by the User Agency.	Remarks
(i)	Legal status of diverted forest land shall remain unchanged.	Since the legal status of the proposed diversion of forest land is Parbat the Tahasildar, Kashipur will be requested not to effect any change after getting final approval order of Govt. of India, MoEF & CC, New Delhi. The User agency has also furnished an under taking in Serial no.I of Annexure-I that the legal status of forest land proposed for diversion shall remain unchanged which is enclosed as Annexure-I .	Complied

(ii)	Compensatory afforestation over the non-forest land equal in extent to the forest land being diverted shall be raised within a period of three years with effect from the date of issue of Stage-II clearance and maintained thereafter as per approved plan by the State Forest Department at the cost of the user agency.	<p>I. The user agency has deposited an amount of Rs. <u>8, 82, 21,400.00</u> towards cost of compensatory afforestation to be raised in 233.50 ha of non-forest land identified in Adatakri, Adajore, Joda Amba and Gumma murka village under Tahasil Tahasil of Rayagada district in Adhoc-CAMPA Account No. 15082109140062015343 vide UTR No. SBIN 52017081700056182 dated 17.08.2017 in Corporation Bank, FCS Bangalore on 14.08.2017 through web portal. The receipt in support of payment is enclosed as Annexure-2</p> <p>II. The user agency has furnished an undertaking in Serial no.2 of Annexure-1 to provide vehicle within the approved cost of Rs.20, 00,000/- for monitoring & evaluation.</p>	Complied
(iii)	The land identified for the purpose of CA shall be clearly depicted on a Survey of India Topo-sheet of 1:50,000 scale.	The User agency has furnished the Survey of India Topo sheet in appropriate scale depicting the CA land clearly which is enclosed as Annexure-3	Complied
(iv)	The non-forest land identified for raising Compensatory Afforestation shall be transferred and mutated in favour of the State Forest Department before issue of the Stage-II clearance.	The Mutation proposal has been filed before the Tahasildar, Kashipur vide this office letter no.4112 dated 03.08.2017 for mutation of 233.50 ha of non-forest land identified in Adatakri, Adajore, Joda Amba and Gumma murka village under Kashipur Tahasil of Rayagada district in favour of Forest Department and copy endorsed to the user agency to pursue the matter. The user agency has agreed to provide necessary facilities in the matter.	Complied
(v)	The non-forest land identified for raising Compensatory Afforestation shall be notified by the State Government as RF under Section-4 or PF under Section-20 of the Indian Forest Act, 1927 or under relevant Sections(s) of the local Forest Act, as the case may be, within a period of six months. The Nodal Officer (Forest Conservation) shall report compliance in this regard.	The Mutation proposal has been filed before the Tahasildar, Kashipur vide this office letter no.4112 dated 03.08.2017. After mutation of the identified non-forest land in favor of State Forest Department, the draft proposal for P.F. notification will be sent to the Addl. Pr. C.C.F., (F.D. & N.O., FC Act), O/O the Pr. C.C.F., Odisha, for onward transmission to Govt. of Odisha for issue of notification as protected forest under Section – 33 of Odisha Forest Act,1972.	Complied

(vi)	The user agency shall transfer the cost of raising and maintaining the compensatory afforestation, at the current wage rate in consultation with State Forest Department in the account of Ad-hoc CAMPA of the concerned state through online portal. The scheme may include appropriate provision for anticipated cost increase for works scheduled for subsequent years.	<p>I. The user agency has deposited an amount of Rs. <u>8,82,21,400.00</u> towards cost of compensatory afforestation to be raised in 233.50 ha of non-forest land identified in Adatakri, Adajore, Joda Amba and Gumma marka village under Kashipur Tahasil of Rayagada district in Adhoc-CAMPA Account No. 15082109140062015343 vide UTR No. SBIN 52017081700056182 dated 17.08.2017 in Corporation Bank, FCS Bangalore on 14.08.2017 through web portal. The receipt in support of payment is enclosed as Annexure-2 above.</p> <p>II. The user agency has also furnished an undertaking in Sl.No.3 of Annexure-1 enclosed above to pay the excess amount in case of hike in wage rate as per the provision made in the C.A. Scheme in anticipation of cost increase for work schedule in the subsequent years.</p>	Complied
(vii)	The user agency shall transfer online, the Net Present Value (NPV) of forest land being diverted under this proposal as per the orders of the Hon'ble Supreme Court of India dated 28.03.2008, 24.04.2008 and 09.05.2008 in Writ Petition (Civil) No.202/1995 and the guidelines issued by this Ministry vide its letter No.5-3/2007-FC dated 05.02.2009. The requisite funds shall be transferred through online portal into Ad-hoc CAMPA account of the State Concerned.	The user agency has deposited an amount of Rs.14,60,72,718/- (Rupees fourteen Crores Sixty lakha Seventy-two thousand Seven hundred eighteen) only towards NPV for 233.343 hectares of DLC forest land @ Rs. 6, 26,000/- per hectare through RTGS on Ad-hoc CAMPA Fund in State Specific CAMPA Account No.344901010070194 in Union Bank of India, Sunder Nagar, New Delhi (IFSC No.UBIN0534498), vide UTR No. UTIBH 15231093636 dated 19.08.2015. The receipt in support of payment is enclosed as Annexure-4	Complied
(viii)	At the time of payment of the Net Present value (NPV) at the then prevailing rate, the User Agency shall furnish an undertaking to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.	The user agency has furnished an undertaking in S.I.No.4 of Annexure-1 enclosed above to pay the additional amount of NPV, if so determined, as per the final decision of the Hon'ble Supreme Court of India.	Complied

<p>(ix) Action may be initiated against the erring officials by the state government for negligence and ignoring land records while processing and executing mining lease in the year 1998 and 2000.</p>	<p>As per the land schedule of Mining lease deed the entire lease area of 1388.74 ha of Baphilimali Bauxite Mines of M/s UAIL was non-forest land. After field verification and record verification it is ascertained that 233.343 ha of DLC forest land is involved within the above mining lease area. Since the above DLC forest land are in the books of Revenue Department there is no scope for the Divisional Forest Officer, Rayagada Division to know the involvement of DLC forest land in the mining lease of Baphilimali Bauxite Mines of M/s UAIL. In this context the Govt of Odisha, F & E Department has furnished a detail report to Govt of India, MoEF & C C in their letter no.7515/F&E dated 15.04.2017 under intimation to the RCCF, Koraput Circle in memo No.7518/F&E dated 15.04.2017.</p>	<p>Complied</p>
<p>(x) Fencing, protection and regeneration of the safety zone area (7.5 meters strip shall be kept within the mining lease boundary and area of the safety zone shall be part of the total area of mining lease as per the Ministry's guidelines dated 27.05.2015) shall be done within three years at the project cost as per approved scheme.</p> <p>Besides this afforestation on degraded forest land to be selected elsewhere measuring one & a half times the area under safety zone shall also be done at the project cost. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files and afforestation will be done within three years from the date of Stage-II clearance.</p>	<p>The user agency has prepared & submitted a scheme for Fencing, Protection and afforestation of the safety zone area over 15.75 ha. The said scheme has been approved by the R.C.C.F. Koraput Circle & R.C.C.F., Bhawanipatna Circle in his memo no.3334 dated 01.09.2017 & memo No.2799 dated 12.09.2017 respectively with a financial out lay of Rs.21,97,300.00. The said Scheme is enclosed as Annexure-5 (Part-I).</p> <p>Besides this afforestation on degraded DLC forest land over an area of 23.64 hectares has been selected in Khata no.32, Plot no.5,6 & 329 of Dhuturapas mouza under Kashipur Tahasil being the one & a half times the area under safety zone. The user agency has prepared & submitted a scheme for degraded forest land over an area of 23.64 ha. The said scheme has been approved by the R.C.C.F. Koraput Circle in his memo no.3334 dated 01.09.2017 with a financial out lay of Rs.24,41,282.00 The said Scheme is enclosed as Annexure-5 (Part-II).</p>	

(xi)	The period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease proposed to be granted under the Mines and Minerals (Development & Regulation) Act, 1957, as amended and Rules framed there-under.	The user agency has furnished an undertaking in Serial no.6 of Annexure-1 enclosed above to accept that the period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease granted by Department of Steel & Mines, Govt. of Odisha vide letter No.5071/SM/ Bhubaneswar III (K)SM.3/97-vol.II dated 10.06.1997.	Complied
(xii)	Any funds received from the user agency under the project and deposited in the State Forest Department account, except the funds realized for regeneration / demarcation of safety zone shall be transferred through online portal into Ad-hoc CAMPA account of the State Concerned.	No such provision of funds has been made in the project to be deposited by the user agency other than cost of C.A. and NPV which are to be transferred through online portal into Ad-hoc CAMPA account as noted against condition no.(ii) & (vii) above.	Complied
(xiii)	The user agency shall obtain Environment Clearance as per the provisions of the Environmental (Protection) Act, 1986, if required.	The user agency has obtained Environment Clearance as per the provisions of the Environment (Protection) Act, 1986, vide J-11015/650/2007-1A.II (M) dated 19.02.2009. The copy of the Environmental Clearance order is enclosed as Annexure-6 .	Complied
(xiv)	No labour camp shall be established on the forest land.	The user agency has furnished an undertaking in Sl.No.7 of Annexure-1 enclosed above that no labour camp shall be established on the forest land proposed for diversion.	Complied
(xv)	The User Agency shall provide fuels preferably alternate fuels to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas.	The user agency has furnished an undertaking in S.I.no.8 of Annexure-1 enclosed above that LPG cooking gas as alternate fuel will be provided to the labourers and the staff working at the site so as to avoid any damage and pressure on the nearby forest areas.	Complied
(xvi)	The boundary of the diverted forest land, mining lease and safety zone, as applicable, shall be demarcated on ground at the project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and GPS co-ordinates.	The user agency has demarcated the boundary of the diverted forest land, mining lease and safety zone, as applicable on ground at project cost, by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and DGPS co-ordinates. The Map showing the Pillar nos with DGPS is enclosed as Annexure-17 against item no. (C) of additional conditions stipulated by State Govt.	Complied

(xxvii)	The user agency shall undertake mining in a phased manner after take due care for reclamation of the mined over area. The concurrent reclamation plan as per the approved mining plan shall be executed by the User Agency from the very first year, and an annual report on implementation thereof, shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, in the concerned Government of and concerned Regional Office of the Ministry. If it is found from the annual report that the activities indicated in the concurrent reclamation plan are not being executed by the User Agency, the Nodal Officer or the Addl. PCCF (Central) may direct that the mining activities shall remain suspended till such time, such reclamation activities are satisfactorily executed.	The user agency has furnished an undertaking in Serial no.9 of Annexure-1 enclosed above to carryout mining in a phased manner and take due care for reclamation of the mined over area. The concurrent reclamation plan shall be executed by them from the year 2017-18 and an annual report on implementation thereof, shall be submitted to the Nodal Officer, Forest (Conservation) Act, 1980, Government of Odisha, Govt. of India, MoEF & CC, New Delhi and the Eastern Regional Office, Ministry of Environment, Forests & CC, (Eastern Zone), Bhubaneswar.	Complied
(xxviii)	The layout plan of the mining plan / proposal shall not be changed without the prior approval of the Central Government.	The user agency has furnished an undertaking in Serial no.10 of Annexure-1 enclosed above that the layout plan of the mining plan / proposal shall not be changed without the prior approval of the Central Government.	Complied
(xxix)	The forest land shall not be used for any purpose other than that specified in the proposal.	The user agency has furnished an undertaking in Serial no.11 of Annexure-1 enclosed above that the diverted forest land shall not be used for any purpose other than that specified in the proposal.	Complied
(xxx)	The forest land proposed to be diverted shall under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government.	The user agency has furnished an undertaking in Serial no.12 of Annexure-1 enclosed above that the Forest land proposed to be diverted shall not be transferred to any other agency, department or person without prior approval of the Central Government.	Complied
xxi	No damage to be flora and fauna of the adjoining area shall be caused.	The user agency has furnished an undertaking in Serial no.13 of Annexure-1 enclosed above that no damage shall be caused to the flora and fauna of the adjoining area.	Complied
(xxii)	Any tree felling shall be done only when it is unavoidable and that too under strict supervision of the State Forest Department.	The user agency has furnished an undertaking in Serial no. 14 of Annexure-1 enclosed above that tree felling shall only be done when it is unavoidable and that too under strict supervision of the State Forest Department.	Complied

(xxiii)	The user agency will abide by the applicable recommendations of the State Government.	The user agency has furnished an undertaking in Serial no. 15 of Annexure-1 enclosed above that the recommendations of the State Government applicable will be abided by M/s UAIL.	Complied
(xxiv)	Following activities, as per approved plan / schemes, shall be undertaken by the User Agency under the supervision of the State Forest Department.		
(a)	Mitigative measures to minimize soil erosion and choking of streams shall be implemented within a period of three year with effect from the issue of Stage-II clearance in accordance with the approved Plan in consultation with the State Forest Department.	The user agency has prepared & submitted a scheme for Mitigative measures to minimize soil erosion and choking of streams. The said scheme has been approved by the R.C.C.F. Koraput Circle & R.C.C.F., Bhawanipatna Circle in his memo no.3334 dated 01.09.2017 & memo No.2799 dated 12.09.2017 respectively with a financial out lay of Rs.16, 91,313.00. The said Scheme is enclosed as Annexure-7.	Complied
(b)	Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme.	The user agency has prepared & submitted a scheme for Planting of adequate drought hardy plant species and sowing of seeds, in the appropriate area within the mining lease to arrest soil erosion. The said scheme has been approved by the R.C.C.F. Koraput Circle in his memo no.3334 dated 01.09.2017 with a financial out lay of Rs.13, 44,960.00. The said Scheme is enclosed as Annexure-8.	Complied
(c)	Construction of check dams, retention toe walls to arrest sliding down of the excavated material along the contour in accordance with the approved scheme.	The user agency has prepared & submitted a scheme for Construction of check dams, retention / toe walls to arrest sliding down of the excavated material along the contour of the mining lease area of Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division. The said scheme has been approved by the R.C.C.F. Koraput Circle in his memo no.3334 dated 01.09.2017 with a financial out lay of Rs.28, 94,700.00. The said Scheme is enclosed as Annexure-9.	Complied
(d)	Stabilize the overburden dumps by appropriate grading / benching, in accordance with the approved scheme, so as to ensure the angles of repose at any given place is less than 28° and	The user agency has prepared & submitted a scheme for Stabilization of the overburden dumps by appropriate grading/benching in the mining lease area of Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division. The said scheme has been approved by the R.C.C.F. Koraput Circle in his memo no.3334 dated 01.09.2017 which is enclosed as Annexure-10.	Complied

(c)	No damage shall be caused to the topsoil and the user agency will follow the top soil management plan.	<p>The user agency has furnished an undertaking in Serial no.16 of Annexure-1 enclosed above that no damage shall be caused to the topsoil and to follow the top soil management plan.</p> <p>The user agency has also submitted a scheme for top soil management plan which will protect from the damage caused to top soil and to follow the top soil management plan in Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division as per approved mining plan which is enclosed as Annexure-11.</p>	Complied
(xxv)	The State Government shall complete settlement of rights, in term of the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, if any, on the forest land to be diverted and submit the documentary evidence as prescribed by this Ministry in it's letter No.11-9/1998-FC (PL) dated 03.08.2009 read with 05.07.2013 in support thereof.	A certificate on completion of settlement of right under the Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 has been issued by the Collector, Rayagada in his letter no.2432 dated 16.05.2016 and furnished in the diversion proposal against item no.25 of the Check list.	Complied
(xxvi)	User agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.4), if any, located in the area within 100 m, from outer perimeter of the mining lease. The plan for plantation and SMC activates will be prepared and submitted to MoEF & CC before Stage-II Clearance;	The user agency has prepared & submitted a scheme for undertaking gap planting and soil & moisture conservation measures to restock and rejuvenate the degraded open forests located within 100 meters from outer perimeter of the mining lease in Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division. The said scheme has been approved by the R.C.C.F. Koraput Circle in his memo no.3334 dated 01.09.2017 with a financial outlay of Rs.21, 87,272.00. The said Scheme is enclosed as Annexure-12.	Complied
(xxvii)	The User Agency shall prepare a list of existing village tanks and other Water bodies with GPS co-ordinates located within five km. from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User agency shall regularly undertake de-silting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks / water bodies. A detailed plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC before Stage-II approval.	The user agency has prepared & submitted a scheme with a list of existing village tanks and other water bodies with GPS co-ordinates located within (5) five km. from the mine lease boundary in Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division. The said scheme has been approved by the R.C.C.F. Koraput Circle & R.C.C.F., Bhawanipatna Circle in his memo no.3334 dated 01.09.2017 & memo No.2799 dated 12.09.2017 respectively with a financial outlay of Rs.52, 67,007.00. The said Scheme is enclosed as Annexure-13.	Complied

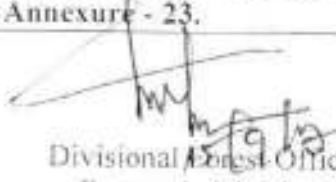
XXVIII	The User Agency shall submit the annual self compliance report in respect of the above stated conditions to the State Government, concerned Regional Office and this Ministry by the end of March every year.	The user agency has submitted an undertaking in Serial no.17 of Annexure-1 enclosed as above to submit the annual self- compliance report in respect of the above stated conditions to the State Government, concerned Regional Office of MoEF & CC and Govt. of India, MoEF & CC, New Delhi by the end of March every year.	Complied
XXIX	Any other condition that the concerned Regional Office of this Ministry may stipulate, from time to time , in the interest of conservation and development of forests & wildlife; and	The user agency has submitted an undertaking in Serial no.18 of Annexure-1 enclosed as above to comply any other conditions that the concerned Regional Office of MoEF & CC may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife.	Complied
XXX	The user agency shall comply all the provisions of the all Acts, Rules, Regulations, Guidelines & Hon'ble Court Order (s) pertaining to this project, if any, for the time being in force, as applicable to project	The user agency has submitted an undertaking in Serial no.19 of Annexure-1 enclosed as above to comply all the provisions of the all Acts, Rules, Regulations, Guidelines & Hon'ble Court Order(s) pertaining to this project, if any, for the time being in force, as applicable to the project.	Complied
Additional conditions imposed by Govt. of Odisha, F & E Department in their Memo No.101 (Cons) 22017 - 14843 / F & E dated 15.07.2017.			
A	User Agency has to execute phased Reclamation plan at their cost.	<p>The user agency has submitted an undertaking in Serial no.20 of Annexure-1 enclosed as above to execute phased Reclamation plan at their own cost as per the Mining Plan approved by IBM, Bhubaneswar vide letter no.MPM/FM/17-ORI/BHU/2016-17 dated 11.11.2016</p> <p>Further the user agency has also prepared & submitted a scheme for Reclamation, Afforestation & Biological Reclamation in Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division. The said scheme has been approved by the R.C.C.F. Koraput Circle & R.C.C.F., Bhawanipatna Circle in his memo no.3334 dated 01.09.2017 & memo No.2799 dated 12.09.2017 respectively with a financial out lay of Rs.5,50,00,070.00. The said Scheme is enclosed as Annexure-14.</p>	Complied

H.	<p>The User Agency shall pay the cost of duly approved Site Specific Conservation plan with Adhoc-CAMPA Account for execution of activities by DFO, Rayagada in project impact area. The lessee shall also undertake that they will implement the approved components of plan within the lease hold area at their cost. Besides, the proportionate contribution towards implementation of Regional Wildlife Management plan at revised rate on ML area basis shall be deposited by User Agency in Adhoc-CAMPA Account.</p>	<p>The user agency has deposited an amount of Rs.5,35,71,500/- (Rupees Five Crore Thirty five lakh Seventy-one thousand five hundred) only towards implementation of Site Specific Conservation Plan for Rayagada and Kalahandi (S) Division as per approval accorded by the Pr.C.C.F. & CWLW, Odisha in his letter No.5608 dated 27.06.2017 through RTGS on Adhoc-CAMPA Account No. 15082109140062015073 vide UTR No. SBIN 52017083000009064 dated 30.08.2017 in Corporation Bank, FCS Bangalore through web portal. The receipt in support of payment is enclosed as Annexure-15.</p> <p>The user agency has submitted an undertaking in Serial no.21 of Annexure-1 enclosed as above to implement the approved components of Site Specific Conservation plan with a financial out lay of Rs.1,34,73,600/- within the lease hold area of Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division.</p> <p>Besides the above the user agency has deposited an amount of Rs. 8,05,46,920.00/- (Rupees Eight Crore Five lakh Forty Six thousand Nine hundred twenty) only towards implementation of Regional Wildlife Management Plan in Mining lease area over 1388.74 hectares in Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division through RTGS on Adhoc-CAMPA Account No. 15082109140062015073 vide UTR No. SBIN 52017083000009064 dated 30.08.2017 in Corporation Bank, FCS Bangalore through web portal. The receipt in support of payment is enclosed as Annexure-16.</p>	Complied
C	<p>The user agency shall undertake demarcation of the lease area on the ground posting four feet high cement concrete pillars embedded two feet inside the soil with serial number, forward and backward bearings, and distance from pillar to pillar. The user agency shall also submit the map of lease area showing different kinds of forest land using DGPS survey data and latitude and longitude of each pillar to the Divisional Forest Officer, Rayagada for his reference before commencement of work on final forest clearance.</p>	<p>The user agency has demarcated the boundary of the diverted forest land and mining lease area on the ground by erecting four feet high reinforced cement concrete pillars, each inscribed with its serial number, distance from pillar to pillar and DGPS co-ordinates and latitude and longitude. The Map showing the Pillar nos with DGPS is enclosed as Annexure-17 above.</p>	Complied

13	Reclamation and afforestation scheme and biological reclamation for this Mining project shall be provided by the user agency.	The user agency has prepared & submitted a scheme for Reclamation, Afforestation & Biological Reclamation as per the Mining Plan approved by IBM, Bhubaneswar vide letter no.MPM/FM/17-ORI/BHU/2016-17 dated 11.11.2016 for Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division. The said scheme has been approved by the R.C.C.F. Koraput Circle & R.C.C.F., Bhawanipatna Circle in his memo no.3334 dated 01.09.2017 & memo No.2799 dated 12.09.2017 respectively with a financial out lay of Rs.5,50,00,070.00. The said Scheme is enclosed as Annexure-14 above.	Complied
I	Memorandum of Association, Articles of Association and Certificate of Incorporation of the Applicant Company shall be furnished.	The user agency has furnished the copy of Memorandum of Association, Articles of Association and Certificate of Incorporation of the Applicant Company which is enclosed as Annexure-18 (Series) .	Complied
I	The user agency shall have valid CTO of SPCB beyond 31.03.2016.	The user agency has furnished the CTO / of SPCB issued vide letter no.2884/IND-I-CON-5450 dated 01.03.2017 with validity up to 31.03.2018. The copy of the same is enclosed as Annexure-19 .	Complied
G	Land scheduled of DLC forest land applied for diversion duly authenticated by Tahasildar, Kashipur and DFO, Rayagada shall be furnished.	The land scheduled of DLC forest land over an area of 233.343 hectare applied for diversion has been authenticated by the Tahasildar, Kashipur and Divisional Forest Officer, Rayagada Division which is enclosed as Annexure-20	Complied
H	The existing and proposed land use plan shall indicate the component wise land use for whole ML area.	The user agency has furnished the existing and proposed land use plan indicating the component wise land use for whole ML area in Baphilimali Bauxite Mines under Rayagada & Kalahandi (S) Forest Division is enclosed as Annexure-21	Complied
I	Lease profile shall be furnished by the lessee.	As M/s UAIL has single Bauxite mining lease in the state. So furnishing of lease profile is not applicable.	Complied
J	Details of safety zone coming under non-forest land / DLC forest land shall be indicated in the proposed land use plan.	The user agency has furnished the details of safety zone coming under non-forest land / DLC forest land indicating in the proposed land use plan as Annexure-21 above and Annexure-22 .	Complied
K	Non-encroachment and non-encumbrance certificate for 233.50 ha. of non-forest land may be obtained from Tahasildar, Kashipur.	The Tahasildar, Kashipur has furnished the certificate of Non-encroachment and non-encumbrance for 233.50 hectare of non-forest land in his memo No.643 dated 28.04.2016 which is enclosed as Annexure - 23 .	Complied

Encl: As above.

(Annexure - 1 to 23 in 5 (five sets)
Along with Content & Proforma

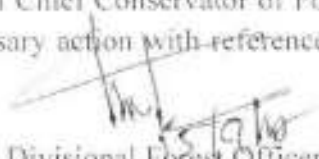

Divisional Forest Officer,
Rayagada Division.

Memo No. 4872 /4F

Date 15.09.17

Email

Copy forwarded to the Addl. Principal Chief Conservator of Forests (F.D. & Nodal Officer, FC (Act), Office of the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to his memo No.17061 dated 26.07.2017 (P-460 / vol.I).


Divisional Forest Officer
Rayagada Division

Memo No. 4873 /4F

Date 15.09.17

Email

Copy forwarded to the Principal Chief Conservator of Forests (Wildlife) & C.W.L.W. Odisha, Bhubaneswar for favour of kind information and necessary action with reference to his memo No.5609 dated 27.06.2017.


Divisional Forest Officer
Rayagada Division

Email: biswaranjan.padhi@adityabirla.com

Memo No. 4874 /4F

Date 15.09.17

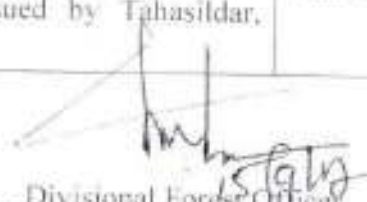
Copy forwarded to the Vice President-Mines, M/s UAIL, Doraguda, Post: Kucheipadar - 765 015, Dist: Rayagada for information and necessary action with reference to your letter No.88 dated 19.08.2017.


Divisional Forest Officer
Rayagada Division

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3	Survey of India Topo sheet in appropriate scale depicting the CA land	Annexure-3
4	The receipt in support of payment of NPV	Annexure-4
5	Scheme for Fencing, Protection and afforestation of the safety zone area over 15.75 ha.	Annexure-5 (Part-I)
6	Scheme for afforestation on degraded forest land to be selected elsewhere measuring one & a half times the area under safety zone	Annexure-5 (Part-II)
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19	Memorandum of Association, Articles of Association and Certificate of Incorporation of the Applicant Company	Annexure-18 (Series)
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 Divisional Forest Officer,
 Rayagada Division



Annexure-1

UNDERTAKING

This undertaking is applicable for the conditions stipulated in the In-principle approval of the stage-1 forest clearance accorded by the MoEF & CC, New Delhi & subsequently F&E Department, GoO for diversion of 233.343 Ha of DLC forest land involved in the Baphlimali Bauxite Mine over an area of 1388.740 Ha, vide their letter Nos. F.No. 8-18/2016-FC dated 29.06.2017&10F (Con) 2/ 2017/4843/F & E on dated 15.07.2017 respectively.

M/s UAIL hereby undertakes that -


1. The Legal status of the land will never be changed.
2. UAIL shall provide vehicle within the approved cost of Rs.20,00,000/- for monitoring & evaluation of the Compensatory afforestation activities.
3. UAIL shall pay the excess amount in case of hike in wage rate.
4. UAIL shall pay the additional amount of NPV, if so determined as per the final decision of Hon'ble Supreme Court of India.
5. UAIL will do the Fencing, protection and regeneration of the safety zone area as per the approved scheme. Addition to this afforestation on degraded forest land measuring one & a half times the area under safety zone shall be done at the project cost.
6. UAIL accept that that the period of diversion of the said forest land under this approval shall be for a period co-terminus with the period of the mining lease granted vide letter no.5071/SM/Bhubaneswar III(K)SM.3/97-vol.II dated 10.06.1997. from Dept. of Steel & Mines.
7. No labour camp will be established within the forest land.
8. UAIL shall provide LPG cooking gas as alternative fuel to the labourers and the staff working at the site so as avoid any damage and pressure on the nearby forest areas.
9. UAIL will undertake mining in phased manner and take due care for reclamation of the mined over area. Annual report on implementation will be furnished to the Nodal Officer and the concerned Regional Office of the Ministry.
10. The layout plan of the mining plan/ proposal will not be changed without prior approval of the Central Government.
11. The forest land will not be used for any purpose other than specified in the proposal.



Annexure-1

12. The forest land proposed to be diverted will under no circumstances be transferred to any other agency, department or person without prior approval of the Central Government.
13. No damage to the flora and fauna of the adjoining area will be caused.
14. Any tree felling will be done only when it is unavoidable and that too under strict supervision of the State Forest Department.
15. UAIL will abide all the applicable recommendations of the State Government.
16. UAIL will take following actions under the supervision of the State Forest Department-
 - a. Proper mitigative measures to minimize soil erosion and choking of streams will be prepared and implemented as directed.
 - b. Planting of adequate drought hardy plant species and sowing of seeds to arrest soil erosion will be done.
 - c. Construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour will be done.
 - d. Over burden will be stabilized by appropriate grading/benching to ensure that the angle of repose will be less than 28°.
 - e. No damage will be caused to the top-soil and the user agency will follow the top-soil management plan.
17. The annual self-compliance report will be furnished regularly by the end of March every year to all the concerned.
18. Any other condition that the concerned Regional Office of this Ministry may stipulate, from time to time, in the interest of conservation, protection and development of forests & wildlife will be followed.
19. Compliance to all Acts, Rules, Regulations, Guidelines & Hon'ble Court Order (s) pertaining to this project, if any, for the time being in force, as applicable to the project shall be met without any fail.
20. UAIL shall execute phased Reclamation as per the approved Mining Plan from IBM, Bhubaneswar vide letter no. MPM/FM//17-ORI/BHU/2016-17 dated 11.11.2016 at our own cost.
21. UAIL shall execute the approved components to be implemented by Project Proponent of Site Specific Wild Life Conservation Plan with a financial outlay of Rs 134.736 Lakhs within the Mining lease hold area under Rayagada and kalahandi (S) division.

For Utkal Alumina International Limited


Biswaranjan Kumar Padhi
Vice President-Mines


Divisional Forest Officer
Rayagada Division

UTKAL ALUMINA INTERNATIONAL LIMITED

Plant & Off.: Doraguda, Po: Kuchipadar, Dist.: Rayagada- 765015, Odisha, India
Regd. Office: J-6, Jaydev Vihar, Bhubaneswar - 751013, Odisha, India

CIN No.: U13203OR1993PLC003416
Ph.: 06865287040, Fax: 06865287100
Ph.: 0674 2360581/540, Fax: 0674 2360321

Website: www.hindalco.com
Email: utkal.alumina@adityabirla.com

AGENCY COPY	
NEFT / RTGS CHALLAN for Ad-HOC CAMPA	
Date : 12-05-2017	
Agency Name.	M/S HINDALCO INDUSTRIES LTD.
Application No.	108140082015343
Location.	ORRISA
Address.	Century Bhaban, 3rd Floor, Dr. Annie Besant Road, Mumbai City
Amount(In Rs)	88221400/-
Amount in Words :Eight Crore Eighty-Two Lakh Twenty-One Thousand Four Hundred Rupees Only	
UTR No: SBIN52017081702060452	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	COMPO000633
Pay to Account No.	18062108140082015343
Bank Name & Address:	Corporation Bank FCS Bangalore, * Note : The proceeds of the payment will be credited to the respective CAMPA State Account.
• This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

After making successful payment, User Agencies may
Email: helpdeskcampa@corpbank.co.in

[Signature]
Divisional Forest Officer
Rayagada Division

OFFICE OF THE DIVISIONAL FOREST OFFICER: RAYAGADA DIVISION,

No. 4165 /4F(Misc) 1263 /2017

Dated, Rayagada the 04th August'2017.

To

The Asst. Vice President-Mines,
M/s UAIL, Doraguda,
Post: Kucheipadar – 765 015,
Dist: Rayagada

Sub:-

Diversion of 233.343 ha of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhal, Dhuturapass and Karanj-kupakhal under Kashipur Tahasil of Rayagada district within mining lease area of 1388.74 ha for bauxite Mining in their Baphilimali bauxite Mines in Kalahandi and Rayagada district of Odisha by M/s UAIL(State S.No.OR-08/2016 dt.15.02.2016)

Ref:

1. Copy of letter No.F.No.8-18/2016-FC dated 29.06.2017 of Govt. of India, MoEF & C.C. (F.C. Division), New Delhi.
2. Memo No.14848/F&E dated 15.07.2017 of Govt. of Odisha, F & E Department to their address.
3. This office letter No. 4131 dated 03.08.2017.

Sir,

With reference to the above cited correspondence on the subject this is to inform you that the Addl. Principal Chief Conservator of Forests (Forest Diversion & Nodal Officer, FC Act), O/O the Principal Chief Conservator of Forests Odisha, Bhubaneswar has technically approved the Compensatory Afforestation Scheme over 233.343 hectares of non-forest land identified in Adajore, AdaTakeri, JodaAmba and GummaMurka villages under Kashipur Tahasil of Rayagada district with a financial out lay of Rs.8,82,21,400.00 so as to comply the conditions No.(ii) stipulated by Govt. of India, MoEF & C.C., New Delhi in their letter No. F.No.8-18/2016-FC dated 29.06.2017 while according Stage – I approval for diversion of 233.343 ha of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhal, Dhuturapass and Karanj-kupakhal under Kashipur Tahasil of Rayagada district within mining lease area of 1388.74 ha for bauxite Mining in their Baphilimali bauxite Mines in Kalahandi and Rayagada district of Odisha by M/s UAIL.

You are therefore requested to deposit the said amount through 'E' payment in Ad-hoc CAMPA Account No. CA 1585 and No.344901010070194 in Union Bank of India, Sunder Nagar, New Delhi (IFSC No.UBIN0534498) and furnish the UTR No. with detail particulars for taking further action at this end.

Yours faithfully,


Divisional Forest Officer,
Rayagada Division

P.T.O.

Memo No. 4166 /4F

Date 04/08/17

Email

Copy forwarded to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action with reference to memo no.17061 dated 26.07.2017 of Pr.C.C.F, Odisha to his address and in continuation to this office memo No.4135 dated 03.08.2017.

04-08-17
Divisional Forest Officer
Rayagada Division

Memo No. 4167 /4F

Date 04/08/17

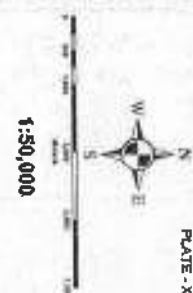
Email

Copy forwarded to the Addl. Principal Chief Conservator of Forests (F.D. & Nodal Officer, FC (Act), Office of the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action with reference to his memo no.17061 dated 26.07.2017 and in continuation to this office memo no.4136 dated 03.08.2017.

04-08-17
Divisional Forest Officer
Rayagada Division

**TOPO SHOWING SITE PLANS OF CA LAND IN VILLAGE ARAJORA, JORAAMBA, ARATAKERI & GUMAMURKA UNDER KASIPUR TAHASIL
 AGAINST FOREST DIVERSION PROPOSAL OF 233.34 HA. OF FOREST LAND OF BAPHALMALI BAUXITE MINES OF MIS UAIL IN
 RAYAGADA DISTRICT OF ODISHA IN SURVEY OF INDIA TOPO SHEET NO-E44E/16 ,E44F/2 & E44F/3.**

PLATE - X



LEGEND



C.A LANDS

CONVENTIONAL SYMBOLS	
	Forest Land
	C.A Land
	Village
	Road
	River
	Contour Line
	Spot Height
	Boundary
	Water Body
	Cultivated Land
	Barren Land
	Unclassified Land



Survey of India
 Directorate of Survey
 New Delhi



OFFICE OF THE TAHASILDAR, KASHIPUR

ଓଡ଼ିଶା ସରକାରଙ୍କ କାର୍ଯ୍ୟାଳୟ, କାଶିପୁର

ଖାନା / ଗୋଷ୍ଠୀ / ଅନା / ପୁର : କାଶିପୁର, ଜିଲ୍ଲା : ରାୟଗଡ଼ା, ପିନ୍ : ୭୫୫୦୧୫ (ଓଡ଼ିଶା), ଦୂରଭାଷ : ୦୬୮୫୫-୨୮୫୦୧୦ ଉପାଧାର : tah.kashi-ed@nic.in

No. 1568 /2017

Date, 6 / 11 /2017

To
The Divisional Forest officer,
Rayagada Division

Sub: Transmission of ROR relating to Khata No. 159/32,51/39,70/03, 110/49 of Mouza Adajore, Adatakiri, Jodaamba, Gummamurka respectively.

Ref: (1) Memo no. 3296, 3299, 3302, 3305 dated 04.11.2017 of Collector, Rayagada
(2) Letter no. 4112 dated 03.08.2017 of Divisional Forest Officer, Rayagada

Sir

With reference to the above subject, I am to send herewith the ROR relating to Khata No. 159/32,51/39,70/03, 110/49 of Mouza Adajore, Adatakiri, Jodaamba, Gummamurka respectively prepared in favour of Forest and Environment Department as per the sanction of alienation made by the Collector, Rayagada vide order no. 3295, 3298, 3301, 3304 dated 04.11.2017 for raising Compensatory Afforestation in lieu of diversion of equivalent forest land pertaining to mining lease against Baphilmali Bauxite Mines, M/s Utkal Alumina International Limited.

Receipt of the ROR may kindly be acknowledged.

Enclosure: As above.

Yours faithfully

Tahasildar, Kashipur

Memo No. 1569 Date 6.11.2017

Copy to Collector, Rayagada for kind information.

Tahasildar, Kashipur

Memo No. 1570 Date 6.11.2017

Sub-Collector, Rayagada for kind information.

Tahasildar, Kashipur

Memo No. 1571 Date 6.11.2017

Copy to M/s Utkal Alumina International Limited for information.

Tahasildar, Kashipur

ଖତିୟାନ

ମୌଜା : ଅଳାଯୋର

ତହସିଲ : କାଣାପୁର

ଥାନା : କାଣାପୁର

ତହସିଲ ନମ୍ବର: 303

ଆନା ନମ୍ବର : 8

ବିଲ୍ଲା : ରାୟଗଜା

କମିଟାର୍‌ଙ୍କ ନାମ
ଓ ଶେଷାଟ ବା ଖତିୟାନର
ନମ୍ବର

ଓଡିଶା ସରକାର ଶେଷାଟ ନଂ 1

୧) ଖତିୟାନର କ୍ରମିକ ନମ୍ବର

159/32

୨) ପ୍ରଜାର ନାମ,
ପିତାର ନାମ,
ଜାତି ଓ ବସସ୍ଥାନ

କନ୍ଧ ଓ ପରିବେଶ ବିଭାଗ ମାର୍ଚ୍ଚିତ ବନଖଣ୍ଡ ଅଧିକାରୀ, ରାୟଗଜା

୩) ସ୍ୱଳ୍ପ ଆବାସ ଅଭିବୃଦ୍ଧି ଅନାବଦୀ

	ଜଳକର	ଖଜଣା	ସେସ୍	ମିସ୍ତ୍ରୀର ଯେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ଯେସ୍ ଯଦି କିଛି ଅଟେ	ମୋଟ	୪) କ୍ରମବର୍ଦ୍ଧନଶୀଳ ଖଜଣାର ବିବରଣୀ
୪) ଦେୟ					0.00	

୬) ବିଶେଷ ଅନୁସୂଚି
ଯଦି କିଛି ଅଟେ



ଅନ୍ତିମ ପ୍ରକାଶନ ତାରିଖ : 11/06/2017

ଖଜଣା ଆୟୀ ତାରିଖ : 11/06/2017

ପୁର ନମ୍ବର ଓ ତଳର ନାମ	ଜିସମ ଓ ପୁରର ଖଜଣା	ଜିସମର ବିସ୍ତାରିତ ବିବରଣ ଓ ଗୋଟି	ରକର		ମଦୁବ୍ୟ
			ଏ.	ଫି.	
୭	୮	୯	୧୦	୧୧	୧୨
987	ପର୍ବତ		10	000	4.0469
296	ପର୍ବତ	କିରା ମସ୍ତା	16	750	6.7785
982/1183	ପର୍ବତ		13	240	5.3580
986	ପର୍ବତ	ପିକଲିଙ୍ଗ ପର୍ବତ	0	140	0.0567
988	ପର୍ବତ	ପିକଲିଙ୍ଗ ପର୍ବତ	15	000	6.0703
989/1184	ପର୍ବତ		2	970	1.2019
1009/1185	ପର୍ବତ		3	310	1.3395
1021/1186	ପର୍ବତ		1	580	0.6394
8 ପୁର			62	990	25.4912

ଜମ ଅଧିଗ୍ରହଣ ନାମରା ପତ୍ର
05/2017 ମତେ ଖା ନଂ 163 ରୁ
ଖାଉଜ କରି ଦରଜ କରାଗଲା ।
ତା. 04.11.2017

ଜମ ଅଧିଗ୍ରହଣ ନାମରା
ପତ୍ର 05/2017 ମତେ ଖା ନଂ
163 (A A A) ରୁ ଖାଉଜ
କରି ଦରଜ କରାଗଲା । ତା
04.11.2017 ।


Tahasildar
Kashipur, Dist. Rayagada
6.11.17



ଖତିୟାନ

ମୌକା : ଅଳା ବାବେରୀ

ଥାନା : କାଶୀପୁର

ଥାନା ନମ୍ବର : 20

ତହସିଲ : କାଶୀପୁର

ତହସିଲ ନମ୍ବର : 302

ଜିଲ୍ଲା : ରାୟଗଡ଼ା

କମିସନରଙ୍କ ନାମ
ଓ ଖେତାବତୀ ବା ଖତିୟାନର
ନମ୍ବର

ଓଡ଼ିଶା ସରକାର ଖେତାବତୀ ନଂ 1

୧) ଖତିୟାନର କ୍ରମିକ ନମ୍ବର

51/39

କଲ୍ୟାଣ ଓ ପରିବେଶ ବିଭାଗ ମାର୍ଯ୍ୟତ ବନଖଣ୍ଡ ଅଧିକାରୀ, ରାୟଗଡ଼ା

୨) ପ୍ରକାର ନାମ,
ପିତାଙ୍କ ନାମ,
ଜାତି ଓ ବାସସ୍ଥାନ

୩) ସ୍ୱତ୍ୱ ଆବଦ ଅନ୍ତରାଂଶ ଅନାକାଦୀ

	ଜଳକର	ଖଜଣା	ସେସ୍	ନିୟୁତ ସେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ସେସ୍ ଯଦି କିଛି ଥାଏ	ମୋଟ	୪) କ୍ରମବର୍ଦ୍ଧନଶୀଳ ଖଜଣାର ବିବରଣୀ
୪) ଦେୟ					0.00	

୫) ବିଶେଷ ଅନୁସନ୍ଧାନ
ଯଦି କିଛି ଥାଏ

ଅନ୍ତିମ ପ୍ରକାଶନ ତାରିଖ : 11/06/2017

ଖଜଣା ଆର୍ଯ୍ୟ ତାରିଖ : 11/06/2017

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ଖତିୟାନର କ୍ରମିକ ନଂ: 51/39

ମୌଜା : ଅନ୍ଧା ଟାଙ୍ଗେରୀ

ଜିଲ୍ଲା : ରାୟଗଡ଼ା


ପୁର ନମ୍ବର ଓ ଚକର ନାମ	ବିସମ ଓ ପୁରର ଖଜଣା	ବିସମର ବିସ୍ତାରିତ ବିବରଣ ଓ ଗୌରୁଦି	ଉତ୍ତର			ମନ୍ତବ୍ୟ
			ଏ.	ଫି.	ଟୋକୁର	
୬	୮	୯	୧୦	୧୧	୧୨	
544	ପର୍ବତ	କୁଦୁର ପାଟ ।	5	500	2 2258	କମି ଅଧିଗ୍ରହଣ ମାମଲା ସଂଖ୍ୟା 06/2017 ମତେ ଗା ନଂ 55 ରୁ ଖାରଜ କରି ପରତ କରାଗଲା । ତା. 04.11. 2017
543	ପର୍ବତ	କୁଦୁର ପାଟ ।	7	630	3.0878	
536/729	ପର୍ବତ		4	790	1.9384	
535/728	ପର୍ବତ		15	420	6.2403	
534/727	ପର୍ବତ		5	930	2.3998	
281/726	ପର୍ବତ		8	210	3.3225	
280/725	ପର୍ବତ		4	000	3.6017	
278/724	ପର୍ବତ		8	520	3.4479	
277/723	ପର୍ବତ		8	560	3.4641	
276/722	ପର୍ବତ		2	470	0.9996	
275/721	ପର୍ବତ		12	010	4.8603	
273	ପର୍ବତ	କ୍ଷୁଦ୍ର ବସା ।	8	500	3.4398	
271	ପର୍ବତ	କ୍ଷୁଦ୍ର ବସା ।	6	500	2.6305	
270/720	ପର୍ବତ		4	990	2.0194	
269/719	ପର୍ବତ		11	240	4.5487	
172/718	ପର୍ବତ		9	880	3.9983	

ମୁଦ୍ରା ନମ୍ବର: 51/39

ମୌଜା : ଅନ୍ନା ବାଲେଶ୍ଵରୀ

ଜିଲ୍ଲା : ରାୟଗଡ଼ା

ପୁର ନମ୍ବର ଓ ଚକର ନାମ	ଜିସମ ଓ ପୁରର ଖଜଣା	ଜିସମର ବିସ୍ତାରିତ ବିବରଣୀ ଓ ଗୌରୁତି	ରକବା			ମଟୁରା
			ଏ.	କି.	ହେକ୍ଟର	
୭	୮	୯	୧୦	୧୧	୧୨	
171/717	ପର୍ବତ		9	880	3.9983	
138/716	ପର୍ବତ		7	440	3.0109	
130/715	ପର୍ବତ		8	010	3.2415	
109/714	ପର୍ବତ		7	830	3.1687	
20 ପୁର			157	310	58.4409 63.6626	


Tahasildar
 Kashipur, Dist. Rayagada
 6.11.15

ଖଚିୟାନ

ମୌକା : ଘୋଡ଼ା ଆମ୍ବ

ଆନା : ଜାଣୀପୁର

ଆନା ନମ୍ବର : 19

ଚହୁପିଲ : ଜାଣୀପୁର

ଚହୁପିଲ ନମ୍ବର : 300

ବିଲ୍ : ରାୟଗଡ଼ା

ଜମିଦାରଙ୍କ ନାମ ଓ ଖେତାଟ ବା ଖଚିୟାନର ନମ୍ବର	ଓଡ଼ିଶା ସରକାର ଖେତାଟ ନଂ 1
୧) ଖଚିୟାନର କ୍ରମିକ ନମ୍ବର	70/3
୨) ପ୍ରକାର ନାମ, ପିତାଙ୍କ ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଜଙ୍ଗଲ ଓ ପରିବେଶ ବିଭାଗ ମାର୍ଚ୍ଚିତ ବନଖଣ୍ଡ ଅଧିକାରୀ, ରାୟଗଡ଼ା

୩) ସ୍ୱର୍	ଆବାଦଯୋଗ୍ୟ ଅନାଦାତା					
	ଜଳକର	ଶାଳଣା	ସେସ୍	ନିୟାମ ସ୍ୱପ୍ନ ଓ ଅନ୍ୟାନ୍ୟ ସେସ୍ ଯଦି କିଛି ଥାଏ	ମୋଟ	୪) କ୍ରମବର୍ଦ୍ଧନଶୀଳ ଶାଳଣାର ବିବରଣୀ
୪) ଦେୟ					0.00	

୬) ବିଶେଷ ଅନୁସଙ୍ଗ
ଯଦି କିଛି ଥାଏ

ଖଚିୟାନ ନମ୍ବର : 70/3
ଆନା ନମ୍ବର : 19

ଅନ୍ତିମ ପ୍ରକାଶନ ତାରିଖ : 11/06/2017

ଶାଳଣା ଆର୍ଯ୍ୟ ତାରିଖ : 11/06/2017

BLANK SPACE FOR STAMPING



ଖବିୟାନର କ୍ରମିକ ନଂ: 70/3

ମୌଜା : ଘୋଡ଼ା ଆମ୍ବ

ଜିଲ୍ଲା : ରାୟଗଡ଼ା

ପୁର ନମ୍ବର ଓ ଚକର ନାମ	କିସମ ଓ ପୁରର ଖଜଣା	କିସମର ବିସ୍ତାରିତ କିସରଣ ଓ ଗୌରବ	ରକର			ମନୁଷ୍ୟ
			ଏ.	ଫି.	ହେକ୍ଟର	
୭	୮	୯	୧୦	୧୧	୧୨	
564	ପର୍ବତ	ନାରଙ୍ଗ ଝରଣ ପାହାଡ଼	44	250	17.9074	କମି ଅଧିଗ୍ରହଣ ମାମଲା ନଂ. 07/2017 ମତେ ଖା ନଂ 74 ରୁ ଖାରଜ କରି ଦରଜ କରାଗଲା । ତା. 04.11. 2017
563/9	ପର୍ବତ		9	880	3.9983	
562/8	ପର୍ବତ		15	270	6.1796	
364/7	ପର୍ବତ		14	830	6.0015	
362/6	ପର୍ବତ		14	830	6.0015	
222/5	ପର୍ବତ		4	940	1.9991	
271/4	ପର୍ବତ		9	880	3.9983	
25/3	ପର୍ବତ		7	410	2.9987	
24/2	ପର୍ବତ		9	880	3.9983	
23/1	ପର୍ବତ		9	880	3.9983	
10 ମୁଟ			141	050	57.0810	


Tahasildar
Kashipur, Dist. Rayagada

ଖତିୟାନ

ମୌଜା : ଗୁମାମୁର୍ଜୀ

ଥାନା : କାଶୀପୁର

ଥାନା ନମ୍ବର : 343

ଚହସିଲ : କାଶୀପୁର

ଚହସିଲ ନମ୍ବର : 622

ଜିଲ୍ଲା : ରାୟଗଡ଼ା

ଜମିଦାରଙ୍କ ନାମ ଓ ଖେତାବତୀ ବା ଖତିୟାନର ନମ୍ବର	ଓଡ଼ିଶା ସରକାରଙ୍କ ଖେତାବତୀ ନଂ 1
୧) ଖତିୟାନର କ୍ରମିକ ନମ୍ବର	110/49
୨) ପ୍ରଜାର ନାମ, ପିତାର ନାମ, ଜାତି ଓ ବାସସ୍ଥାନ	ଜଣାଇ ଓ ପରିବେଶ ବିଭାଗ ମାର୍ଚ୍ଚିତ ବନଖଣ୍ଡ ଅଧିକାରୀ, ରାୟଗଡ଼ା

କ) ସ୍ୱରୂପ	ଆବାଦଯୋଗ୍ୟ ଅନାବଦୀ					
	ଜଳକର	ଖଜଣା	ସେସ୍	ମିଷ୍ଟାନ୍ନ ଘେସ୍ ଓ ଅନ୍ୟାନ୍ୟ ସେସ୍ ଯଦି କିଛି ଥାଏ	ମୋଟ	୫) କ୍ରମବର୍ଦ୍ଧନଶୀଳ ଖଜଣାର ବିବରଣୀ
୪) ଦେୟ					0.00	

୬) ବିଶେଷ ଅନୁସନ୍ଧାନ
ଯଦି କିଛି ଥାଏ

ଅନ୍ତିମ ପ୍ରକାଶନ ତାରିଖ : 11/06/2017

ଖଜଣା ଆୟ ତାରିଖ : 11/06/2017

ଖତିୟାନର କ୍ରମିକ ନଂ: 110/49

ମୌଜା : ଗୁମାମୁର୍ଖ

ଜିଲ୍ଲା : ରାୟଗଡ଼ା

ପୁର ନମ୍ବର ଓ ଚକର ନାମ	ସିପମ ଓ ପୁରର ଖଜଣା	ସିପମର ବିସ୍ତାରିତ ବିବରଣୀ ଓ ଚୌଦ୍ୱାର	ରକବା			ମନ୍ତବ୍ୟ
			ଏ.	କି.	ହେକ୍ଟର	
୭	୮	୯	୧୦	୧୧	୧୨	
614/661	ପର୍ବତ		24	640	9.9715	କମି ଅଧିଗ୍ରହଣ ନାମକ ସଂଖ୍ୟା 08/2017 ମତେ ଖା ନଂ 114 ରୁ ଖାସ୍ତା କରା ଯାଇଥିବା କାରାଗାରୀ । ତା. 04.11.2017
613	ପର୍ବତ	ରାବଣ ଗୁଡ଼ା	25	250	10.2183	
612	ପର୍ବତ	ଚମ୍ପା ଝରଣା	20	000	8.0937	
414	ପର୍ବତ	କଳସି ଝରଣା	10	000	4.0469	
413/660	ପର୍ବତ		12	920	5.2285	
412/659	ପର୍ବତ		24	710	9.9998	
411/658	ପର୍ବତ		34	620	14.0102	
400/657	ପର୍ବତ		22	240	9.0002	
399/656	ପର୍ବତ		23	870	9.6599	
398/655	ପର୍ବତ		17	300	7.0011	
10 ପୁର			215	550	87.2301	


Tahasildar
Kashipur, Dist. Rayagada

OFFICE OF THE DIVISIONAL FOREST OFFICER: RAYAGADA DIVISION.

Memo No. 5738 /4F(Misc) 1263 /2017
Dated, Rayagada the 18th November'2017.

To

The Addl. Principal Chief Conservator of Forests (F.D. & Nodal Officer, FC (Act), Office of the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

Sub: -

Notification of the non-forest land mutated in favour of Forest Department against the diverted forest land as protected forests under Section - 33 of Orissa Forest Act, 1972 - Diversion of 233.343 ha of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhal, Dhuturapass and Karanj-kupakhal under Kashipur Tahasil of Rayagada district within mining lease area of 1388.74 ha for bauxite Mining in their Baphilimali bauxite Mines in Kalahandi and Rayagada district of Odisha by M/s UAIL.

Ref:

1. Your memo No.3711 dated 15.09.2017.
2. This office memo No. 5643 dated 09.11.2017.

In inviting a kind reference to the above cited correspondence on the subject this is to inform you that as per condition no.(iv) stipulated by Government of India, MoEF & C.C. (F.C. Division), New Delhi while according stage-I approval in their letter No. F.No.8-18/2016-FC dated 29th June, 2017 the non-forest land to an extent of 233.4649 hectares (576.90 Acres) identified for compensatory afforestation in village Adajore, Adatakiri, Jodaamba and Gummamurka under Kashipur Tahasil has been mutated in favour of Forest Department in lieu of the Forest land diverted for the above project and accordingly the Tahasildar, Kashipur has issued ROR, Map of the said non-forest land and Boundary description in his letter No.1585 dated 10.11.2017. So in compliance to the condition no. (v) Stipulated by Govt. of India, MoEF & C.C. New Delhi in their above letter, the draft notification along with copy of ROR, Land Schedule, Map, Boundary description and alienation order No.3295 dated 04.11.2017. No.3298 dated 04.11.2017, No.3301 dated 04.11.2017 and No. 3304 dated 04.11.2017 of Collector Rayagada with respect to the above identified non-forest land which has been mutated in favour of Forest Department are submitted herewith in quadruplicate for notification as protected forests under section - 33 of Odisha Forest Act, 1972.

Encl: 1. Copy of ROR 4 copies.

2. Land Schedule 4 copies

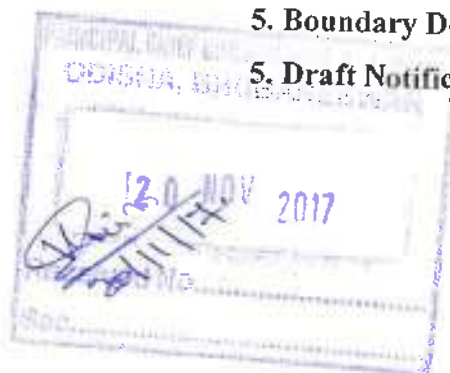
3. Map of non-forest land 4 copies

4. Alienation order of Collector, Rayagada 4 copies

5. Boundary Description of alienated Non-forest land

5. Draft Notification 4 copies.

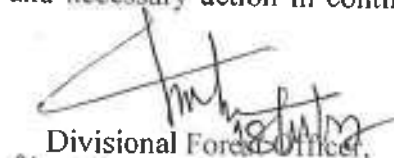

Divisional Forest Officer,
Rayagada Division.



Memo No. 5739 /4F Date 18/11/17

Email

Copy forwarded to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action in continuation to this office memo No.5642 dated 09.11.2017.

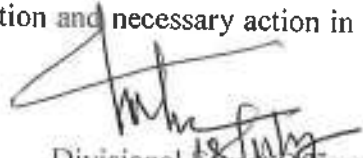

Divisional Forest Officer,
Rayagada Division.

Email: biswaranjan.padhi@adityabirla.com

Memo No. 5740 /4F

Date 18/11/17

Copy forwarded to the Vice President-Mines, M/s UAIL, Doraguda, Post: Kucheipadar – 765 015, Dist: Rayagada for information and necessary action in continuation to this office memo no.5644 dated 09.11.2017.


Divisional Forest Officer
Rayagada Division

ADITYA BIRLA



UAIL-Mines/DFO/93/2015

Dated 20-08-2

To,
The Divisional Forest Officer
Rayagada Division, Rayagada

Sub: Payment of Net Present Value (NPV) through RTGS/NEFT in Ad-hoc CAMPA Fund.

Ref: Your letter No.5052/4F (Misc) 1263/2015 dated 4th August 2015.

Dear Sir,

Referring the above cited subject, we have deposited an amount of Rs 14, 60, 72,718 (Fourteen Crores Sixty Lakhs Seventy Two Thousand Seven Hundred Eighteen only) towards Net Present Value(NPV) for 233.343 Ha of DLC forest Land through RTGS on Ad hoc CAMPA Fund.

The Transaction details are as below:

Sl.No	Amount in Rs.	Account no	Date of transfer	Bank UTR Details	Remar
1.	14,60,72,718	344901010070194	19.08.15	UTIBH15231093636	Cost of

This is for your kind information and necessary action please.

Thanking you,

Yours faithfully

For Utkal Alumina International Ltd

BRK Padhi
AYP-Mines

Encl: Annexure-1: Demand Letter for NPV
Annexure-2: Certificate of the RTGS from Bank

Divisional Forest Officer
Rayagada Division

PCCE

Annexure - NO. 6

No. 104 (Comp) 2/2017 / F&C, Bhubaneswar, dated
From

Sri Debidutta Biswal, IFS,
Special Secretary to Government.

To

The Assistant Inspector General of Forests,
Govt. of India, Ministry of Environment & Forest and Climate Change
(F.C. Division), Indira Paryavaran Bhawan,
Jor Bagh, Allganj Road
New Delhi - 110003

ODISHA, BHUBANESWAR
17 APR 2017
12187
Sec

Sub: Proposal for diversion of 233.343 ha. of DLC forest and including safety zone of 10.283 ha in village Paik-Kupakhal, Dhuturapas and Kuranj-Kupakhal under Kasipur Tehsil of Rayagada District within total mining lease area of 1388.74ha. for bauxite mining in their Baphilimali Bauxite Mines in Kalahandi and Rayagada districts of Odisha by M/s Utkal Alumina International Ltd. (Proposal No. FP/OR/MIN/14006/2015).

Sir,

I am directed to invite reference to Govt. MoEF&CC vide their letter F.No. 8-18/2016-FC dt. 14.12.2016 on the above mentioned subject had sought for the explanation regarding reason for executing mining lease in favour of OMC Ltd. and later getting it transferred in the name of M/s Utkal Alumina International Ltd without obtaining approval of Central Government under FC Act, 1980 even as the ML area was having DLC forest land in it. The Steel & Mines Department was requested to furnish their views/comments in this context. The Addl. Secretary to Government, Steel & Mines Department vide his letter No. 2930 dt. 31.3.2017 has explained the matter as under;

- (1) The Mining lease was granted vide S&M Department letter dt. 10.6.1997 in favour of OMC Ltd. and subsequently lease deed was asked to be executed vide letter dt. 25.10.1997. The DLC concept was not there during this period of time.
- (2) Although State Government filed affidavit before the Hon'ble Supreme Court on 6.1.1998 indicating details of district wise DLC land, existence of such DLC land in the ML area could be known as late as in the year 2013 when pointed out by the DFO, Rayagada. In view of this, lease deed was executed on 17.12.1998 in favour of OMC Ltd and subsequently transferred to M/s Utkal Alumina International Ltd vide S&M Department Proceedings dt. 26.6.2000.

A copy of letter No. 2930 dt. 31.3.2017 of Steel & Mines Department referred to above along with its annexures is attached herewith for reference and follow up action by the

Respectfully,

Yours faithfully,

Special Secretary to Government

Memo No 7516 dt. 15.04.17

Copy with copy of enclosures forwarded to the Additional Principal Chief Conservator of Forests (Central), Government of India, Ministry of Environment & Forests and Climate Change, A/3, Chandrasekharpur, Bhubaneswar for information and necessary action.

Special Secretary to Government

Memo No 7517 dt. 15.04.17

Copy forwarded to the Addl. Secretary to Government, Steel & Mines Department for information and necessary action with reference to his letter No. 2930 dt. 31.3.2017.

Special Secretary to Government

Memo No 7518 dt. 15.04.17

Copy forwarded to the PCCF, Odisha/RCCF, Koraput/RCCF, Bhawanipatna for information and necessary action.

Special Secretary to Government

Memo No 7519 dt. 15.04.17

Copy forwarded to the Collector, Rayagada/Collector, Kalahandi for information and necessary action.

Special Secretary to Government

Memo No 7520 dt. 15.04.17

Copy forwarded to the DFO, Rayagada/DFO, Kalahandi(South) Division for information and necessary action.

Special Secretary to Government

Memo No 7521 dt. 15.04.17

Copy forwarded to Director, Utkal Alumina International Ltd, J-6, Jayadev Vihar, Bhubaneswar -13 for information and necessary action.

Special Secretary to Government

SCHEME FOR
FENCING, PROTECTION AND AFFORESTATION
OF THE SAFETY ZONE AREA

OVER 15.75 HA

AT

BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)
FOREST DIVISION

OF

M/S UTKAL ALUMINA INTERNATIONAL LTD

(As per condition No.(x) of the stage-I forest clearance granted by MoEF&CC,
Govt.of India vide F.No.8-18/2016-F.C dt 29.06.2017)

**SCHEME FOR FENCING, PROTECTION AND AFFORESTATION OF THE SAFETY
ZONE AREA OVER 15.75 HA AT BAPHILIMALI BAUXITE MINES OF
M/S UTKAL ALUMINA INTERNATIONAL LTD. IN RAYAGADA & KALAHANDI
DISTRICT OF ODISHA**

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide **F.No.8-18/2016-F.C dt 29.06.2017** for diversion of 233.343 ha. forest area in Baphilimali Bauxite Mines of UAIL Ltd. In this approval, MoEF & CC has stipulated some conditions to be fulfilled before Stage-II forest clearance is accorded. The condition no. (x) of the Stage-I forest clearance is read as under:

“Fencing, protection and regeneration of the safety zone area [7.5 meters strip all along the outer periphery of the mining lease area as recommended by the state govt.] shall be done within three years at the project cost from the issue of Stage-II clearance. Besides this afforestation on degraded forest land to be selected elsewhere measuring one & a half times the area under safety zone shall also be done at the project cost. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files and afforestation will be done within three years from the date of Stage-II clearance;”

In order to comply the first part of the above conditions, the current scheme is prepared for fencing, protection and regeneration of safety zone area within Baphilimali Bauxite M.L area. The length of outer periphery of safety zone is 21,000 mtr and the area of safety zone calculated to be 15.75 ha.

A safety zone of a mining lease is the 7.5mtr width area from the entire length of boundary of the lease and the same area is also a portion of the lease. The forest diversion is also accorded by the MoEF including the safety zone area which is to be kept untouched at the time of various mining activities. Rather stipulation is made by the MoEF for protection, afforestation, regeneration & fencing activities to improve the canopy density of the existing forest and to create a green belt inside the safety zone area irrespective of forest and non-forest land that occur along the safety zone.

Here it will be worthwhile to point out that while forwarding the FDP, the DFO, Rayagada has calculated the safety zone area by mistakenly considering only the boundary of the four DLC forest patches measuring to 233.343ha and calculated the safety zone area to be 10.283 ha instead of 15.75ha. He has not taken into consideration the entire length of the boundary of the lease comprising forest land and non-forest land over a length of 21km.

Length of the boundary of the safety zone including the forest land relating to Rayagada Division comes to 15km and that of Kalahandi(S) Division comes to 6km. The length of the boundary along the DLC forest land in Rayagada Division comes to 4.3km and hence the area in safety zone is only 3.225ha. However the length of the safety zone in non-forest area in both the division come to 16.7km and hence the area is 12.525ha and the cumulative area both forest and non-forest land comes 15.75ha.

TOPOGRAPHY AND EXISTING VEGETATION:

The area under safety zone is hilly with gentle to steep slope. The soil is mostly gravelly. Soil type is Lateritic. Some patches support shallow soil and even exposed rocks within the site. The plateau portion of the lease is completely barren. However, the safety zone area in north & north western portion is with degraded vegetation of comprising forest species although status of land is non-forest. Also portion of south and south-western area hosts degraded vegetation where the status of land is also non-forest. The Eastern and south-eastern portion bordering in different villages are completely without any significant vegetation. The DLC forest bordering three villages like Dhuturapass, Paikakupakhala & Karanjakupakhala over a length of 4.3 KM is to be taken care of.

OBJECTIVE OF THE SCHEME:

The main objective of the present scheme is to take up plantation in the safety zone of the M.L area so that a green belt around the mine is maintained which will serve the following purpose:

- i) To Comply with the condition No. xxvi of Stage-I approval communicated vide F.No. 8-18/2016-F.C. dt. 29.06.2017 of MoEF, Govt. of India.
- ii) It will be a permanent demarcation zone for the M.L area which will be easily distinguishable.
- iii) It will help in controlling pollution to some extent near the mine.
- iv) It will prevent noise, air, light pollution for the wild animals residing in R.F.s/Revenue forests located on the north & north-western of the boundary of both the forest Divisions and revenue open jungles located on the south & south-western portion of Rayagada and Kalahandi (S) Division.
- v) Wild animals residing in Chirka RF (Kalahandi (S) Division) and Dandabada RF in (Rayagada Division) situated 2 to 3km away from the safety zone shall not affected by environmental pollutions caused due to mining.
- vi) Protect the periphery of the mine from soil erosion and land slide.

PROPOSED TECHNIQUES FOR PLANTATION/REGENERATION:

As narrated above basing on the density of vegetative growth and baldness of area of the safety zone both gap plantation with ANR practices and block plantation on approved bald hill cost norm shall be prescribed. The details of area for ANR practices and Block plantation division wise is furnished below. Survey of India toposheet No.E44E15 showing the patches of above two types of plantations are enclosed and GPS co-ordinates of the plantation sites are furnished below.

Type of plantation	Patch No.	Rayagada Division Length of boundary	Kalahandi(S) Division Length of boundary	Area of Plantation in (ha)
ANR with gap Plantation	1	5.6 km	-	4.2
	2	3.4 km	-	2.55
	1	-	4.3km	3.225
Block Plantation	1	3.2km	-	2.4
	2	2.8km	-	2.1
	1	-	1.7km	1.275
Grand Total				15.75

GPS COORDINATE OF ANR PLANTATION				
Division	Patch	Length of boundary	Latitude	Longitude
Rayagada	1	5.6 km	19°21'22.5"- 19°21'36.1"	82°56'52" - 82°58'50.4"
	2	3.4 km	19°21'22.5"- 19°20'15.5"	82°58'50.4" - 82°59'5.5"
Kalahandi	1	4.3km	19°20'39.5"- 19°21'36.1"	82°56'29.5" - 82°56'52"
GPS COORDINATE OF BLOCK PLANTATION				
Rayagada	1	3.2km	19°19'46.5"- 19°20'15.5"	82°57'31.2" - 82°59'5.5"
	2	2.8km	19°19'24.5"- 19°19'46.5"	82°56'18" - 82°57'31.2"
Kalahandi	1	1.7km	19°19'23.2"- 19°20'39.5"	82°56'18" - 82°56'29.5"

Abstract of Plantations to be raised in Rayagada & Kalahandi (S) forest division :

ANR Plantation : - Rayagada Division – length of boundary -9km - 6.75ha
ANR Plantation : - Kalahandi (S) Division- length of boundary- 4.3km - 3.225ha
Block Plantation: - Rayagada Division - length of boundary- 6km- 4.5ha
Block Plantation:- Kalahandi (S) Division - length of boundary- 1.27km- 1.275ha
15.75ha

It is proposed to take up Block plantation with 1600 plants per ha over an area of 5.775 ha. and ANR practices with gap plantation over an area of 9.975 totaling to 15.75ha i.e. the safety zone area of the lease.

ITEM OF WORKS TO BE TAKEN UP:

To achieve the above objectives, the following items of works are prescribed to be taken up:

1. Survey & demarcation of boundary.
2. Fencing.
3. Plantation & post-planting operations.

1. **Demarcation of boundary:** The outer periphery of the Mining Lease area has already been surveyed and demarcated. 7.5 mtr wide strip is to be demarcated for the safety zone over 21000 mtrs inside the lease hold area.

2. **Fencing:** To protect the plantation from grazing and other biotic interference, it will be provided with brush wood fencing along the periphery i.e. along the lease boundary of 7.7 KM where block plantation shall be raised out of the funds earmarked for fencing in the approved cost norms. The balance length of safety zone i.e 13.3km where ANR practices with gap plantation will be taken up, brush wood fencing as per the enclosed cost norm shall be provided to protect the plantation although there is no provision of fencing for the ANR plantation in the approved cost norm. The cost estimate for brush wood fencing has been provided in **Annexure-I**.

The entire safety zone is located on the slope of the lease with elevation varying from 1020mtr to 920mtr from the MSL. The slope continues up to the valleys where habitations and corn field, of villages are located. The distances of habitations from the lease boundary varies two to four kilometer in rugged hilly topography and there is no direct access to the lease from these habitations due to overhanging cliffs. Also no such identified roads are available inside the safety zone and lease area. Therefore cattle trespass to the safety zone is not common due to the nature of terrain.

The entire length of safety zone is 21km out of which 15km fall in Rayagada Division & 6km fall in Kalahandi(S) Division. There are no habitation adjacent to the safety zone. Villages like Paikakupkhal, Kupakhala, Lundurukana, Dhuturapas, Maligaon, Jugbasskeuri located on the North, North-East, South-East boundary of the lease not less than 2 to 4km away. Similarly villages like Dhurmushi, Kendumundi & Chirka of Kalahandi District are located on the North, North-west, side of the lease at similar distances and there are also no direct cattle trespass to the safety zone from that side.

The lease boundary is not in direct contact to any forest area except 4.3 KM length of DLC forest discontinuously located in three villages like narrated above. There is provision of watch & ward for both the type of plantations in approved cost norm. Hence special provision of fencing is not required over a length of 16.7 KM boundary surrounded by non-forest areas. However, as narrated above 4.3 KM length forest area boundary shall be fenced by brush wood due to presence of human habitations and as the fencing will be patches there shall be no problem for wild animals to entire in to the safety zone for shelter and grazing in pursuance of MoEF letter No. F-11-125/2014-FC dt. 04.07.2014 and para (ii), Copy enclosed,

3. Planting & post-planting operations

4. **BLOCK PLANTATION:** Block plantation over 4.5ha ha in Rayagada Division & 1.275ha in Kalahandi(S) Division shall be taken up with planting of 1600 plants per hectares at spacing of 2.5 m x 2.5 m on approved bald hill cost norm with usual soil & moisture conservation measures excluding brushwood fencing. All planting & post planting measures like casualty replacement, soil working, manuring, fire protection etc. will be undertaken. Cost norm for Block plantation is furnished as **Annexure-III**. Alignment stacking, pitting, planting and all post planting operations with 10 year maintenance shall be done as per the approved cost norm.
5. **ANR practices with gap plantation:** Gap plantation with 200 plants per ha shall be taken up along with silvicultural practices prescribed in the approved cost norm enclosed at **Annexure-II**. 6.75 ha of ANR practices with gap plantation shall be taken up in Rayagada Division and 3.225ha of ANR practices with gap plantation shall be taken up in Kalahandi(S) Division.

Silvicultural operation like clearance of weed, climber cutting, singling of natural shoots of forest species shall be done with 10 years maintenance as prescribed in the approved cost norm including fire tracing during summer season.

Since the area is provided with brush wood fencing from the outer side watch & ward will be easier. Because watch & ward and fire protection provision has already been prescribed in the approved cost norm for both the type of plantations. Hence there is no need to engage separate watcher for these plantations.

Vegetative fencing as provided in the Bald hill cost norm shall be implemented for better protection of Block plantation. As the area of Block plantation is completely bald, soil and moisture conservation measures prescribed in the cost norm shall also be implemented.

6. **Species:** Although indigenous species are to be preferred in the plantation, considering adverse soil & moisture conditions we may go for hardy exotic species where required so that the plants are able to survive. Considering the topography, soil and moisture availability of the plantation area, the following species will be planted.

Name of species	Common name	Remarks
<i>Azadirachta indica</i>	Neem	
<i>Derris indica</i>	Karanja	
<i>Emblica officinalis</i>	Amla	
<i>Dalbergia sissoo</i>	Sissoo	In lower areas with good soil depth
<i>Dendrocalamus strictus</i>	Salia bamboo	In lower areas with good soil depth healthy seedlings from rhizomes may be planted
<i>Zizyphus Mauritania</i>	Barakoli	In rocky areas with low soil depth
<i>Simaruba glauca</i>	Simaruba	In rocky areas with low soil depth
<i>Syzizium cumini</i>	Jamun	In water logged nala area
<i>Terminalia arjuna</i>	Arjuna	In water logged nala area

7. **Protection of the plantation:** There is provision for watch and ward alongwith maintenance over a period of 10 years in the approved cost norm for both the type of plantation. Therefore, deployment of additional plantation watchers are not required. Besides as the area is inside the lease itself the mining work force shall also ensure the protection aspect of the regenerated and planted area of the safety zone.
8. **Total cost of the project:** Total cost of the project will be Rs. 21,97,300.00 (Rupees twenty one lakhs ninety seven thousand three hundred) only as detailed in Annexure-IV.
9. **Executing agency:** Since the work will be done inside the Mining Lease area, it will be convenient for the User Agency to execute the work. Hence the work will be executed by UAIL Ltd.

Divisional Forest Officer
Kalahandi (S) Division

Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
Bhawanipatna Circle, Bhawanipatna

Regional Chief Conservator of Forests
KORAPUT CIRCLE

ANNEXURE-I

Extracts of fencing cost norm provided in the approved cost norm for Bald hill plantation in annexure-12 of the norm Booklet of PCCF, Odisha

Year	Particulars of work	Manday	Labour cost@ 200/- per day	Material cost per ha in Rs.	Total cost per ha in Rs.
0 th year	For an average of 126 meter/ha. @ Rs. 56.57 for bamboo twig and bamboo thern fencing	19	3800	4280	Rs. 8,080.00
1 st year	Repair & maintenance of fencing	15	3000	2540	Rs. 5,540.00
2 nd year	Repair & maintenance of fencing	15	3000	2540	Rs. 5,540.00
3 rd year	Repair & maintenance of fencing	15	3000	-	Rs. 3,000.00
4 th year	Repair & maintenance of fencing	13	2600	-	Rs. 2,600.00
					Rs. 24,760.00
	Cost for ha. 24,760.00				

ANNEXURE-II

COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 200 PLANTS PER HA.

Wage rate Rs. 200/-per day.

Sl. No.	Item of work	Preferable period of Execution	Person days	Labour (Rs.)	Material (Rs.)	Total (Rs.)
0th year						
1	Survey, Demarcation and Pillar Posting, GPS reading with mapping	Nov-Dec.	2	400	0	400
2	Site preparation	Nov-Dec.	2	400	0	400
3	Silvicultural operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan-Feb.	5	1000	0	1000
4	Nursery cost (6 months old seedling) part @ Rs. 9.45/- seedling (Rs. 6.67 in 0 th year + Rs. 2.78 in 1 st year) for 220 seedlings (200+20)	Jan-Mar.	5.5	1100	367	1467
5	Contingency and Unforeseen Expenditures		0	0	133	133
	Total		14.5	2900	500	3400
1st year						
1	Nursery cost (6 months old seedling) balance @ Rs. 2.78 for 220 seedling	April-Jul.	2.5	500	112	612
2	Pitting 30 cm cube size	Feb-Mar	6	1200	0	1200
3	Carriage and planting including casualty replacement	Jul-Aug.	5	1000	0	1000
4	Complete weeding, Soil working, Manuring	Aug-Sep.	6	1200	0	1200
5	Cost of Vermi compost @ 200 gms/plant @ Rs. 20/- per kg. = Rs. 800/- and Granular insecticide 5 gms/plant @ Rs. 80/- per kg.=Rs. 80/-	Aug-Sep.	0	0	880	880
6	Cost of Chemical fertilizer (a) Urea 70 gms/plant in two subsequent doses @ Rs. 6/- per kg. = Rs. 84/-, (b) NPK 50 gms/plant @ Rs. 24/- per kg=Rs. 240/- as basal dose		0	0	324	324

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
7	Silvicultural operation involving clearance of weeds, cutting of climbers, singing of shoots etc.	Sep-Oct.	15	3000	0	3000
8	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5m x @ 60 nos. per ha.) or its equivalent	Sep-Oct.	20	4000	0	4000
9	Fire line Tracing and Inspection Path	Feb-Mar	3	600	0	600
10	Watch & Ward	Aug-Mar.	7	1400	0	1400
11	Contingency and Unforeseen expenditures		0	0	304	304
	Total		64.5	12900	1620	14520
2nd year						
1	Casualty replacement including cost of seedling, carriage and planting	July-Aug.	1	200	189	389
2	Complete weeding and cultural operations	Sep-Oct.	2	400	0	400
3	Soil working and manuring	Sep-Oct.	2	400	0	400
4	Cost of Chemical fertilizer (a) Vermicompost 200gms/plant @ Rs. 20/- per kg. =Rs. 800/. (b) Granular insecticides 5 gms/plant for 20 plants 100 gms @ Rs. 80/- per kg.=Rs. 8/-.	Sep/Oct.	0	0	808	808
5	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep-Oct.	8	1600	0	1600
6	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
7	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
8	Contingency and Unforeseen expenditures		0	0	181	181
	Total		21	4200	1178	5378
3rd year						
1	Complete weeding and cultural operation	Aug-Sep.	1	200	0	200
2	Soil working	Aug-Sep.	1	200	0	200
3	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
4	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
5	Contingency and		0	0	200	200

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
	Unforeseen expenditures					
	Total		10	2000	200	2200
4th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
5th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
6th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
7th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
8th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
9th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
10th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600

ABSTRACT

Sl. No.	Item of work		Mandays	Lobour cost @ Rs. 200/-	Materials cost in Rs.	Total cost in Rs.
1	0 th year		14.5	2900	500	3400 ✓
2	1 st year		64.5	12900	1620	14520 ✓
3	2 nd year		21	4200	1178	5378 ✓
4	3 rd year		10	2000	200	2200 ✓
5	4 th year		3	600	0	600 ✓
6	5 th year		3	600	0	600 ✓
7	6 th year		3	600	0	600 ✓
8	7 th year		3	600	0	600 ✓
9	8 th year		3	600	0	600 ✓
10	9 th year		3	600	0	600 ✓
11	10 th year		3	600	0	600 ✓
	Total		131	26200	3498	29698 ✓

8/24.08-17
Divisional Forest Officer
Rayagada Division

ANNEXURE- III

GOVT. APPROVED COST NORM FOR BALD HILL PLANTATION @ 1600 PLANTS PER HECTARE

(Labour Cost @ Rs 200/- per day)

Sl. No.	Item of Work	Preferable Period of execution	Person days	Labour (Rs. 200/-) per day	Material cost (Rs.)	Total Cost (Rs.)
1	2	3	4	5	6	7
PREPARATORY OPERATION (0TH YEAR)						
1	Survey and Demarcation	June	2	400	0	400
2	Fencing i) For an average of 126 meters/ha @ Rs. 56.75/- per meter for bamboo twigs and bamboo thorr fencing (L:M= 40.60)	June-Sept	19	3800	4280	8080
	ii) To be strengthened by planting of bamboo and other seedlings in two rows. Bamboo to be planted at 2 meters spacing in staggered manner on the two rows, and the rest of species to be planted at ½ meter spacing along the two rows, the rows being 2m apart. Thus 500 plant (125 bamboo and 375 others) to be planted in two rows to cover 126m of periphery/Ha by the vegetative fence (Bamboo seedlings @ Rs. 9.45 per seedlings x 125 = Rs. 1181.00, Agave seedling @ Rs. 3.50 per seedling x 375= Rs. 1312.00	June-Sept	11	2200	2493	4693
3	Pitting (1600 per ha) each pit- 45 cm ³		128	25600	0	25600
4	Soil and Water conservation Measures a) Staggered trench along the contour @ 300 per ha (2.5m x 0.5m x 0.5m) digging of percolation pits @ 600 per ha in lieu of staggered trenches, gully plugging and Drainage line treatment, half moon trench on the uphill side of each planting pit (100 MD for staggered trench/percolation pits. and 30MD for gully plugging, drainage line treatment and half moon trench)	Sept-Nov	130	26000	0	26000

Sl. No.	Item of Work	Preferable Period of execution	Person days	Labour (Rs. 200/-) per day	Material cost (Rs.)	Total Cost (Rs.)
	b) Site clearance - 8 MD, alignment and staking of contour lines on ground, planting pits, contour trenches/ percolation pits and check dam site, etc 2 MD	July-Aug	10	2000	0	2000
5	Raising of seedlings in poly bags (minimum 60cm high) @ Rs. 9.45/- seedling (Rs. 6.67 in 0 th year) Part (1760 saplings to be raised for one hectare from January-March @ Rs. 11739/-)	Oct-Mar	44	8800	2939	11739
	Total		344	68800	9712	78512
PLANTING OPERATION (1ST YEAR)						
1	Cost of sapling (balance from April-June/July @ Rs. 2.78 per seedling for 1760 seedlings = Rs. 4893/-)	April-July	21.5	4300	593	4893
2	Freshening of pits- 64 MD, filling with fertile soil and farm yard manure (FYM) - 24MD, application of insecticide and planting of 60cm tall saplings including carriage of plants- 21MD	June-July	109	21800	0	21800
3	Cost of Fertile Soil 0.25 cft @ Rs. 8 per cft/FYM 0.25 cft @ Rs. 15 per cft per pit.		0	0	9200	9200
4	Sowing of seeds on dug out earth of trench	June	6	1200	200	1400
5	Carriage- 6 MD, planting including casualty replacement-6 MD, fertilizer application- 5MD, 1 st weeding-7MD, 2 nd weeding-5 MD, Soil working - 7 MD	July-Aug	36	7200	0	7200
6	Cost of Fertilizer and insecticide (Granular Insecticide @ 5 gms/plant @ Rs. 80/- per kg = Rs. 640.00, NPK 100 gms/Plant in two doses @ Rs. 24 per kg = 3840)		0	0	4480	4480
7	Repair and maintenance of bamboo fence including material cost	Aug-Oct	15	3000	2540	5540
8	Maintenance of soil and Moisture Conservation Measures (20% of cost)	Oct-Dec	26	5200	0	5200
9	Closure to grazing fire and other biotic interference by engaging watch & ward	April-Mar	30	6000	0	6000
10	Fire tracing and control, display board construction, painting/ writing, other miscellaneous cost	Jan-Feb	10	2000	360	2360
	Total		253.5	50700	17373	68073
MAINTENANCE OPERATION (2ND YEAR)						
1	Casualty replacement- 6 MD including seedling cost @ Rs. 9.45 per seedling and its transportation	June-July	10	2000	1512	3512

Sl. No.	Item of Work	Preferable Period of execution	Person days	Labour (Rs. 200/-) per day	Material cost (Rs.)	Total Cost (Rs.)
2	Soil working- 7 MD, 1 st weeding- 6 MD 2 nd weeding- 6 MD and fertilizer application-4 MD	Aug-Oct	23	4600	0	4600
3	Cost of fertilizer @ 50gms NPK per plant @ Rs. 24/- per kg for 1600 plants = Rs. 1920.00 insecticide @ 5 gm per plant for 160 nos of plants @ Rs. 80 per kg = Rs. 64.00		0	0	1984	1984
4	Repair and maintenance of bamboo fence including material cost.	Aug-Oct	15	3000	2540	5540
5	Maintenance of Soil and Moisture Conservation measures (20% of cost)	Aug-Oct	26	5200	0	5200
6	Fire tracing and control and other miscellaneous cost.	Feb-Mar	10	2000	0	2000
7	Closure to grazing, fire and other biotic interference by engaging watch and ward.	April-Mar	30	6000	0	6000
	Total		114	22800	6036	28836
MAINTENANCE OPERATION (3rd YEAR)						
1	Repair and maintenance of fence- 15 MD/ (in case of barbed wire fencing Rs. 9000/- for repair), SMC measures (Renovation)-26 MD and maintenance of plantation 14MD as per requirement.	April-Mar	55	11000	500	11500
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	April-Mar	18	3600	0	3600
	Total		73	14600	500	15100
MAINTENANCE OPERATION (4th, 5th, 6th, 7th 8th 9th&10th YEAR)						
1	Repair and maintenance of fence- 13MD/no maintenance in case of barbed wire fencing SMC measures-21 MD and maintenance of plantation-14 MD	April-Mar	48	9600	500	10100
2	Closure to grazing, fire and other biotic interference by engaging watch and ward	April-Mar	18	3600	0	3600
	Total		66	13200	500	13700

ABSTRACT

Sl. No.	Year	Man-days	Labour cost(Rs.)	Material cost (Rs.)	EPA cost (Rs.)	Total (Rs.)
1	0 th Year	344	68800	9712		78512
2	1 st Year	253.5	50700	17373		68073
3	2 nd Year	114	22800	6036		28836
4	3 rd Year	73	14600	500		15100
5	4 th Year	66	13200	500		13700
6	5 th Year	66	13200	500		13700
7	6 th Year	66	13200	500		13700
8	7 th Year	66	13200	500		13700
9	8 th Year	66	13200	500		13700
10	9 th Year	66	13200	500		13700
11	10 th Year	66	13200	500		13700
	Total	1246.5	249300	37121		286421

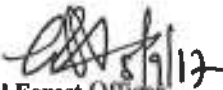
824.08-17
Divisional Forest Officer
Rayagada Division

ANNEXURE-IV

TOTAL FINANCIAL OUTLAY

Sl. No	Work to be done	Estimated expenditure
1.	Brush Wood fence on outer periphery of safety zone over over of 9.975ha spreading over a length of 13.3km @ 24760 per ha.	Rs 2,46,981.00
2	ANR practices with gap plantation consisting of 200 plants per ha over 9.975ha @ Rs. 29,698/- per ha	Rs. 2,96,238.00
3	Block plantation with 1600 plants per ha over 5.775ha on approved Bald hill cost norm @ Rs. 2,86,421/- per ha	Rs.16,54,081.00
Total		Rs. 21,97,300.00

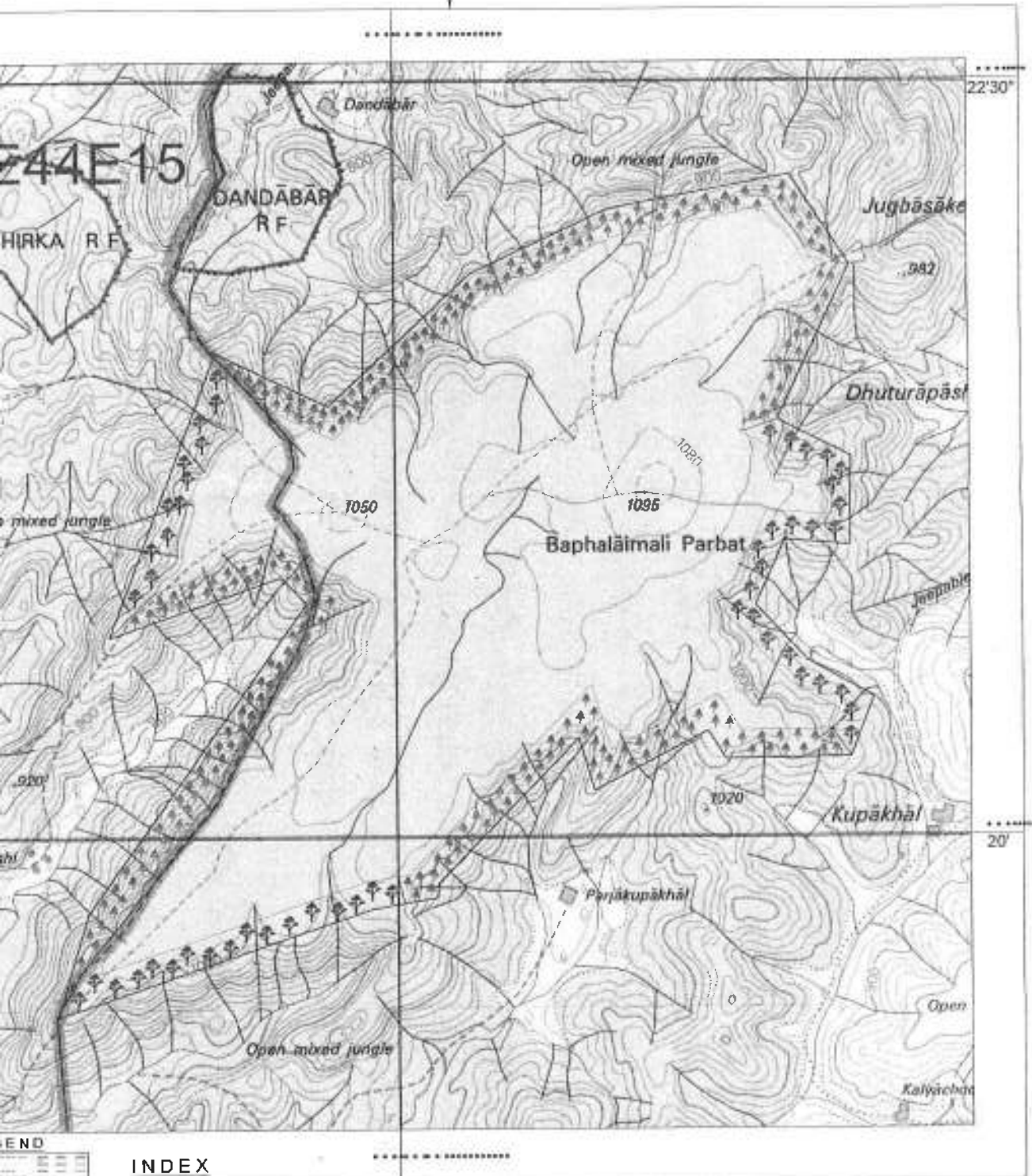
(Rupees twenty one lakhs ninety seven thousand three hundred) only


Divisional Forest Officer
Kalahandi (S) Division






Divisional Forest Officer
Rayagada Division



ENLARGE MAP NOT TO SCALE



INDEX

-  M.L. BOUNDARY
-  DISTRICT BOUNDARY
-  LOCATION OF GAP PLANTATION
-  LOCATION OF BLOCK PLANTATION

COMPLIANCE TO THE CONDITION NO.-X(PART-I) OF
MOEF LETTER F. NOB-18/2016-FC DATED 29-06-2017

TOPOGRAPHICAL MAP SHOWING LOCATIONS OF GAP PLANTATIONS
AND BLOCK PLANTATIONS IN 7.5 METER SAFETY ZONE OF
BAPHILIMALI BAUXITE MINE OF M/S UTKAL ALUMINA INTERNATIONAL LTD.
IN RAYAGADA & KALAHANDI DISTRICT OF ODISHA ON SURVEY OF INDIA
TOPOSHEETNO. E44E15

SCALE-1:50,000

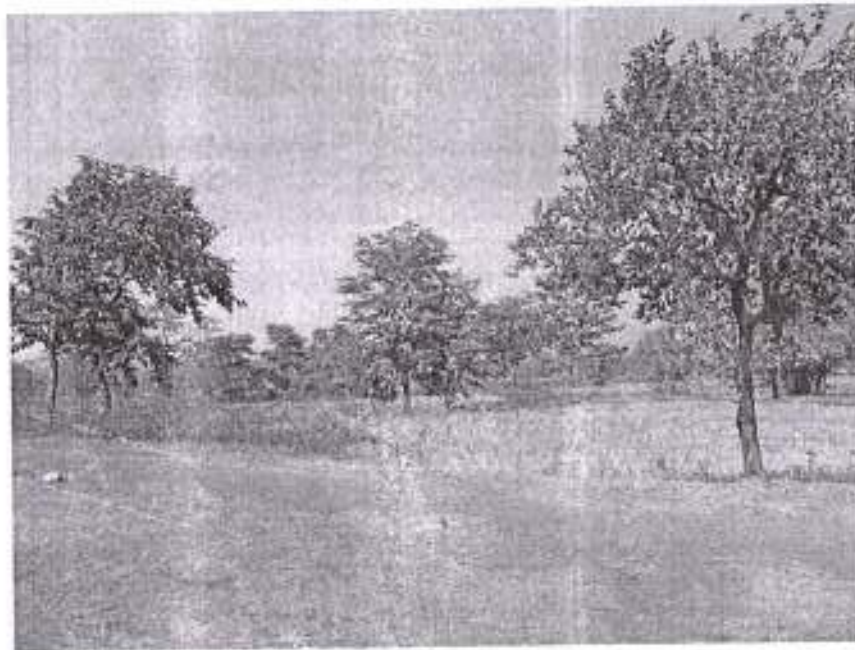
For Utkal Alumina International Ltd.

8/24.08.17
Divisional Forest Officer
Rayagada Division

Divisional Forest Officer
Kalahandi Division

Authorized Signature

**SCHEME FOR AFFORESTATION
ON
DEGRADED FOREST LAND OVER 23.64 HECTARES
IDENTIFIED IN KASHIPUR RANGE OF
RAYAGADA FOREST DIVISION
BEING 1.5 TIMES THE AREA OF SAFETY ZONE (15.75ha)
AGAINST DIVERSION OF 233.343 HECTARE OF DLC FOREST LAND
PERTAINING TO
BAPHILIMALI BAUXITE MINES OF M/S UTKAL ALUMINA INTERNATIONAL LTD.
IN
RAYAGADA & KALAHANDI DISTRICTS, ODISHA.**



**(Compliance to condition No.x of in-principle approval of MoEF & CC, Govt.of India
vide letter no F.No-8-18/2016-FC dated 29.06.2017)**

1. INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide F. No. 8-18/2016-FC dated 29.06.2017 for diversion of 233.343 ha. DLC forest area in Baphlimali Bauxite Mines of Utkal Alumina International Ltd. In this approval, MoEF & CC has stipulated some conditions to be fulfilled before Stage-II forest clearance is accorded. The condition no. x of the Stage-I forest clearance is read as under:

"Fencing, protection and regeneration of the safety zone area [7.5 meters strip all along the outer periphery of the mining lease area as recommended by the state govt.] shall be done within three years at the project cost from the issue of Stage-II clearance. Besides this afforestation on degraded forest land to be selected elsewhere measuring one & a half times the area under safety zone shall also be done at the project cost. The degraded forest land (DFL) so selected will be informed to the MoEF & CC with shape files and afforestation will be done within three years from the date of Stage-II clearance."

In order to comply the first part of the above conditions, a separate scheme is prepared for fencing, protection and regeneration of safety zone area within Baphlimali Bauxite M.L area. The present scheme is for afforestation over one & a half times the area under safety zone on degraded forest land selected elsewhere.

Area of safety zone is 15.75ha. Hence plantation in degraded forest will be taken up over 23.64 ha.

2. Identification of the degraded forest area:

The degraded forest land for this purpose has been identified in DLC forest land on Khata No. 32, Plot No. 5, 6 & 329 in village Dhuturapas under Kasipur Tahasil of Rayagada district over 23.64 ha. in consultation with DFO, Rayagada Division. The location details of site selected are as follows:

Forest Division	:	Rayagada
Forest Range	:	Kashipur
Name of Forest Block	:	DLC forest land in village Dhuturapas
Soil quality	:	Rocky lateritic soil.
Crop Density of the vegetation of the site	:	Below 0.2
Area to be covered	:	23.64 hectare

The site is located on Survey of India Toposheet No. E-44 E-15 & finds place between latitude 19°21'41.263"-19°21'12.17" E & longitude 82°58'57.69"-82°59'15.437". The site plan shown on Survey of India Toposheet and DGPS survey map showing the coordinates & survey stations is Annexed in the scheme.

Climatic Condition :

The afforestation site falls within sub-tropical region which is marked by hot and prominent summer. Well define rainy season from mid-June to October. Average annual rain fall is around 1647mm & no. of rainy days varies from 65 to 80 days. The maximum temperature during summer rises to 40°C and minimum temperature becomes 10.5°C during winter. Relating humidity varies from 28% during summer to 98% during rain.

Nature of Existing vegetation :

As per classification of forest types, the afforestation site falls under Group-III -Tropical moist deciduous forests. The vegetation of the site is in complete degraded condition comprising forest species like Asana, Chara, P-sal, Amla, Sal, Sidha and other miscellaneous species of tropical moist deciduous forests. Due to lack of proper silvicultural operations, annual fire hazard and other anthropogenic pressures like shifting cultivation, collection of fire wood and small timber for domestic purposes the area is in degraded condition.

The crown density of the vegetation is below 0.2 width large permanent blanks located here & there infested by weeds, climbers and unwanted herbs and shrub species spreading over the above area of course above forest species are below 30CM girth & exist scatteredly here and there at the site. However, root stocks and saplings are noticed there.

With silvicultural tending operations, gap plantation with 800 seedlings per ha., soil and moisture conservation measure and strategic protection with the help of local people shall rejuvenate and regenerate the forest.

3. Objective:

As mentioned in the introductory paragraph, this scheme aims to comply the condition No. x as imposed vide letter No.F-8-18/2016-FC dtd. 17.6.2017 of MoEF & CC. The degraded forest is to be restocked by Aided Natural Regeneration i.e. Silvicultural tending operation for existing growth supplemented with planting in blank area inside the selected patch. It also aims to carry out necessary soil & moisture conservation measures along with site specific Afforestation programme to conserve soil, water for recharging ground water table, to check erosion and thereby to improve the vegetation of the area.

4. Technique to be adopted

As indicated, ANR practice with gap plantation will be taken up @ 800 seedlings per hectare with spacing of 2.5mt x 2.5mt or in staggered manner over the area. It is

proposed for planting hardy and non-browse able species. This plantation will be raised and will be maintained for a period of 10 years to achieve the objectives as per the cost norm approved by PCCF, Odisha vide Letter No. 143/12F (Affn.) 247/2012 dt. 29.01.2016. **(Annexure -I)**. Soil & moisture conservation measures as prescribed in the cost norm shall be adopted at the plantation site. To protect the plantation site from grazing and fire, watch & ward provision prescribed in the cost norm shall also be taken up. Besides the plantation site will be handed over to the Dhuturapas village having VSS for over all protection on JFM mode for the success of the objective.

4. A. Survey, Demarcation, Pillar posting.

Survey, Demarcation and pillar posting works will be taken up by Forest Department. RCC pillars of size 10 cm x 10 cm x 160 cm are to be fixed at corner & conspicuous places of the boundary. Pillars will be numbered serially as per the map of the planting site. Approximate nos. of pillar will be required are around 17 nos.

4.B Re-generation, Cleaning & Tending operation.

The area aimed to be improved through ANR practices with gap plantation, contains vegetation with average crop height of 3 to 4 meter. The existing crops need tending for their healthy growth. It needs removal of diseased, dead, malformed, defective tree growth. The illicitly felled high stump if any found are to be cut to invite coppice growth which will be singled out in subsequent years to allow the prominent one to establish. This is to be followed by removal of the same from the site to a safer place for distribution to local public for fire wood purpose to invite their support for protection.

Eradication of weeds, climbers is badly needed to prevent their interference in the growth of valuable tree/regeneration so that root competition is prevented and maximum sunlight is allowed to the promising species. The best time to take up the above works is March-April.

4.C. Plantation.

Cost norm for plantation is enclosed as **Annexure-I**

It is proposed to plant indigenous hardy, light demander species that can withstand overhead sunlight, moisture stress condition and preferable non-browse able species which are suitable to the site condition. The following species are proposed to be planted.

1. *Pongamia pinnata*.
2. *Pterocarpus marsupium*.
3. *Azadirachta indica*.
4. *Emblica officinalis*.
5. *Alstonia scholaris*.
6. *Terminalia belerica*.
7. *Dendrocalamus strictus*. etc

Besides any native non browsable species available in the locality can also be planted. Before taking of plantation the following Pre-planting operation are required to be taken up.

PRE-PLANTING OPERATION

Different preplanting, planting, post planting operation and subsequent maintenance over a period of 10 year as prescribed in the cost norm approved by PCCF, Odisha shall be taken care of.

a) Raising of nursery

A temporary nursery will be raised near the plantation site with perennial water source facility and approach road to the nursery site. Nursery works will commence one year ahead of planting season to get second year seedling for plantation. 10% excess of seedling to be raised than required.

b) Alignment and stacking and Pitting

This will be taken up in the month of March-April. Pits of size 30 cm x 30cm x 30cm to be dug at random considering the size of the blanks and taking spacing 2.5mtr x 2.5mtr @ 800 plants per hectare.

PLANTING OPERATION.

- c) Plantation will be done after first regular shower of monsoon and to be completed latest by end of August. Basal dose of NPK fertilizer @ 50gm per plant to be given in addition to vermin compost @ 200 gm. per plant. Utmost care is to be taken to apply insecticides @5gm per pit. Casualty replacement to be taken up during 1st year of plantation just after one month of planting. 10% causality replacement is also suggested during 2nd Year.

POST PLANTING OPERATION.

d. Weeding, soil working and manuring.

Post planting operation is most vital in success of any planting programme. It is proposed to carry out two weeding, soil working and manuring during first year and one weeding & soil working in second year of plantation. During soil working, care should be taken to have half-moon trench for plants on slopes. Weeding and soil working is also to be taken up once in third year and there after strict fire protection measures to be implemented up to ten years as per cost norm.

e. As the plantation site is close to the human habitation, there are chances of cattle grazing and other anthropogenic interferences. Hence brush wood fencing with four year maintenance is proposed on approved cost norm to protect the plantation in addition to watch and ward. The approved cost norm is enclosed as Annexure-II.

f. Fire line tracing and maintenance

Tender seedlings planted are subjected to damage by ground fire. Similarly the existing forest growths also get damaged due to fire. It is required to protect the plantation and forest growth from fire hazard by tracing of fire lines. Boundaries of plantation patches and forest growth area need to be scraped to a width of 3mtr during February-March. The cut back materials and dry leaves along with fire lines should be separated and dumped in pits outside the plantation area.

g. Watch and ward

Provision of watch and ward to protect the area from grazing, fire accident and other biotic interference, it is proposed to engage fire watcher as prescribed in the cost norm up to 10th years.

h. Involvement of VSS in management and protection of the plantation.

No plan/project shall be successful unless there is people's participation during implementation of the project. Therefore it is proposed to involve Dhuturapas VSS in protecting the plantation and regenerated area on Joint Forest Management mode as per the Govt. guideline. Besides the villagers shall be engaged in all silvicultural and plantation operations on wise basis to invite their support for the success of plantation.

Entry point activities shall be carried out in consultation with the villages and therefore, 10% of the project cost in kept for the same.

5. Executing agency

This programme will be implemented by the D.F.O, Rayagada Division with the funds provided by the User Agency.

6. Inspection monitoring and evaluation

The plantation is to be periodically inspected by the authority & Plantation Journal is to be maintained as per prevailing practice.

7. Cost estimate of the plan.

Sl. No.	Particulars	Unit	Rate in Rs.	Amount
1	Aided natural regeneration and gap planting with 800 seedlings per ha.	23.64 ha.	56,912.00	13,45,400.00
2	Posting of RCC pillars of size 10 cm x 10 cm x 160 cm as survey stations including cost of pillars and posting at the site.	17 nos.	400 per pillar	6,800.00
3	Brush wood fencing around the plantation and maintenance over four years.	23.64 ha.	24,760.00 per ha.	5,85,326.00
4	Entry point activities @ 5% of the total project cost	23.64 ha.	5%	96,876.00
	Total			20,34,402.00
	Add 20% towards cost escalation			4,06,880.00
	Ground total			24,41,282.00

8. Financial forecast

The approved cost norm for ANR @ 800 seedlings per hectare as per Annexure -I given below is Rs. 56,912/- per hectare. Plantation over 23.64 Ha in degraded forest land with ten year of maintenance period, cost of pillar posting, brush fencing & entry point activities comes to Rs 20,34,402/-. Adding 20% for wage escalation total cost comes to Rs. 24,41,282/- (Rupees twenty four lakhs forty one thousand two hundred eighty two) only and the amount will be paid by the User Agency on demand from D.F.O, Rayagada Division.

For Utkal Alumina International Ltd.

Authorised Signatory

Regional Chief Conservator of Forests
KORAPUT CIRCLE

Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

ANNEXURE-I

COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 800 PLANTS PER HA.

Wage rate Rs. 200/-per day.

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
0th year						
1	Survey, Demarcation and Pillar Posting, GPS reading with mapping	Nov-Dec.	2	400	0	400
2	Site preparation	Nov-Dec.	2	400	0	400
3	Silvicultural operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan-Feb.	5	1000	0	1000
4	Nursery cost (6 months old seedling) part @ Rs. 9.45/- seedling (Rs. 6.67 in 0 th year + Rs. 2.78 in 1 st year) for 220 seedlings (200+20)	Jan-Mar.	22	4400	1470	5870
5	Contingency and Unforeseen Expenditures		0	0	230	230
	Total		31 ✓	6200 ✓	1700 ✓	7900 ✓
1st year						
1	Nursery cost (6 months old seedling) balance @ Rs. 2.78 for 220 seedling	April-Jul.	11	2200	246	2446
2	Pitting 30 cm cube size	Feb-Mar	24	4800	0	4800
3	Carriage and planting including casualty replacement	Jul-Aug.	20	4000	0	4000
4	Complete weeding, Soil working, Manuring	Aug-Sep.	24	4800	0	4800
5	Cost of Vermi compost @ 200 gms/plant @ Rs. 20/- per kg. = Rs. 800/- and Granular insecticide 5 gms/plant @ Rs. 80/- per kg.=Rs. 80/-	Aug-Sep.	0	0	3520	3520
6	Cost of Chemical fertilizer (a) Urea 70 gms/plant in two subsequent doses @ Rs. 6/- per kg. = Rs. 84/-. (b) NPK 50 gms/plant @ Rs. 24/- per kg=Rs. 240/- as basal dose		0	0	1296	1296
7	Fire tracing and		3	600	0	600

	inspection path					
8	Silvicultural operation involving clearance of weeds, cutting of climbers, singeing of shoots etc.	Sep-Oct.	15	3000	0	3000
Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
9	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5m x @ 60 nos. per ha.) or its equivalent	Sep-Oct.	20	4000	0	4000
10	Watch & Ward	Aug-Mar.	7	1400	0	1400
11	Contingency and Unforeseen expenditures		0	0	338	338
	Total		124	24800	5400	30200 ✓
2nd year						
1	Casualty replacement including cost of seedling, carriage and planting		4	800	756	1556
2	Complete weeding and cultural operations		8	1600	0	1600
3	Soil working and manuring		8	1600	0	1600
4	Cost of Chemical fertilizer (a) Vermicompost 200gms/plant @ Rs. 20/- per kg.=Rs. 800/- (b) Granular insecticides 5 gms/plant for 20 plants 100 gms @ Rs. 80/- per kg.=Rs. 8/-.		0	0	3232	3232
5	Fireline tracing and inspection path		1	200	0	200
6	Soil Conservation Measures (Renovation of staggered trenches etc.)		8	1600	0	1600
7	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
8	Contingency and Unforeseen expenditures		0	0	224	224
	Total		36	7200	4212	11412 ✓
3rd year						
1	Complete weeding and cultural operation	Aug-Sep.	4	800	0	800
2	Soil working	Aug-Sep.	4	800	0	800
3	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
4	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
	Total		16	3200	0	3200 ✓

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
4th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
5th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
6th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
7th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
8th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
9th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
10th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600

ABSTRACT

Sl. No.	Item of work	Mandays	Lobour cost @ Rs. 200/-	Materials cost in Rs.	Total cost in Rs.
1	0 th year	31	6200	1700	7900 ✓
2	1 st year	124	24800	5400	30200 ✓
3	2 nd year	36	7200	4212	11412 ✓
4	3 rd year	16	3200	0	3200 ✓
5	4 th year	3	600	0	600 ✓
6	5 th year	3	600	0	600 ✓
7	6 th year	3	600	0	600 ✓
8	7 th year	3	600	0	600 ✓
9	8 th year	3	600	0	600 ✓
10	9 th year	3	600	0	600 ✓
11	10 th year	3	600	0	600 ✓
	Total	228	45600	11312	56912

ANNEXURE-II

**Extracts of fencing cost norm provided in the approved cost norm for Bald hill plantation in
Annexure-12 of the norm Booklet of PCCF, Odisha**

Year	Particulars of work	Manday	Labour cost@ 200/- per day	Material cost per ha in Rs.	Total cost per ha in Rs.
0 th year	For an average of 126 meter/ha. @ Rs. 56.57 for bamboo twig and bamboo thorn fencing	19	3800	4280	Rs. 8,080.00
1 st year	Repair & maintenance of fencing	15	3000	2540	Rs. 5,540.00
2 nd year	Repair & maintenance of fencing	15	3000	2540	Rs. 5,540.00
3 rd year	Repair & maintenance of fencing	15	3000		Rs. 3,000.00
4 th year	Repair & maintenance of fencing	13	2600		Rs. 2,600.00
					Rs. 24,760.00
	Cost for ha. 24,760.00				

Topo Map Showing Degraded Forest Land (DFL) elsewhere over 23.64 Ha for raising 1.5 times area of Safety Zone of Baphimali Bauxite Mine Lease of M/s Utkal Alumina International Limited in Rayagada and Kalahandi District of Odisha on Survey Of India Topo sheet no-E44E15.

OPEN SERIES MAP

No. E44E15
Scale 1:50,000

E44E10	E44E11	E44E12
E44E13	E44E14	E44E15
E44E16	E44E17	E44E18

Survey of India
Topo Sheet No. E44E15
Scale 1:50,000

CONVENTIONAL SYMBOLS

Boundaries of States, Districts, Taluqs, etc.	...
Boundaries of Forests, Sanctuaries, etc.	...
Boundaries of Towns, Villages, etc.	...
Boundaries of Cultivated Land, etc.	...
Boundaries of Water Bodies, etc.	...
Boundaries of Other Land Use, etc.	...

COMPLIANCE TO THE CONDITION NO.-X(PART-II) OF MOEF LETTER F. NOB-18/2016-FG DATED 29-06-2017

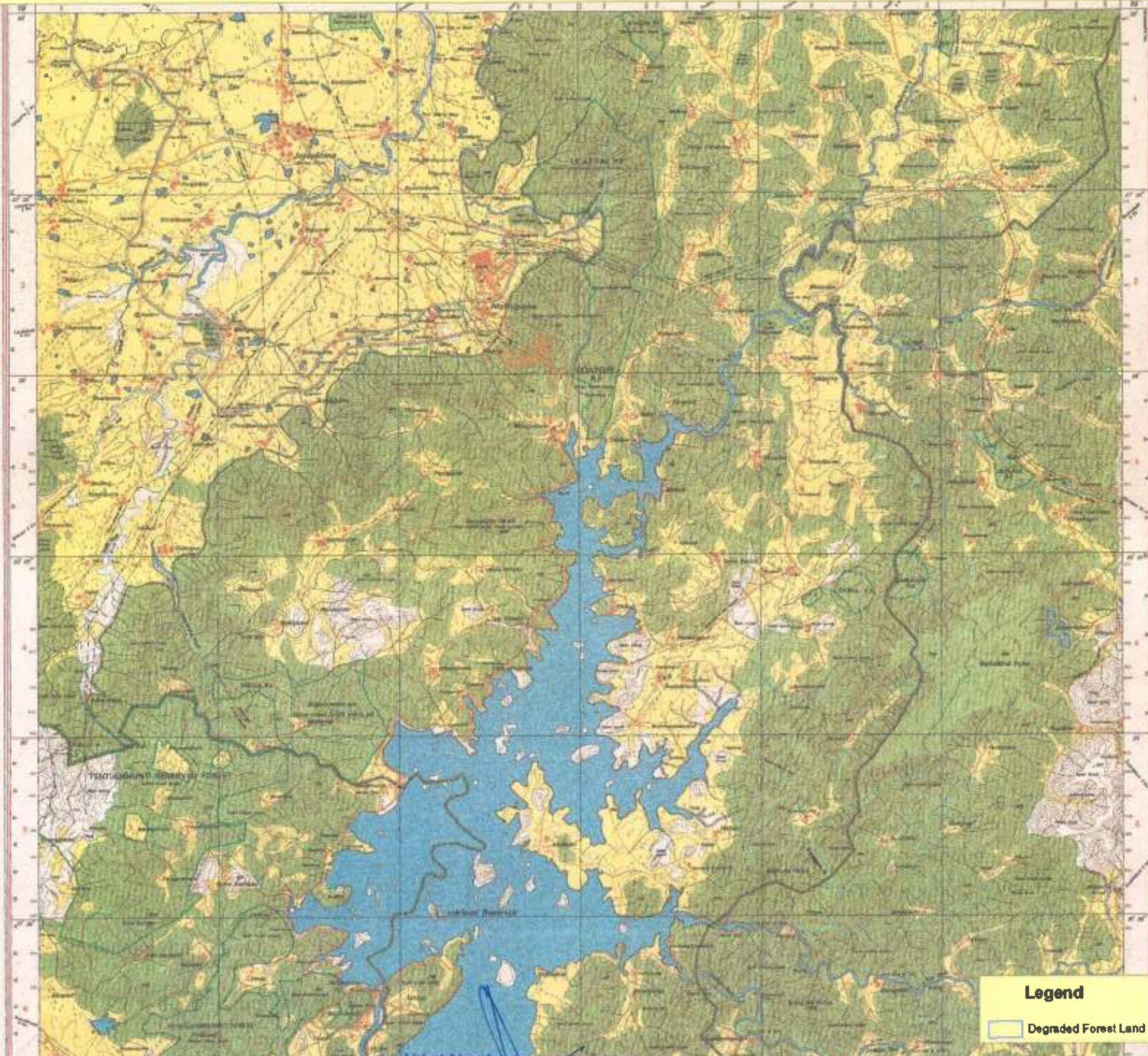
NOTES

1. The map is prepared from the best available data and is not a true representation of the ground.

2. The map is prepared from the best available data and is not a true representation of the ground.

COMPILED BY

Projection - UTM
Datum - WGS 84
Scale 1:50,000

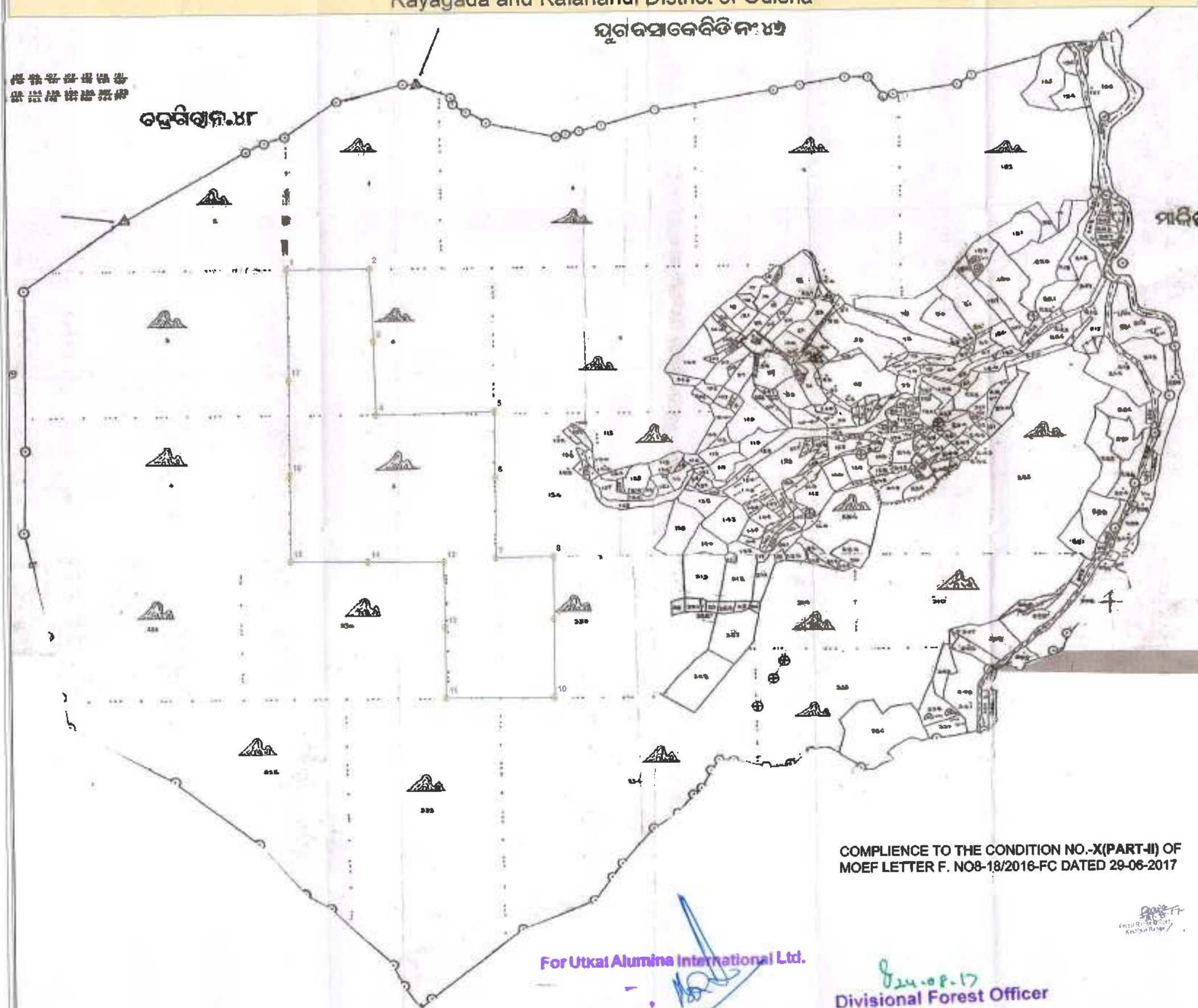


Legend

Degraded Forest Land

For Utkal Alumina International Ltd.
24.08.17
Divisional Forest Office.

DGPS Survey Map Showing Degraded Forest Land (DFL) over 23.64 Ha for raising 1.5 times area of Safety Zone of Baphimali Bauxite Mine Lease of M/s Utkal Alumina International Limited in Rayagada and Kalahandi District of Odisha



0 87.5 175 350 525 700

Meters
1:4,000

Legend

- DEMARCATION PILLARS
- DEGRADED FOREST LAND

GEO-REFERENCED COORDINATES OF PILLARS

POINT ID	LONGITUDE	LATITUDE	EASTING	NORTHING
1	82°58'57.69120"	19°21'41.26356"	708256.043	2142018.141
2	82°59'03.30180"	19°21'41.30640"	708419.784	2142021.338
3	82°59'03.43464"	19°21'36.33516"	708425.412	2141868.515
4	82°59'03.56676"	19°21'31.37400"	708431.028	2141715.997
5	82°59'11.56560"	19°21'31.55796"	708664.419	2141724.344
6	82°59'11.57532"	19°21'27.08244"	708666.284	2141586.715
7	82°59'11.59116"	19°21'21.60432"	708668.678	2141418.263
8	82°59'15.43272"	19°21'21.67416"	708780.778	2141421.693
9	82°59'15.43380"	19°21'17.43840"	708782.312	2141291.441
10	82°59'15.43740"	19°21'12.17124"	708784.277	2141129.477
11	82°59'08.12472"	19°21'12.18168"	708570.832	2141127.339
12	82°59'08.11068"	19°21'16.92864"	708568.745	2141273.316
13	82°59'08.07864"	19°21'21.36744"	708566.251	2141409.797
14	82°59'02.96828"	19°21'21.41964"	708417.018	2141409.694
15	82°58'57.78228"	19°21'21.47292"	708265.694	2141409.592
16	82°58'57.76716"	19°21'27.33984"	708263.181	2141590.001
17	82°58'57.74124"	19°21'33.76224"	708260.151	2141787.491

LAND SCHEDULE

VILLAGE	KHATA No	PLOT No.	Tenants	Khasm	Full Extent		Area Considered for DFL		Remarks
					(Acre)	(Hect)	(Acre)	(Hect)	
DHUTURAPAS	32	5	DEC FOREST	Perbet	30.00	12.34	15.261	6.176	Part
		6			30.00	12.34	12.585	5.093	Part
		529			36.30	14.72	30.57	12.371	Part
Total					96.30	39.00	58.42	23.64	

COMPLIANCE TO THE CONDITION NO.-X(PART-II) OF MOEF LETTER F. NO8-18/2016-FC DATED 29-06-2017

For Utkal Alumina International Ltd.

Authorised Signatory

8.24.08.17
Divisional Forest Officer
Rayagada Division



FORM - 8

MODEL FORM OF MINING LEASE
(See Rule 31)

THIS INDENTURE made this 17th day of February 1998 between the Governor of Orissa (hereinafter referred to as the 'State Government' which expression shall where the context so admits be deemed to include the successors and assigns) of the one part ; and

M/s. Orissa Mining Corporation Limited, a company registered under Indian Companies Act, 1956 (Act under which incorporated) and having its registered office at Bhubaneswar (Address) OMC House, Post Box No.34,

Contd..P/2.

20. General Manager #3603
Orissa Mining Corp. Ltd.
Bhubaneswar

Collector, Rayagoda

1000Rs.



69
ABSTRACT

VILLAGE : KARANJA KUPAKHAL, P.S. KASHIPUR	- 415.76 acres.
VILLAGE : PAIK-KUPAKHAL, P.S. KASHIPUR	- 390.76 acres.
VILLAGE : DHUTURAPAS, P.S. KASHIPUR	- 159.98 acres.
VILLAGE : DANDABADA, P.S. KASHIPUR	- 1024.19 acres (Khana puri done)
VILLAGE : CHANDRAGIRI, P.S. KASHIPUR	- 223.16 (-do-)
Total:	2213.87 acres.
VILLAGE : DURUMASI, P.S. THUMUL RAMPUR	- 785.94 acres.
VILLAGE : SURYAGUDA, P.S. THUMUL RAMPUR	- 328.59 acres.
VILLAGE : KENDUMUNDI, P.S. THUMUL RAMPUR	- 103.25 (Khana puri not done)
Total :	1217.78 acres.

Contd...P/70.

177-413
Dy. General Manager (Genl)
Orissa Mining Corp. Ltd.
Bhubaneswar

Collector, Rayagada]

2000Rs.



- 430 -

From page No.70 to 429 remain blank due to want of matter which are only signed by both by Lessor and Lessee.

[Signature]
Dy. General Manager (Geo)
Orissa Mining Corps. Ltd.
Bhubaneswar.

contd...p/431
[Signature]
Dy. General Manager (Geo)
Orissa Mining Corps. Ltd.
Bhubaneswar.

1000Rs.



- 431 -

RAYAGADA DISTRICT -
KALAHANDI DISTRICT -

2213.87 acres.
1217.78 acres.
3431.65 acres
or
1386.74 hacts.

In presence of
witness:

1. *[Signature]* 17/2/98
Mining officer (K)
& Deputy District Engineer
Rayagada.

2. *[Signature]* 17/2/98
P.O. Rayagada
C.P.E. *[Signature]*
or *[Signature]* M.M. (K)

Witness:

1. *[Signature]* 17/2/98
P.L. Ranjan Esq. Rayagada
8th District, Esq. Rayagada.

2. *[Signature]* 17/2/98
Alto. Adigunni Dal. Rayagada.

[Signature] 17/2/98 (PRASAD LONK)
CHANDUR

So S. V.K. Choudhary

D. Manjari (Fulgar)

ONE Rayagada

[Signature] 17/2/98
Collector, Rayagada
Signed by the Collector,
Rayagada for and on
behalf of the Governor of
Orissa.

[Signature] 17/2/98
By, General Manager (Gen)
Orissa Mining Corps. Ltd.

Signed by *[Signature]*
Jen, the duly constituted
attorney of the lessee,
above named in the presence
of

shall where the context so admits be deemed to include its successors and permitted assigns of the first part.

And

UTKAL ALUMINA INTERNATIONAL LIMITED, a company registered under Section 3 of the Companies Act 1956 and having its registered Office at #6, Jayadev Vihar, Nandan Kanan Road, Bhubaneswar-13, Orissa. (hereinafter referred to as the "transferee" which expression shall where the context so admits be deemed to include its successors and permitted assigns) of the second part.

And

The Governor of Orissa (hereinafter referred to as the "State Government" which expression shall where the context so admits be deemed to include the successors and assigns) of the third Part.

Whereas by virtue of an indenture of lease dated the 17th day of February, 1998 and registered as Sl. No. 260, document No. 251, Book No. 1 of 1998 of dated 18.2.98 in the office of the Sub-Registrar of Rayagada hereinafter referred to as lease), the original where of is attached

Contd.,

Authorized Signatory

No. 864 Date 9-10-2001



Presented for registration in the Office of the District Collector, Rayachoti

on the 5th day of 10th month of 2001

By G. B. Poudyal, Senior Manager, O.M.C. Ltd. Dhangadharani

Signature of Presenting Officer

Signature of Presenting Officer

Signature of Presenting Officer

Association is admitted by the District Collector, Rayachoti, Senior Manager

(Geology) O.M.C. Ltd., Dhangadharani and by

Pradyuman O.H., General Manager

(Project), for all on behalf of the

Aluminum International Ltd., identified by

Presenting Officer, Kumar Saha, Mr. Jagdish

Chandra Saha of P.S. H.L. Dist. South

Dangpur, West Bengal, employee of

UAIL, Rangpur, and executed

by S.P. Das, I.A.S., Collector, Rangpur

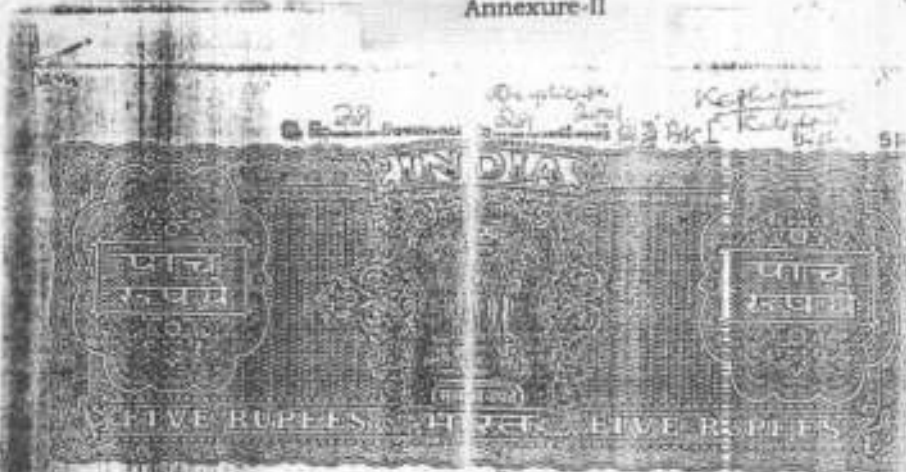
Who is exempt from personal appearance

in this office as per Registration

Act (1912-1913) is proved by the

Signature of Presenting Officer

Annexure-II



Admissible under rate 1% dutyless, duly stamped
Under the Indian Stamp (Collection and Remittance)
Act, 1956 S. 42 (1) A. P. 25 and Section II
of the Or. St. 1957 (1) A. P. 25 and Section II
1956, stamp duty payable on the Stamp Duty.

Handwritten: I hereby certify that on the 10th day of November 2000 the original instrument has been duly stamped with the Stamp duty of Rs. 15.94.50/- and the same paid hereby.

FEE PAID

A (1)	(6)	100...
19		
D		5.00
A 21		
(8)		105.00
Total Rs		105.00

Transfer Deed in respect of a Mining Lease

(Com No. 45104844.58)

This instrument made this 10th day of
November 2000

between

ORISSA MINING CORPORATION LIMITED a
company registered under the Companies Act, 1956 and
having its registered Office at Bhutaneshwar, OMIC
House, Post Box no. 34, Bhubaneswar-1, Orissa
(hereinafter referred to as the "transferor" which expression

Continues

10 NOV 2000
10 NOV 2000
10 NOV 2000

For and on behalf of
ORISSA MINING CORPORATION LIMITED

Authorized Signatory

No.J-11015/650/2007-1A.II(M)
Government of India
Ministry of Environment and Forests

Paryavaran Bhawan
CGO Complex, Lodi Road,
New Delhi-110 003

Dated the 19th February, 2009

To

M/s Utkal Alumina International Limited
Raniguda Farm,
Rayagada - 765 001
E-mail: hemenbhagawati@adityabirla.com

Subject: Baphimali Bauxite Mining Project of M/s Utkal Alumina International Limited, located in Village(s) Paikkupakhai, Karanjakupakhai, Dhuturapas, Dandabad, Chandragiri, Durumusi, Suryagada and Kendumundi, Tehsil(s) Kashipur & Thuamul Rampur, District(s) Rayagada & Kalahandi, Orissa - environmental clearance regarding.

Sir,

This has reference to your letter No. UAIL/ENV/2253/2007 dated 25.06.2007 and subsequent letters dated 06.01.2008, 29.02.2008, 02.09.2008, 03.10.2008 and 24.11.2008 on the subject mentioned above. The proposal is for opening of a new mine for production of bauxite to 8.5 lakh tonnes per annum (million TPA) to meet the captive requirement of aluminium plant located at a distance of about 17km. It may be mentioned that the environmental clearance earlier accorded to this project by the Ministry of Environment and Forests on 25.09.1995 for mining of 3.0million TPA of bauxite was lapsed since the proponent did not start work at this site within the validity period. The total mine lease area of the project is 1388.74ha, which is a waste land. No forest land is involved. Area proposed for mining is 850ha, an area of 11ha is kept for infrastructure, 10ha for roads & conveyors, 80ha for green belt, 0.5ha for explosive magazine and 437.24ha is others (undistributed land). The Kandabindhya Nallah is flowing in the buffer zone of the mine at a distance of 0.5km towards North from the mine lease boundary. In addition, the San River and the Indravati River are flowing in the buffer zone of the mine at a distance of 5.9km and 7.5km respectively from the mine lease boundary. Pre-mining surface drainage pattern has been submitted. It has been stated that no spring exist on plateau top, however, a few springs originate from the foothills of the plateau at about 100m-150m below the plateau top and the mining will not interfere with these springs. There are two smaller rain fed runoff drains passes through the plateau. These runoff drains will be diverted through garland drain to connect the existing path of the drain so that the water does not enter into the mining pit and later while carrying out reclamation of mined out pits, the drains will be suitably re-instated. No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant

2/-

reserve etc. is reported to be located in the core and buffer zone of the mine. The area also does not report to form Corridor for Schedule-I fauna. In support of this, a letter dated 01.10.2008 along with a duly authenticated map from the Conservator of Forest (Wildlife) provided showing that no National Park / Sanctuary and no Wildlife Corridor exist within 10 km of the mine lease. Seven Reserve Forests namely the Dandabar RF(0.5km N), the Chirka RF (1.0km NW), the Udasil RF (2.4km N), the Sirigruha RF(7.6km SE), the Kanda the Bindha RF(8.3km E), the Udaygiri RF(8.6km NW) and the Porha Bandh RF (9.3km ESE) are located in the buffer zone of the mine. The mine working will be opencast by mechanized method involving drilling and blasting. The targetted production capacity of the mine is 8.5million TPA of bauxite and the life of mine is 27years. Approximately 24,650TPD of mineral will be transported through a 21km long covered conveyor. The Baphimali Plateau forms a part of Eastern Ghat Hills and the topography of the area is a plateau top generally flat and the elevation above mean sea level ranging from 990m-1093m AMSL. It has been reported that the plateau top is devoid of vegetation in most part giving a bald look to the area (Khondalite exposures, however, support growth of trees and shrubs). The ultimate working depth of mine will be 1054m AMSL(40m from the plateau top of 1094m AMSL) and 960m AMSL(30m from plateau top of 990m AMSL). The ground water table is reported to vary from 890m AMSL (100m from the plateau top of 990m AMSL) to 944m AMSL(150m from the plateau top of 1094m AMSL). The mine working will not intersect the ground water table. The peak water requirement of the project is estimated as 2000m³ per day, which will be obtained from the surface water(San River or Kandabindh Nallah). It has been reported that there is no population in the core zone, therefore, displacement of population and R&R has not been envisaged. Approximately 2,43,573m³ per month of solid waste comprising 66,137m³ per month of topsoil (soil and murrum) and 1,77,436m³ per month of over burden (laterite) will be generated, which will be disposed off in the earmarked areas for backfilling and plantation. It is estimated that 2.92 million m³ of topsoil and OB will be handled annually. The temporary OB dumps will be maintained. It is estimated that 57.49million m³ of OB and 21.43million m³ of top soil will be generated during the mine life. After taking out the bauxite ore in the first three years, there will be adequate void available for commencement of backfilling operation. Backfilling will start from the 4th year onwards. The entire OB will be backfilled and there will be no external OB dump after the 8th year. The Top soil will be preserved separately as and when generated and used progressively for backfilling. Plantation will be raised in an area of 680ha at the end of the mine life and an area 250ha will be developed as water body during the post mining stage. The Consent to Establish from the State Pollution Control Board, Orissa was obtained on 16.06.2007 for enhancement of production of bauxite from 3MTPA to 8.5MTPA involving lease area of 1388.74ha falling in the districts of Rayagada and Kalahandi. As the total mine lease area of 1388.74ha spread into two Districts namely; (i) Rayagada and (ii) Kalahandi, the public hearing of the project was

held in both the districts therefore, for enhancement of production of bauxite from 3million TPA to 8.5million TPA. The public hearings for the Rayagada District was held on 17.10.2006 and for the Kalahandi District on 20.04.2009. The Indian Bureau of Mines had approved modified mining plan including progressive mine closure plan of the project on 01.02.2007 for lease area of 1388.74ha. The capital cost of the project is Rs.30,000Lakhs and the capital cost for the environmental protection measures is proposed as Rs.145.5Lakhs. The annual recurring cost towards the environmental protection measures is proposed as Rs.1274.5Lakhs.

2. The Ministry of Environment and Forests has examined the application in accordance with Section 12 of the EIA Notification, 2006 read with para 2.2.1 (i) (a) of the Circular No. J-11013/41/2006-IA,II(1) dated 13.10.2006 and hereby accords environmental clearance under the provisions thereof to the above mentioned Baphilmali Bauxite Mining Project of M/s Utkal Alumina International Limited for an annual production capacity of 8.5million tonnes of bauxite by opencast mechanized method involving total mine lease area of 1388.74ha, subject to implementation of the following conditions and environmental safeguards.

A. Specific conditions

- (i) All the conditions stipulated by the State Pollution Control Board, Orissa in their consent to establish shall be effectively implemented.
- (ii) The project proponent shall effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project while implementing the project.
- (iii) The project proponent shall develop fodder plots in the non-mineralised area in lieu of use of grazing land.
- (iv) The mining operations shall be restricted to above ground water table and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.
- (v) The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while diverting seasonal channels emanating from the mine lease, during the course of mining operation.
- (vi) The project proponent shall take adequate environmental safeguard measures for control of rolling down of silt and sediments and protection

8.4/-

of the catchment area of upper Indravati Reservoir during the course of mining operation.

- (vii) A 3km stretch on the upstream and 3 Km in the down stream of the river passing through the project area should be taken up by the project authorities for plantation to arrest river bank erosion and sediment flow into the river.
- (viii) The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.
- (ix) The over burden (OB) generated during the initial years of the mining operation shall be temporarily stacked at the earmarked dump site(s) only for backfilling. Backfilling shall start from the 4th year onwards of the mining operation and the entire quantity of the waste to be generated shall be backfilled. There shall be no external over burden dumps after the 8th year of the mining operation. The entire backfilled area shall be afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.
- (x) Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the Kandabindha Nallah, the San River, the Indravati River and other water bodies. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after the monsoon, and maintained properly.

Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed around the mine pit, topsoil dump, temporary over burden dumps and mineral dumps to prevent run off of water and flow of sediments directly into the Kandabindha Nallah, the San River, the Indravati River and other water bodies and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.

- (xi) Dimension of the retaining wall at the toe of temporary OB dump(s) and the over burden benches within the mine to check run-off and siltation shall be based on the rain fall data.

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- (xii) Plantation shall be raised in an area of 680ha including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around void, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.
- (xiii) The void left unfilled in an area of 250ha shall be converted into the water body. The higher benches of the excavated void/mine pit shall be terraced and plantation done to stabilise the slopes. The slopes of higher benches shall be made gentler for easy accessibility by the local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.
- (xiv) Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (xv) Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained.
- (xvi) Regular monitoring of water quality upstream and downstream of the Kandabindha Nallah shall be carried out and record of monitored data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.
- (xvii) The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.
- (xviii) Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year, pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.

- (xix) Appropriate mitigative measures shall be taken to prevent pollution of the San River and the Indravati River in consultation with the State Pollution Control Board.
- (xx) The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water, if any) required for the project.
- (xxi) Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.
- (xxii) Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral within the mine lease. The mineral transportation within the mine lease shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- (xxiii) No blasting shall be carried out after the sunset. Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.
- (xxiv) Drills shall either be operated with dust extractors or equipped with water injection system.
- (xxv) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (xxvi) Consent to operate shall be obtained from the State Pollution Control Board, Orissa prior to start of production from the mine.
- (xxvii) Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.
- (xxviii) The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.
- (xxix) Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.

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17/-

- (xxx) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (xxxI) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely; python, panther, sloth bear, wild dog etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the Wildlife Conservation Plan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.
- (xxxii) Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar.
- (xxxiii) A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval.

B. General conditions

- (i) No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.
- (ii) No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.
- (iii) Atleast four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO₂ & NO_x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.
- (iv) Data on ambient air quality (RSPM, SPM, SO₂ & NO_x) should be regularly submitted to the Ministry of Environment and Forests including its

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Regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.

- (v) Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- (vi) Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.
- (vii) Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.
- (viii) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.


Occupational health surveillance program of the workers should be undertaken periodically to observe any contraindications due to exposure to dust and take corrective measures, if needed.

- (ix) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- (x) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Bhubaneswar.
- (xi) The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.
- (xii) The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

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- (xiii) The project proponent shall submit six monthly report on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board. The proponent shall upload the status of compliance on their website and shall update the same periodically.
- (xiv) A copy of clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.
- (xv) The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.
- (xvi) The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at <http://envfor.nic.in> and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.
3. The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
4. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
5. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules made thereunder and also any other orders passed by the Hon'ble Supreme Court of India/ High Court of Orissa and any other Court of Law relating to the subject matter.
6. Any appeal against this environmental clearance shall lie with the National Environment Appellate Authority, if preferred within a period of 30 days as prescribed under Section 11 of the National Environment Appellate Authority Act, 1997.


Divisional Forest Officer
Rayagada Division


(SATISH C. GARKOTI)
Additional Director (S)
..10/-

Copy to:

- (I) The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
- (ii) The Secretary, Department of Environment, Government of Orissa, Secretariat, Bhubaneswar.
- (iii) The Secretary, Department of Mines and Geology, Government of Orissa, Secretariat, Bhubaneswar.
- (iv) The Secretary, Department of Forests, Government of Orissa, Secretariat, Bhubaneswar.
- (v) The Chief Wildlife Warden, Government of Orissa, Bhubaneswar.
- (vi) The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
- (vii) The Chief Conservator of Forests, Regional Office (EZ), Ministry of Environment and Forests, A-3 Chandrashekharpur, Bhubaneswar-751023.
- (viii) The Chairman, Orissa State Pollution Control Board, Parivesh Bhawan, A/118 Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012.
- (ix) The Member Secretary, Central Ground Water Authority, A2, W3 Curzon Road Barracks, K.G. Marg, New Delhi-110001.
- (x) The District Collector, Rayagada District, Government of Orissa.
- (xi) The District Collector, Kalahandi District, Government of Orissa.
- (xii) EI Division, Ministry of Environment & Forests, EI Division, New Delhi.
- (xiii) Monitoring File.
- (xiv) Guard File.
- (xv) Record File.

**SCHEME
FOR
MITIGATIVE MEASURES
TO MINIMIZE
SOIL EROSION AND CHOKING
OF STREAMS
IN
BAPHILIMALI BAUXITE MINE
OF
M/S UTKAL ALUMINA INTERNATIONAL LIMITED
UNDER
RAYAGADA & KALAHADI(S) DIVISION.**

Compliance to:

**Condition No.(xxiv) (a) of the stage-I forest clearance granted by
MoEF & CC, Govt.of India vide F.No.8-18/2016-FC dt 29.06.2017.**

**SCHEME FOR MITIGATIVE MEASURES TO MINIMIZE SOIL EROSION AND
CHOKING OF STREAMS IN BAPHILIMALI BAUXITE MINE OF
M/S UTKAL ALUMINA INTERNATIONAL LIMITED
UNDER RAYAGADA & KALAHANDI(S) DIVISION.**

(As per condition No.(xxiv) (a) of the stage-I forest clearance granted by MoEF & CC,
Govt.of India vide F.No.8-18/2016-FC dt 29.06.2017)

Stage-I approval for diversion of 233.343 ha. forest land for non-forest purpose for Baphilimali Bauxite mine has been accorded vide F.No.8-18/2016-FC dt 29.06.2017 of Ministry of Environment, Forests & Climate Change subject to fulfilment of certain conditions.

As per condition No. (xxiv) (a) of the Stage-I approval, the User Agency shall take up ***“Mitigative measures to minimize soil erosion and choking of stream shall be implemented within a period of three years with effect from the issue of Stage-II clearance in accordance with the approved plan in consultation with the State Forest Department”*** at project cost.

In compliance with this condition, a comprehensive scheme is prepared for implementation of the same in 233.343ha. area of the said mining lease.

This lease area is located on Survey of India Topo Sheet No.E44E15 and bounded by latitude 19°19'17"to 19°22'08"North and longitude 82°56'28" to 82°59'17" East. The mineral deposit has a linear shape along NNE-SSW within the ML over a maximum length of 16 km and average width of 3 km. The area exhibits a flat topped hill with moderate to steep hill slope in the north with varying elevations from 800 mtr to 1095mtr above MSL. The area is devoid of tree growth.

Satellite imagery showing the drainage pattern erosion prone area inside the mining lease is enclosed.

The plateau portion of the lease is devoid of tree growth with only some phoenix species scatteredly occur here and there. Of course grasses like Khadia grass (*Aristida setacea*), Panicum species, Sinkula (*Heteropogon contortus*) comes during rainy season and vanishes completely during summer. However, the slope on the northern and north-western parts of the lease bordering both the district hosts dense degraded vegetation. The Eastern & South-eastern part of the lease in Rayagada Division also hosts degraded type of bushy forest.

No stream, perennial nalas are flowing through the plateau of the lease area that washes away soil and other materials from the lease area which chokes the streams and nalas down below outside the lease area. However, 38 numbers of seasonal drainage channels in Rayagada Division portion & 21 numbers in Kalahandi(S) Division portion originate from the slope of the plateau of the mining lease and flow down in different directions. Most of these seasonal drainage channels drain into Sananadi and other perennial nalas which ultimately drain into Indravati reservoir.

The mining and ancillary activities may convert this area prone to soil erosion by creating reels and gullies on mined out pit benches, on the surface of O.B. dumps, on the shoulder of haul roads, on the surface of the surface-soil deposit and on the bank of the natural streams. Such gullies eventually may widen and occupy large tracts of the slope and cause soil loss resulting the valley bottom with heavy siltation. During rains, the exposed soil will also restrict percolation of rainwater to charge the groundwater table.

Although other schemes are prepared to treat the area with strategic soil and moisture conservation measures to mitigate the adverse impact of mining, but the specific scheme with respect to lease area portion of Kalahandi (S) Division portion of the lease have not been addressed.

1. FACTORS RESPONSIBLE FOR SOIL EROSION AND CHOKING OF STREAMS

The mining activities, sub grade dumps and overburden dumps are the major factors impacting adversely to any drainage system in the mining areas. The forms of erosion observed in this region include mainly rill and gully erosion. The storm water runoffs from the hills, mine faces, sub grade dumps and OB dump slope areas carry substantial amounts of solids in the lower order streamlets and choke the higher order streams. These lower order streamlets and gullies have high erosion capacity due to steep gradient and transportation of rock fragments with high velocity of the stream and deposition of same in the connecting high order streams due to velocity drop. Streams can also erode by undercutting their banks resulting in mass-wasting processes like slumps or slides. When the undercut material falls into the stream, the fragments are transported and deposited in the stream bed. The other mode of sediment transportation is very nominal.

2. OBJECTIVE OF THE SCHEME:

The objectives of the proposed scheme are as follows:

- a) To meet the requirement of condition No. xxiv(a) of the Stage - I approval of GoI, MoEF.
- b) Prevention of erosion of loose materials from OB dump & erosion of top soil in non- working area to chock the natural streams as well as the effect in agriculture.
- c) Prevention of obstruction of natural water sources.
- d) Proper Management of overburden materials so as to prevent siltation in the streams
- e) Prevention of overflow of eroded soils from the mining areas to the cultivable lands, natural streams and inhabitations.

3. PROPOSED METHODOLOGY

To achieve the above objectives it has been proposed to take up both biological and structural works for soil and water conservation. The vegetative measures are to be adopted mostly in the upper reaches & around O.B dumping sites whereas the structural works are suggested in the lower reaches such as in the drain & critical points around O.B. dumps. As per the current practice, check dams are constructed across the contour seasonal streams arising from the up-slope areas to arrest the sediment load to prevent choking of streams followed by de-silting before monsoon.

Erosion from O.B. dump slope areas will be controlled by providing retaining wall, garland drain, loose boulders structures, settling tanks etc. The main purpose of the works is to control soil erosion from OB dump and minerals stock piles etc. and prevent choking of natural stream flow. Separate scheme has been prepared for this purpose as per the approved mining plan.

Besides separate scheme has been prepared for soil conservation measures to prevent soil erosion and choking of streams down below as per condition no. mentioned below.

Condition No.	Particulars of Subject
(xxvi)	For soil conservation measures within 100 mtr width outside the M.L area.
(x)	Scheme to protect and regenerate Safety Zone has been prepared with plantation and soil and moisture conservation measures.
(xxiv)(b)	Scheme to plant drought hardy species within ML area to arrest soil erosion has been prepared.
(xxiv)(c)	Scheme for construction of check dam, retention/toe walls to arrest sliding down of excavated material inside the lease has been prepared.

Moreover a lot of work for plantation and soil conservation are to be done under Site Specific Wild Life Conservation Plan approved by PCCF(WL) & CWLW, Odisha vide Letter No. 5608/1WL-SSP-80/2016 dt. 27 June 2017, copy of the approval order and financial forecast is enclosed as **Annexure-I**. After plantation and soil conservation measures taken under so many schemes, there remains little scope for taking up further plantation and soil conservation measures.

Besides UAIL has constructed many check dams across the nalas, Gullies, in the impact area of the project as per the prescriptions stipulated in the environmental management plan. Also UAIL has undertaken irrigational facilities by constructing the check dams under CSR programme in the project impact area.

Soil and moisture conservation measures have been proposed with respect to the DLC forest area under Rayagada Division in 100 mtr width from the outer periphery of the lease. However, as the 100mtr width from the periphery of the ML boundary relating to Kalahandi(S) Division spreading over a length of 6km comprises non-forest land, no soil conservation measures like check dams have been proposed there. Therefore, check dams across the seasonal nalas falling on the slope area of the lease boundary at that Division are proposed in the scheme to prevent soil erosion and checking of nalas flowing down below.

The length of the seasonal nalas/drainage channels flowing on the slope area of the lease in Kalahandi portion are as under

Nala No.	Length in Km	Nala No.	Length in Km
1.	0.45	2.	0.45
3.	0.172	4.	0.101
5.	0.53	6.	0.108
7.	0.1068	8.	0.103
9.	0.45	10.	0.136
11.	0.45	12.	0.100
13.	0.111	14.	0.100
15.	0.100	16.	0.100
17.	0.101	18.	0.100
19.	0.100	20.	0.101
21.	0.47		

Considering the length of the Nalas, terrain, rate of flow of surface run off loose boulder check dams of size 2mtr & 3mtr size shall be constructed across the seasonal & semi-perennial nalas existing over a length of 6km along the lease boundary in area of Kalahandi(S) Division, with a view to protect the catchment area of the Indravati Reservoir located on the western side of the lease.

It is proposed to construct 36 nos of 2mtr span and 12 nos of 3 mtr span @ Rs. 7,113/- & Rs. 15,000/- respectively. The approved cost norm for check dams are enclosed as **Annexure-II & III**

Vegetative measures :

In addition to the above structural measures vegetative measures are proposed on both the sides of above nala banks and on the catchment area of the nalas by planting *Agave seiselana*, *Ipomea purpurea*, *Vitex negunda* species to check the surface run off and to bind the loose soil prone to erosion. The plantation shall be taken up at a width of 10 mtr on either side of 21 nalas and 50mtr x 50mtr size area at the origin i.e catchment area of those nalas.

The sum total length of the above 21 seasonal nalas comes to around 4.439km and area of 3 rows plantation being 8.878ha and 50m x 50m catchment

area comes to around 5.25ha inside the lease area. It is proposed to plant three rows plants consisting of above species at a spacing of 2.5mts alternatively on both the side of nala banks with ten year maintenance using tall seedlings.

Besides 5.25ha of catchment area on the hill top of the above nalas shall also be planted with the above species at a spacing of 2.5m x 2.5m either in rows or in staggered manner as per the site condition.

Cost estimate for raising three rows plantation on both the side of nalas and plantation in its catchment area are as under.

Total area of 10 meter wide nala bank (on both the bank) comes to 8.878ha and that of catchment area comes to 5.25ha, the sum total being 14.128ha. The plantation shall raised basing on the approved cost norm as in Annexure-6 of P.C.C.F, Odisha enclosed as **Annexure-IV**. Different silvicultural operations and soil and moisture conservation measures as prescribed in the cost norm shall be adopted. The plantation will be maintained for 10 years.

Details of plantation sites and Check dams have been shown in side the lease on the Survey of India Topo sheet No. E44 E15. **Annexure-V**

INSPECTION, MONITORING AND EVALUATION

For successful implementation of the above mitigative measures, intensive inspection and technical guidance from concerned technical wing of the User Agency is required. The work will also be inspected and evaluated by officers of Forest Department and MoEF&CC.

1. EXECUTING AGENCY

The works in the present Scheme shall be executed by the User Agency as per the condition of MoEF&CC.

2. REQUIREMENT OF FUNDS

The total cost of Soil and moisture conservation measure both by structural and vegetative method relating to 21 nos of season nalas originating from the slope of lease area comes to Rs. 16,91,313/- (Rupees Sixteen lakhs ninety one thousand three hundred thirteen) only.

ITEM WISE COST OF THE PROJECT

Sl. No.	Description of the Work	Fund Required (in Rs.)
A	Construction of Check Dam (2 mtr span) 36 nos	2,56,068.00
B	Construction of Check Dam (3 mtr span) 12 nos	1,80,000.00
C	Vegetative measures by plantation over 14.128ha (5.25ha in Catchment area of origin of nalas and 8.878ha on both the banks of nalas at a width of 10 meter each @ Rs. 88.848/ha	12,55,245.00
	Total	16,91,313.00

For Utkal Alumina International Ltd.

Authorized Signatory

824.08.17
Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

8/8/17
Divisional Forest Officer
Kalahandi(S) Division
Divisional Forest Officer
Kalahandi South Division

Regional Chief Conservator of Forests
Bhanupatna Circle, Bhanupatna

Regional Chief Conservator of Forests
KORAPUT CIRCLE

ANNEXURE-I

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS
(WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA
BDA APARTMENT, 5TH FLOOR, PRAKRUTI BHAWAN, NILAKANTHA NAGAR, BBSR-12
Ph. No.0674-2564587, FAX No.0674-2565062
(Website:odishawildlife.org, E. mail: odishawildlife@gmail.com)

No. 5628 / 1WL-SSP-80/2016
Dated, Bhubaneswar, the 27 Jun, 2017

To

The Asst. Vice President, Mines,
M/s Utkal Alumina International Ltd.,
J-6, Jayadev Vihar,
Bhubaneswar - 751013

Sub: *Proposal for diversion of 233.343 ha. of DLC forest land including safety zone of 10.283 ha in village Paik-Kupakhal, Dhuturapas and Karanj-Kupakhal under Kasipur Tahsil of Rayagada District within total mining lease area of 1388.74 ha for bauxite mining in their Baphilimali Bauxite Mines in Kalahandi and Rayagada Districts of Odisha by M/s Utkal Alumina International Ltd. - Approval of Site Specific Wildlife Conservation Plan*

Sir,

It is to inform you that you have to implement a Site Specific Wildlife Conservation Plan for your Baphilimali Bauxite Mines in Kalahandi and Rayagada Districts to address the impact on wildlife within the surrounding area and the recommendation of State Govt. for implementation of such a plan while forwarding the above diversion proposal to Govt. of India, MoEF&CC vide their letter No.12569/F&E dt 11.07.2016.

2. The Site Specific Wildlife Conservation Plan in respect of the above project has been approved by the undersigned with financial forecast of **₹670.451 lakh** (Rupees six crore seventy lakh forty-five thousand one hundred) only for the following activities.

a.	For activities to be implemented by the user agency in project area	₹134.736 lakh
b.	For activities to be implemented by DFO, Rayagada Division in project impact area	₹226.622 lakh
c.	For activities to be implemented by DFO, Kalahandi South Division in project impact area	₹309.093 lakh
Grand Total:		₹670.451 lakh

P.T.O.

3. Various activities in the diverted area will be executed by the Project proponent under the guidance of the Divisional Forest Officer, Rayagada Division. After grant of stage-I forest clearance by Govt. of India, MoEF&CC, a sum of ₹535.715 lakh only may be deposited in the CAMPA fund meant for the purpose for implementation of various activities within the project impact area by the Forest Deptt. as envisaged in the plan.

4. You may please note the following conditions for future compliance.

- This Plan may be revisited after 5 years and the User Agency will give undertaking to contribute towards the revised cost of the conservation plan till the project period, if any.
- The project proponent has to prepare and submit the Conservation Plan for the next 10 years of their lease period (balance period for which forest land remains diverted) at least one year before the expiry of the present Conservation Plan and deposit the outlay amount upon its approval. In case of delay, it will be dealt as per law for violations of Forest Conservation Act, 1980 and Environment (Protection) Act, 1986.
- The project proponent has to give an undertaking to bear the differential cost in case of enhancement of wage rate at the time of implementation of this plan.

Yours faithfully

Encl: Copy of approved
site specific WL Conservation Plan


**Principal Chief Conservator of Forests (WL)
& Chief Wildlife Warden, Odisha**

Memo No. 5609 /date 27/06/17

Copy forwarded for information and necessary action to -

1. Special Secretary to Govt. of Odisha, F&E Deptt., Bhubaneswar
2. Principal Chief Conservator of Forests, Odisha
3. Regional Chief Conservator of Forests, Koraput/Bhawanipatna Circle
4. Divisional Forest Officer, Rayagada/ Kalahandi South Division alongwith a copy of the approved site specific wildlife conservation plan


**Principal Chief Conservator of Forests (WL)
& Chief Wildlife Warden, Odisha**

**FINANCIAL FORECAST OF ACTIVITIES TO BE UNDERTAKEN AT THE
PROJECT AREA**

(To be implemented by the Project proponent)

Sl. No.	Item of work to be undertaken	Unit	Amount in Lacs	Remarks
1	Soil & Moisture Conservation Measures a) Construction of loose boulder Check dam across the seasonal nala, drainage line and semi perennial nala occurring along the slopy area of the lease. 1 mtr span 60 nos @ Rs. 3600/- each = 2.16 lacs 2 mtr span 40 nos @ Rs. 7113/- each = 2.8452 lacs 3 mtr span 26 nos @ Rs.14 920/- each = 3.9 lacs b) Contour Bonding	126 nos	8.9052 3.0000	Annexure-B-IV, V & VI
2	Fire Protection Measures Provision for a fire watch tower on North-west side of the lease near the boundary on LS- Deployment of a fire fighting squad consisting of 5 members with provision of vehicle etc. as per approved cost norm of CWLW, Odisha for five fire months @ 3.50 lacs per annum. 3.50 lacs x 10 years =	1 squad	5.0000 35.0000	Annexure-A-V
3	Prevention of fall & entry to mining pits by wild animals. Construction of balance RR Stone masonry 1mtr+0.75mtr x 1mtr @ 4.00 lacs per km Where necessary along the boundary for 10km.	10km	40.0000	
4	Development of Green Belt. Green Belt through ANR practices with Gap Plantation and through Block plantation (50+50) in safety zone of 7.5 mtr width over a length of 22km = 8.25ha. ANR Practices with plantation @ 400 plants per ha. @ Rs. 38,806/- per ha =3,20,150/- 8.25ha Block Plantation on Bald hill cost norm with 1600 plants per ha inside the non-forest land @ 2,86,421/- = 23,62,973/-		26.8312	Annexure-A-I & II
5	Cost of one latest Model SUV (SCORPIO-S-10) vehicle to be handed over to the DFO, Rayagada	01 no	16.0000	
6	Interventions for regulating impact of mining activities. Interventions for regulating light, water, air, noise pollution, dump stabilisation & waste management will be carried out at the project cost as per the approved environmental management plan.		Implement ation at the project cost according to the approved EMP.	
	Total		134.7364	

(Rupees one crore thirty four lakhs seventy three thousand six hundred forty) only

For Uttal Alumina International Ltd.
Authorized Signatory

43

Principal Chief Conservator of Forests
(Wildlife) & Chief Wildlife Warden,
Odisha, Bhubaneswar

Annexure-II

COST ESTIMATE FOR CONSTRUCTION OF CHECK DAMS ACROSS SEASONAL AND SEMI PERINIAL NALAS

Span : 2 mtr.
Ht. : 0.6 mtr.
Slope : U/S - 1:1.5
D/S Slope : 1:2

Sl. No.	Particulars of works	Quantity	Total quantity	Rate in Rs.	Total cost in Rs.
1	Levelling the unshaped surface of the selected site & layout the structure foundation L.S 1 MD				200.00
2	Excavation of foundation in hard soil within initial lead of 50mtr. Including rough dressing and breaking of clods to maximum size 5 cm to 7 cm laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx. bund of loose boulder structure.				
	Base with apron- 1 x 3.70 x 3.00 x 0.30	3.33			
	Wing wall - 4 x 0.50 x 0.50 x 0.30 = @ 8774.00 per 100 cum.	0.30	3.63	87.74/ cum	318.50
3	Rough stone Dry packing up to				
	Base with apron- 1 x 3.70 x 3.00 x 0.30 =	3.33			
	Wing wall - 4 x 0.50 x 0.50 x 0.30 =	0.30			
	Above GL Super structure 1 x 2.00 x $\frac{2.70 + 0.60}{2}$ x 0.60 =	1.980			
	Wing wall - 4 x 0.50 x 0.50 x 0.50 =	0.50			
	Side wall				
i	$2 \times \frac{0.50 + 1.10}{2} \times 0.9 \times 0.5 =$	0.72			
ii	$2 \times \frac{0.5 + 1.10}{2} \times 1.2 \times 0.5 =$	0.96			
iii	$2 \times 0.6 \times 0.6 \times 0.5 =$	0.36			
iv	$2 \times 1.0 \times 0.5 \times 0.5 =$	0.50	8.65 cum	762.30/cum	
	@ 762.30 per cum				6,593.90
	Grand Total				7112.40 or 7113.00

(Rupees Seven thousand one hundred thirteen) only

Annexure-III

COST ESTIMATE FOR CONSTRUCTION OF CHECK DAMS ACROSS SEASONAL AND SEMI- PERENNIAL NALAS

Cost estimate is furnished below.

Size of the check dam

Span - 3 mtr Height - 1.0mtr

Slope- U/S : - 1:1.5 D/S Slope :- 1:2.0

Cross section of the check dam is in the form of a trapezium

Wage rate @ Rs.200.00/day.

Sl. No.	Particulars of works	Quantity	Total quantity	Rate in Rs.	Total cost in Rs.
1	Leveling the unshaped surface of the selected site & layout the structure foundation L.S. 1MD				200.00
2	Excavation of foundation in hard soil within initial lead of 50mtr. including rough dressing and breaking of clods to maximum size 5cm. to 7cm. laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx bund of loose boulder structure. Base Base with aprox- 1 x 5.10 x 4.00 x 0.30 Wing wall - 4 x 0.50 x 0.50 x 0.30 @ Rs. 8959.00 per 100 cum as per PWD schedule of rate and site condition.	6.12 0.30	6.42cum	8960	575.23
3	Rough stone dry packing Up to GL Base with apron- 1 x 5.10 x 4.00 x 0.30 = Wing wall- 4 x 0.50 x 0.50 x 0.30 =	6.12 0.30 7.05			

Above GL	0.50				
Super structure- 1 x $\frac{4.10+0.60}{2}$ x 1.00 x 3.0	1.50				
Wing wall- 4 x 0.50' x 0.50 x 0.50 =	2.0				
Side wall	0.60				
i. 2 x $\frac{0.50+1.50}{2}$ x 1.5 x 0.5	0.50				
=	18.57				14,154.42
ii. 2 x $\frac{0.50+1.50}{2}$ x 2.0 x 0.5	cum				
=					
iii. 2 x 0.6 x 1.0 x 0.5 =					
iv. 2 x 1.0 x 0.5 x 0.5 =					
@ Rs. 762.22 per cum					14,929.65 or 15,000.00
G. Total					15,000.00

(Rupees fifteen thousand) only.

ANNEXURE-IV

Approved Cost norm for Block Plantation of per ha.

1. No. of saplings to be planted : 1600/ha
2. Wage Rate : 200/- per man day

0 th Year (Advance work) :						
Sl. No.	Item of work	Preferable period of Execution	Mandays	Labour Rate 200/-	Material cost	Total
1	2	3	4	5	6	7
1	Survey demarcation and Pillar posting	Nov/Dec	2	400	-	400
2	Site preparation	Nov/Dec	8	1600	-	1600
3	Alignment & stacking.	Jan/Feb	2	400	-	400
4	Digging of pits (30cum)	Feb/Mar	40	8000	-	8000
5	Nursery cost ((6 months old seedling)Part @ Rs. 9.45 seedlings (Rs.6.67in 0 th Year + Rs. 2.78 in 1 st year)for 1760 seedlings (1600 +160)	Jan/Mar	44	8800	2939	11739
	Sub Total		96	19200	2939	22139
1 st Year Plantation :						
6	Nursery cost (6 months old seedlings) balance @ Rs. 2.78 for 1760 seedlings	Apr/Jul	21.5	4800	593	4893
7	Carriage & planting, Casualty Replacement and applicationof insecticides, manure etc.	Jul/Aug	21	4200	-	4200
8	Cost of insecticide & fertilizer a) NPK @ 50gms/plant as basal dose = 80kg @ Rs. 24/- per kg Rs.1920.00 b) Urea @ 70 gms/plant in two subsequent doses @		0	0	3232	3232

	Rs. 5/- per kg = Rs. 672.00 c) Granular insecticide (Themet, Forate etc) @ 5gms/Plant @ Rs. 80 per kg = Rs. 640.00					
9	1 st Weeding (Complete weeding).	Aug/Sep	7	1400	0	1400
10	Manuring Urea 35gm	Aug/Sep	5	1000	0	1000
11	2 nd weeding (Complete weeding).	Sep/Oct	5	1000	0	1000
12	Soil working (50cms, Radius around plants) & manuring Urea 35gms per plant	Sep/Oct	7	1400	0	1400
13	Soil conservation measures in the form of staggered trenches of size 2m x 0.5m x 0.5m @ 30 nos per ha.	Sep/Oct	10	2000	0	2000
14	Fire line tracing and inspection paths.	Feb/Mar	3	600	0	600
15	Watch & ward	Aug-Mar	7	1400	0	1400
	Sub Total		86.5	17300	3825	21125

2nd Year maintenance :

16	Casualty Replacement (10%) with Nursery Cost.	Jul/Aug	4	800	1512	2312
17	Weeding (Complete weeding)	Sep/Oct	6	1200		1200
18	Cost of Fertilizer (NPK @ 70gms/plant) (Rs. 24/- per kg & insecticide & 5gms/plants for 1600 plants 800gms @ Rs 80/- per kg)		0	0	2752	2752
19	Soil working (50 cum Radius around Plants)	Oct/Nov	7	1400	0	1400
20	Application of fertilizer & insecticides	Sep/Oct	4	800	0	800
21	Fire line Tracing (2 mtr wide fireline over 400mtr long).	Feb/Mar	3	600	0	600
22	Watch & ward	Apr-Mar	15	3000	0	3000
	Sub Total		39	7800	4264	12064

3rd Year maintenance :

23	Weeding and application of Fertilizer	Aug/Sep	7	1400		1400
24	Cost of fertilizer (NPK @ 50gms/Plant)@ Rs. 24/- per kg			-	1920	1920
25	Soil working (50 cms, radius around plants) & application of fertilizer.	Oct/Nov	7	1400	-	1400
26	Fireline Tracing (2mt wide fireline over 400 mt.)	Feb/Mar	3	600		600
27	Watch & ward	Apr-Mar	15	3000		3000
	Sub Total		32	6400	1920	8320
4th Year maintenance :						
1	Fireline Tracing (2m wide fire line over 400m length) & cultural operation	Feb/Mar	3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
5th Year maintenance :						
1	Fireline Tracing	Feb/Mar	3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
6th Year maintenance :						
1	Fireline Tracing	Feb/Mar	3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
7th Year maintenance :						
1	Fireline Tracing	Feb/Mar	3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
8th Year maintenance :						
1	Fireline Tracing	Feb/Mar	3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
9th Year maintenance :						
1	Fireline Tracing	Feb/Mar	3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
10th Year maintenance :						
1	Fireline Tracing		3	600	-	600
2	Watch & Ward		15	3000	-	3000
	Sub Total		18	3600		3600
	Grand Total		379.5	75900	12948	88848

ABSTRACT

Year	Person	Labour cost @ Rs.200/- per day	Material	Total cost
0 th year	96	19200	2939	22139
1 st year	86.5	17300	3825	21125
2 nd year	39	7800	4264	12064
3 rd year	32	6400	1920	8320
4 th year	18	3600	0	3600
5 th year	18	3600	0	3600
6 th year	18	3600	0	3600
7 th year	18	3600	0	3600
8 th year	18	3600	0	3600
9 th year	18	3600	0	3600
10 th year	18	3600	0	3600
Total	379.5	75900	12948	88848

824.08-13
Divisional Forest Officer
Rayagada Division

SATELITE IMAGERY SHOWING THE SEASONAL NALA'S ON THE
NORTH WEASTERN SIDE (KALAHANDI SOUTH DIVISION)
OF BAPHILIMALI MINING LEASE

COMPLIANCE TO THE CONDITION NO.-XXIV(a)
OF MOEF LETTER F. NO.6-18/2015-FC DATED 29-06-2017



82408.17
Divisional Forest Officer
Rayagada Division

For Utkal Alumina International Ltd.

Authorised Signatory

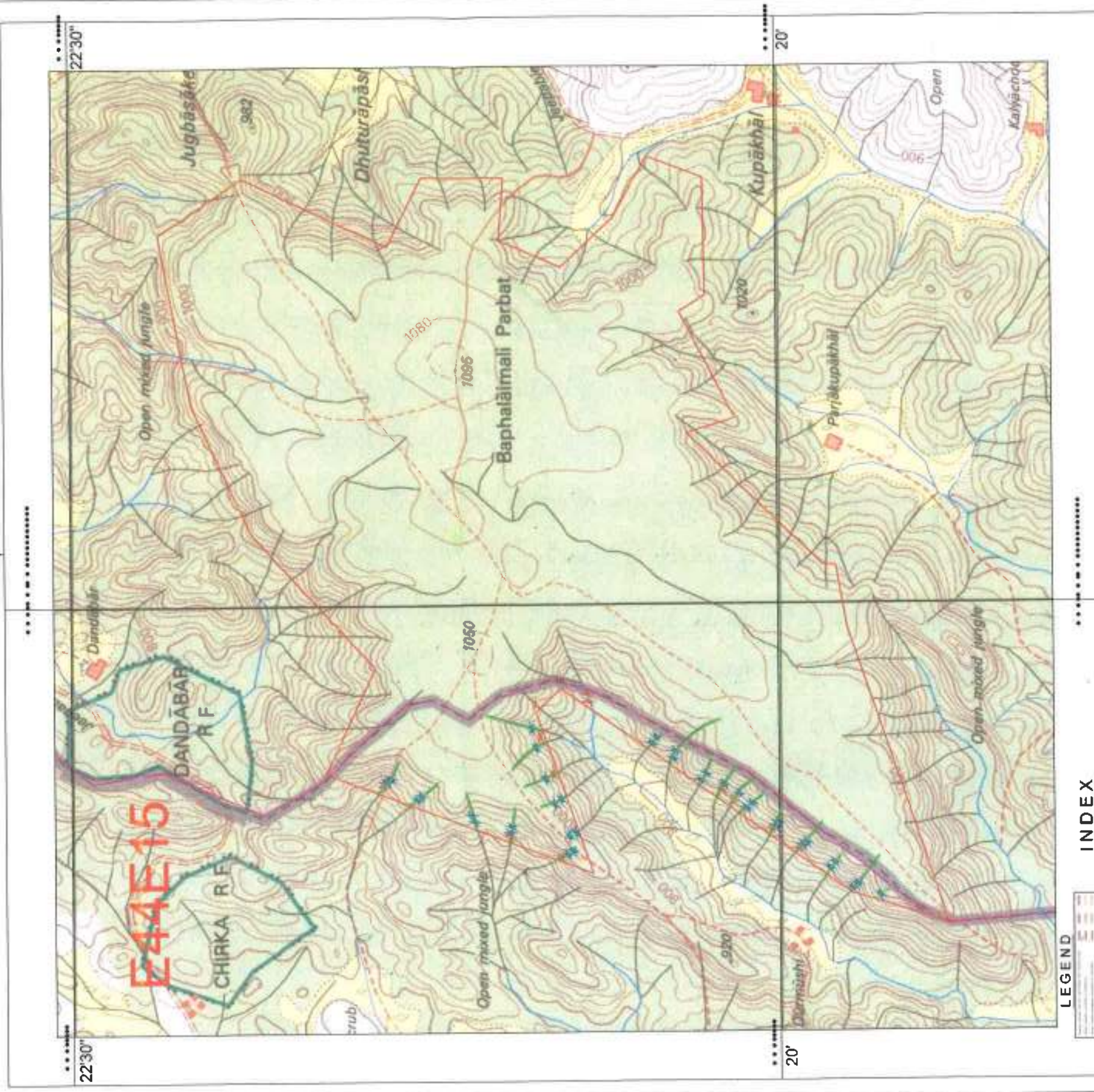
Divisional Forest Officer
Kalahandi South Division

LEASE AREA ON TOPO

SCALE-1:50,000



ENLARGE MAP NOT TO SCALE



LEGEND	
	M.L. BOUNDARY
	100M. RADIUS BOUNDARY
	DISTRICT BOUNDARY
	LOCATION OF CHECK DAMS (2ML.SPAN)
	LOCATION OF CHECK DAMS (3ML.SPAN)
	VEGETATIVE METHOD OF SMC

INDEX

	M.L. BOUNDARY
	100M. RADIUS BOUNDARY
	DISTRICT BOUNDARY
	LOCATION OF CHECK DAMS (2ML.SPAN)
	LOCATION OF CHECK DAMS (3ML.SPAN)
	VEGETATIVE METHOD OF SMC

COMPLIANCE TO THE CONDITION NO.-XXIV-'a'
OF MOEF LETTER F. NO8-18/2016-FC DATED 29-06-2017

TOPOGRAPHICAL MAP SHOWING THE CHECK DAMS & VEGETATIVE METHOD OF SMC ON THE SLOPE OF NORTH WESTERN PORTION OF LEASE BOUNDARY IN KALAHANDI SOUTH DIVISION AS A MITIGATIVE MEASURE TO MINIMIZE SOIL EROSION AND CHOKING OF STREAMS OF BAPHILIMAL BAUXITE MINE OF M/S UTKAL ALUMINA INTERNATIONAL LTD. IN RAYAGADA & KALAHANDI DISTRICT OF ODISHA ON SURVEY OF INDIA TOPOSHEETNO. E44E15

SCALE-1:50,000

Divisional Forest Officer
Kalahandi South Division

For Utkal Alumina International Ltd.

Authorised Signatory

Divisional Forest Officer
Rayagada Division

SCHEME

FOR

**PLANTING OF DROUGHT HARDY PLANT SPECIES AND
SOWING OF SEEDS IN THE APPROPRIATE AREA
WITHIN THE MINING LEASE TO ARREST SOIL
EROSION.**

IN

BAPHLIMALI BAUXITE MINES

OF

M/s UTKAL ALUMINA INTERNATIONAL LIMITED

UNDER

RAYAGADA & KALAHANDI (S) DIVISION.

Compliance to:

Condition No. (xxiv)(b) of the stage-I forest clearance granted by MoEF&CC, Govt. of India vide F.No.8-18/2016-FC dt 29.06.2017

**SCHEME FOR
PLANTING OF DROUGHT HARDY PLANT SPECIES AND
SOWING OF SEEDS IN THE APPROPRIATE AREA WITHIN THE MINING
LEASE TO ARREST SOIL EROSION.**

(As per condition No.(xxiv) (b) of the stage-I forest clearance granted by
MoEF&CC, Govt.of India vide F.No.8-18/2016-FC dt 29.6.2017)

1. INTRODUCTION

Ministry of Environment, Forests & Climate Change Govt. of India accorded Stage-I approval for diversion of 233.343 ha. forest land for non-forest purpose for Baphilimali Bauxite mine vide F.No.8-18/2016-FC dt 29.6.2017 subject to fulfillment of certain conditions.

As per condition No. (xxiv) (b) of the Stage-I approval, the User Agency shall take up ***“Planting of adequate drought hardy plant species and sowing of seeds in the appropriate area within the mining lease to arrest soil erosion in accordance with the approved scheme”*** at project cost. In compliance with this condition, a comprehensive scheme is prepared for implementation of the same in 233.343 ha. area of the said mining lease.

This mining lease area is located on Survey of India Topo Sheet No.E44E15 and bounded by latitude 19°19'17"to 19°22'08"North and longitude 82°56'28" to 82°59'17" East. The mineral deposit has a linear shape along NNE-SSW within the ML over a maximum length of 16 km and average width of 3 km. The area exhibits a flat topped hill with moderate to steep hill slope in the north with varying elevations from 800 mtr to 1095mtr above MSL.The area is devoid of tree growth.

A number of seasonal drainage channels originate outside the mining lease area and flow down in all directions. Most of these seasonal drainage channels drain into Sana nala. The mining and ancillary activities will convert this area prone to intensive soil erosion by creating reels and gullies on mined out pit benches, on the surface of O.B. dump, on the shoulder of haul roads, on the surface of the surface-soil deposit and on the bank of the natural streams. Such gullies eventually may widen and occupy large tract of the slope and cause heavy soil loss and flooding the valley bottom with heavy siltation. This results the virgin forest area prone to soil erosion. During rains, the exposed soil will not allow percolation of rainwater to charge the

groundwater table. Consequently the seasonal streams will be dried up. Therefore, it is essential to treat the area with strategic soil and moisture conservation measures to mitigate the adverse impact of mining.

The vegetative cover on areas susceptible to erosion in addition to the engineering structures proves to be very effective in preventing soil erosion.

Separate scheme has been prepared for plantation in safety zone. Action will be taken to protect the sub-grade ore dumps from soil erosion. Since most of the areas will be utilized for mining and ancillary purposes, there is little scope for raising plantation in surplus area. Plantation will be taken up during reclamation of worked out areas. Hence there is only scope for taking up block plantation unutilized areas over 20 hectares.

Map of the proposed plantation area is given as Plate-I

Species selected for plantation shall be drought hardy, fast growing in nature. The species selected will be from among the following:

Common Name	Scientific name
Acacia	<i>Acacia auriculaeformis</i>
Neem	<i>Azadirachta indica</i>
Chakunda	<i>Cassia siamea</i>
Barakoli	<i>Zizyphus mauritania</i>
Simaruba	<i>Simaruba glauca</i>

Pre-planting, planting and post planting operations shall be carried out as per silvicultural practices enumerated in the Govt. approved cost norms. The work will be executed by the User Agency.

Cost norm for plantation is given at **Annexure-I**.

There is no appropriate area for sowing of seeds.

The total financial outlay for proposed plantation of drought hardy species comes to **Rs 13, 44, 960. 00 (Rupees thirteen lakh forty four thousand nine hundred sixty) only**

For Utkal Alumina International Ltd.

Authorised Signatory

Regional Chief Conservator of Forests
KORAPUT CIRCLE

8.24.08.13
Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

TOTAL COST OF THE PROJECT

Sl. No.	<u>Description of the Work</u>	Fund Required (in Rs.)
1.	<u>Biological Measures</u>	
A	Block Plantation over 20 ha. @ Rs. 67248/- per ha.	13,44,960.00

(Rupees thirteen lakh forty four thousand nine hundred sixty) only

Annexure-I

COST NORM FOR BLOCK PLANTATION @ 1600 PLANTS PER HECTARE

WAGE RATE Rs.200/- PER DAY

Sl. No	Items of work	Preferable Period of Execution	Person days	Labour cost @ Rs.200/- per day	Material cost (Rs)	Total cost (Rs.)
1	2	3	4	5	6	7
0th year (Advance work) pre-planting operation						
1	Survey demarcation and pillar posting	Nov/Dec	2	400	0	400
2	Site preparation	Nov/Dec	8	1600	0	1600
3	Alignment and stacking of pits	Jan/Feb	2	400	0	400
4	Digging of pits (30 cm cube)	Feb/Mar	40	8000	0	8000
5	Nursery cost (6 months old seedling) part @Rs.9.45/seedling (Rs.6.67 in 0 th year + Rs.2.78 in 1 st year) for 1760 seedling (1600 + 160)	Jan-Mar	44	8800	2939	11739
	Total		96	19200	2939	22139
1stYear/ Planting Year						
6	Nursery cost (six months old seedling) balance @ Rs. 2.78 for 1760 seedlings	Apr-Jul	21.5	4300	593	4893
7	Carriage & planting, Casualty Replacement and application of insecticides, manure etc.	July/Aug	21	4200	0	4200
8	Cost of insecticide and fertilizer (a) NPK @ 50 gms per plant as basal dose = 80Kg @ Rs.24/- per kg = Rs. 1920.00 (b) Urea @ 70 gms /plant in two subsequent doses @ Rs.6/- per kg = Rs. 672.00 (c) Granular Insecticides (Themet,Forate etc) @ 5 gms/plant @Rs.80/- per kg= Rs.640.00		0	0	3232	3232
9	1st weeding (complete weeding)	Aug/Sept	7	1400	0	1400
10	Manuring Urea 35 gms	Aug/Sept	5	1000	0	1000
11	2nd weeding (complete weeding)	Sept/Oct	5	1000	0	1000
12	Soil working (50 cms. Radius around plants) & manuring urea 35 gms per plant	Sept/Oct	7	1400	0	1400
13	Soil conservation measures in form of staggered trenches of size 2m x 0.5 m x 0.5 m @ 30 nos. per ha	Sept/Oct	10	2000	0	2000
14	Fire line tracing & inspection path	Feb/Mar	3	600	0	600
15	Watch & Ward	Aug-Mar	7	1400	0	1400
	Total		86.5	17300	3825	21125

2nd Year Maintenance						
16	Casualty replacement (10%) with nursery cost	July/Aug	4	800	1512	2312
17	Weeding (complete weeding)	Sept/Oct	6	1200	0	1200
18	Cost of fertilizer (NPK @ 70 gms /plant) (Rs.24/- per kg & insecticides @5 gms/plant for 160 plants, 800 gms @ Rs.80/- per kg		0	0	2752	2752
19	Soil working (50 cms Radius around plants)	Oct/Nov	7	1400	0	1400
20	Application of fertilizer & Insecticides	Sept/Oct	4	800	0	800
21	Fire line tracing (2m wide fire line over 400m long)	Feb/Mar	3	600	0	600
22	Watch and Ward	Apr-Mar	15	3000	0	3000
	Total		39	7800	4264	12064
3rd Year maintenance						
23	Weeding and application of fertilizer	Aug/Sept	7	1400	0	1400
24	Cost of fertilizer (NPK@50 gms / plant) @ Rs.24/-per kg		0	0	1920	1920
25	Soil working (50 cms. Radius around plants) & application of fertilizer	Oct/Nov	7	1400	0	1400
26	Fire line tracing (2m wide fire line over 400 m length) & cultural operation	Feb/Mar	3	600	0	600
27	Watch & Ward	Apr-Mar	15	3000	0	3000
	Total		32	6400	1920	8320
4th Year maintenance						
28	Fire line tracing (2m wide fire line over 400 m length) & cultural operation	Feb/Mar	3	600	0	600
29	Watch and ward	Apr-Mar	15	3000	0	3000
	Total		18	3600	0	3600

ABSTRACT

Sl. No.	Year	No. Person Days	Labour cost @ Rs 200/- per day	Material	Total Cost (Rs)
1	0th Year	96	19200	2939	22139
2	1st. Year	86.5	17300	3825	21125
3	2nd. Year	39	7800	4264	12064
4	3rd. Year	32	6400	1920	8320
5	4th Year	18	3600	0	3600
	Total	271.5	54300	12948	67248

8.24.08.17
Divisional Forest Officer
Rayagada Division

**SCHEME
FOR CONSTRUCTION OF CHECK DAMS, RETENTION/TOE
WALLS TO ARREST SLIDING DOWN OF THE EXCAVATED
MATERIAL ALONG THE CONTOUR OF THE ML**

**AT
BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)
FOREST DIVISION
OF
M/S UTKAL ALUMINA INTERNATIONAL LTD**

**(As per the condition No. XXIV-C of the Stage-I Forest clearance granted by MoEF & CC,
Govt. of India vide F.No.8-18/2016-F.C dt 29.06.2017)**

5

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide F.No.8-18/2016-F.C dt 29.06.2017 for diversion of 233.343 ha. forest area in Baphlimali Bauxite Mines of UAIL Ltd. In this approval MoEF & CC, Gol imposed one condition vide No. (XXIV)-C to develop a scheme

"for construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour of Baphlimali mining project"

In order to comply with the conditions, the current scheme is prepared for the project within Baphlimali Bauxite M.L area spreading over 1388.748ha.

OBJECTIVE OF THE SCHEME:

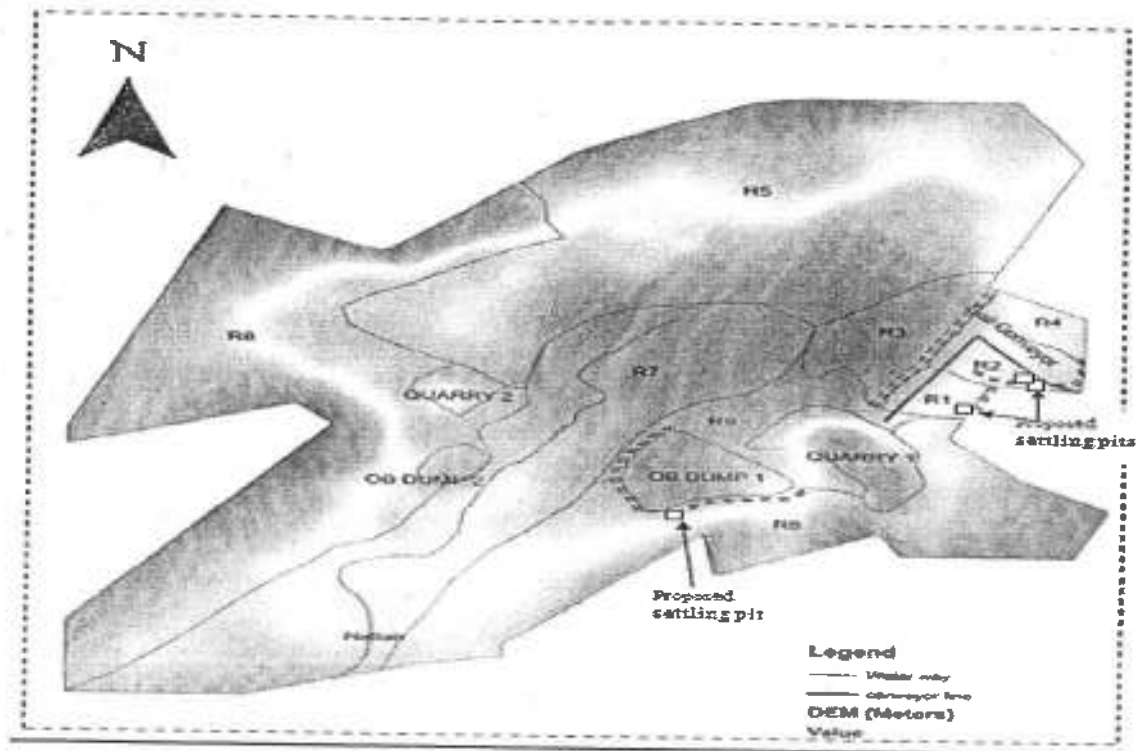
1. To construct check dams, retention/toe walls to arrest sliding down of the excavated material along the contour
2. To meet the requirement of the stipulation imposed by the MoEF & CC, Gol vide their memo no F.No.8-18/2016-F.C dt 29.06.2017 for diversion of 233.343 ha. forest area in Baphlimali Bauxite Mines of UAIL Ltd

ITEM OF WORK TO BE TAKEN UP :

1. Drains
2. Check Dams
3. Retaining Walls

The complete Baphlimali ML area has been divided into seven (7) nos. of zones, nomenclature as R1 to R 7, keeping in view the proneness of sliding of the excavator materials from the existing mining area & surface topography of the lease area. Special environmental protection measures are recommended to arrest the sliding down of the excavated material along the contour of the ML.

DEM MODEL SHOWING ALL THE REGIONS



REGION-1 :

There is a need of settling pit near crusher having dimension 42m x 20m x 4m along with the earthen garland drain in the eastern boundary to channelize the runoff to the sump.

REGION-2:

Two settling ponds each of capacity 3360 cubic meter i.e. (40m x 21m x 4m) to be constructed along with the earthen garland drain to channelize the runoff to the settling pits.

REGION-3:

Earthen Drain of 1170 m length 4m width and 2m depth to be constructed parallel to the conveyor belt i.e. BC-5 and channelized the runoff to quarry-1. Culverts and Hume pipe to be provided wherever required.

REGION-4, 5 & 6:

Please refer the above figure in which R-4,5 & 6 is in the Virgin state, runoff to follow natural topography.

REGION-7:

A seasonal Nallah exist in this region. However, series of check dam have been constructed across the nallah needs to be repaired & maintained.

REGION-8:

The runoff water from service centre facility area needs to be channelized to the valley after the settlement of the suspended solids in small settling pits constructed near to boundary of capacity approx. (L-8 m, B-5 m, D- 3 m).

DUMP-1:

Retaining wall constructed along the dump needs to be repaired & maintained. Settling pit of dimension 45m x 25m x 4m to be constructed below the dump.

DUMP-2:

All the run off from the Dump-2 needs to be channelized thru earthen garland drain to the Quarry-2.

TOP SOIL & BAUXITE STORAGE YARD:

Retaining wall and earthen garland drain provided along the Topsoil & Bauxite Storage yard needs to be repaired and maintained.

Note:-

Addition to these protection measures as suggested above, 15-mtrs peripheral barrier has been left all along the surface plateau of the ML. This barrier is acting as the natural fence & preventing the sliding down of the excavated material along the contour of ML. Even after the complete mining, the height of the reclaimed area shall be less than the initial topography, hence chances of sliding down of the excavated material along the slope of the contour does not arise in future.

Cost Estimation:-

Description	Unit	Rate	Quantity	Amount
Settling Pit near crusher				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc.complete , as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	2688.00	304496.64
Ordinary rock without blasting	cum	250.16	672.00	168107.52
				472604.16
Two Settling pit near entrance gate				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc.complete , as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	2688.00	304496.64
Ordinary rock without blasting	cum	250.16	672.00	168107.52
				472604.16
Earthen Garland Drain along the BC-4				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc.complete , as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	7488.00	848240.64
Ordinary rock without blasting	cum	250.16	1872.00	468299.52
				1316540.16

Settling pit below the Dump-1				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc. complete , as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	3600.00	407808.00
Ordinary rock without blasting	cum	250.16	900.00	225144.00
				632952.00

The entire cost shall be borne by the Agency & shall be implemented within 2-Years. Further the whole arrangement shall be maintained at the cost of the agency till the end of life of the Mining lease.

For Utkal Alumina International Ltd.

Authorised Signatory

22.08.17
Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
KORAPUT CIRCLE

**SCHEME FOR
STABILIZATION OF THE OVERBURDEN DUMPS BY
APPROPRIATE GRADING/BENCHING
AT**

**BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)**

FOREST DIVISION

OF

M/S UTKAL ALUMINA INTERNATIONAL LTD

**(As per the condition No. (xxiv) (d) of the stage-I forest
clearance granted by MoEF &CC, Govt. of India vide F.No.8-
18/2016-FC dt 29.6.2017)**

Ministry of Environment, Forests & Climate Change Govt. of India accorded Stage-I approval for diversion of 233.343 ha. forest land for non-forest purpose for Baphlimali Bauxite mine vide F.No.8-18/2016-FC dt 29.6.2017 subject to fulfillment of certain conditions.

As per condition No. (xxiv) (d) of the Stage-I approval, the User Agency shall take up "Stabilize the overburden dumps by appropriate grading/benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 28 degree " at project cost. In compliance with this condition, an approved mining plan from IBM, Bhubaneswar is in place for implementation of the same.

This mining lease area is located on Survey of India Topo Sheet No.E44E15 and bounded by latitude 19°19'17"to 19°22'08"North and longitude 82°56'28" to 82°59'17" East. The mineral deposit has a linear shape along NNE-SSW within the ML over a maximum length of 16 km and average width of 3 km. The area exhibits a flat topped hill with moderate to steep hill slope in the north with varying elevations from 800 mtr to 1095mtr above MSL. The area is devoid of tree growth.

Topsoil/Overburden Removal

This operation is done in two phases, the topsoil removal and then lateritic overburden waste excavation. Fertile topsoil wherever occurs is excavated separately by scraping with dozer and the heaps so formed is lifted by loader dumper combinations to be spread on top of backfilled areas for land reclamation. Overburden is to be excavated after loosening by ripper dozer or blasting by a combination of hydraulic shovel, loader, dumper combination. The overburden waste is then backfilled into mined out areas as part of land reclamation scheme.

Major environmental impacts of opencast mining are degradation of landscape and aesthetics of the area by creating huge overburden dumps and deep voids at the mining sites. These overburden dumps are characterized by high rock fragment contents, low moisture retention capacity, higher bulk density, low nutrients, lower pH and elevated metal concentrations.

The scheme of backfilling is planned for the entire life of the deposit. During initial three years backfilling is not implemented as mined out area is not available. During this period, the overburden is dumped on southern part of the deposit. However, the process of rehandling overburden dumps is expedited so as to complete it before the scheduled period, as and when area for dumping is available.

Selection of the dumping site mostly depends upon the factors like topography, drainage, land use, mineral inventory, pit configuration, mine waste characteristics, its

Further, from environmental protection point of view & to prevent the sliding of the piled materials from the dump yards, it is always essential to stabilize the waste dump by the application of machineries. The compaction of the surface of the overburden dumps are made normally by the movement of higher capacity dumpers (60 tonners) during the course of dumping. The benching of the overburden dumps is done maintaining a height of 6 to 8 mtrs in two flitches. The slope of the individual terrace is nearly 45 degree & the widths of the two terraces are maintained at 12 mtrs, only to maintain the angle of repose within 28 degree.

There will be no external waste dumping after 2022 onwards. By end of 2022, Dump-2 (Kalahandi Dump) shall be evacuated completely & utilized for the backfilling purpose & subsequently the next waste dump i.e. Dump-1 (Rayagada Dump) shall be utilized in the similar pattern.

Engineering Details of Protective Measures taken at OB Dump: Laterite boulders, sand and cement has been utilized for construction of retaining, garland drain and settling pond.

Name of Dump	Retaining wall (m)			Garland drain (m)			Settling tank (m)			Check dam		
	L	B	H	L	B	D	L	B	D	L	B	H
Dump-1	700	0.8	1	1060	2.8	1	30	8	2.2	---	---	---
Dump-2	268	0.8	1	300	2.8	1	10	8	2.2	---	---	---
Topsoil stack	---	---	---	362	3	0.6	---	---	---	---	---	---
Natural nala course	---	---	---	---	---	---	---	---	---	76	0.8	1
	---	---	---	---	---	---	---	---	---	47	0.8	1
	---	---	---	---	---	---	---	---	---	35	0.8	1

These retaining walls, garland drains and settling tanks will be maintained properly till the re-handling of entire dumped waste materials for back-filling of the mined out area.

However, over burden dumps are stabilized by regular dozing, grading & terracing according to the approved Mining Plan & the angle of repose is maintained less than 28 degree.

For Utkal Alumina International Ltd.

Authorised Signatory

24.08.17

Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
KORAPUT CIRCLE

SCHEME FOR
TOP SOIL MANAGEMENT PLAN
WHICH WILL PROTECT FROM THE DAMAGE
CAUSED TO THE TOP SOIL

AT

BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)

FOREST DIVISION

OF

M/S UTKAL ALUMINA INTERNATIONAL LTD

(As per the condition No. XXIV-E of the Stage-I Forest clearance granted
by MoEF & CC, Govt. of India vide F.No.8-18/2016-F.C dt. 29.06.2017)

7

TOP SOIL MANAGEMENT PLAN

(As per condition No. (xxiv) (e) of the stage-I forest clearance granted by MoEF&CC, Govt. of India vide F.No.8-18/2016-FC dt 29.6.2017)

Ministry of Environment, Forests & Climate Change Govt. of India accorded the Stage-I approval for diversion of 233.343 ha. DLC Forest land for Baphlimali Bauxite Mine vide F.No.8-18/2016-FC dt. 29.6.2017 subject to fulfillment of certain conditions.

As per condition No. (xxiv) (e) of the Stage-I approval, the User Agency shall take up **"No damage shall be caused to the top-soil and the user agency will follow the top soil management plan."** at project cost. In compliance with this condition, an approved mining plan from IBM, Bhubaneswar is in place for implementation of the same.

Baphlimali bauxite Mining lease is located on Survey of India Topo Sheet No.E44E15 and bounded by latitude 19°19'17" to 19°22'08" North and longitude 82°56'28" to 82°59'17" East. The mineral deposit has a linear shape along NNE-SSW within the ML over a maximum length of 16 km and average width of 3 km. The area exhibits a flat topped hill with moderate to steep hill slope in the north with varying elevations from 800 mtr to 1095 mtr above MSL. The area is devoid of tree growth.

Principally, Bauxite mining involves the following activities:-

1. Topsoil Removal
2. Drilling & blasting
3. Overburden removal
4. Bauxite winning
5. Crushing of Bauxite
6. Transportation of Bauxite to Plant

Out of 6-major activities the 1st & foremost activity is Topsoil removal from the capping of the bauxite plateau. Fertile topsoil wherever occurs is excavated separately by scraping with dozer and the heaps so formed is lifted by loader/ excavator dumper combinations to be stored at a designated place for the future use.

During the course of mining the overburden is removed by the application of drilling & blasting due to its hardy nature. There is no bauxite content available in the said material. Hence, the removed material lifted by the loader/ excavator dumper combinations to store at a designated place for the future use.

After the overburden removal, bauxite are being dealt by the application of drilling & blasting for its loosening similarly due to its hardy nature. However, in specific locations & after a specific depth of mining the bauxite is available in the form of soft rock which can be removed directly by

applying the excavator dumper combinations without the application of drilling & blasting.

Subsequently, sufficient depth is available within the ML area after evacuation of overburden followed by bauxite ore. Moreover, the ML is completely occupied with sufficient voids. From environmental protection point of view & to bring the topography of the location to its previous level the voids are backfilled with the overburden materials transporting from its designated locations. This overburden does not hold any soil, so to take up the planation over the surface of the hard & loose boulders, topsoil shall be filled in layer wise.

Moreover, the Top soil generation in the mine is very less. Topsoil is not fully fertile in nature. Water holding capacity, pH and calcium content in the topsoil is in lower side. pH will be neutralized and low calcium content will be corrected. Cow dung and farm manures will be added. Soil enrichment will be experimented.

A total of 1, 32,189 m³ topsoil is available in the existing stack. Average thickness of top (fertile) soil is experienced to be 0.17m thick which will be scrapped off and stored during the mining plan period.

Presently the available topsoil is 1, 32,189 m³, out of the total topsoil of 15,10,686 m³ which will be generated during the life of the mine.

Initially, to protect the top-soil storage yards specific arrangements as like garland drains, retaining walls & check dams inside the drains are constructed. The measures are in a low scale as its generation is very less & being regularly utilized for the rehabilitation purposes.

Further, as the concurrent mining & backfilling is of regular nature, so there shall not be any separate preservation as a long term arrangement for the top-soil, shall be utilized concurrently for the rehabilitation purposes. Rehabilitation shall be taken up through Tree Planation.

The tree planation activities have started for the FY 2017-18 in the backfilled area after soil testing & selecting the appropriate species.

For Utkal Alumina International Ltd.

Authorised Signatory

24.08.17
Divisional Forest Officer

Rayagada Division
Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
KORAPUT CIRCLE

SCHEME

FOR

**GAP PLANTING AND SOIL & MOISTURE
CONSERVATION MEASURES TO RESTOCK AND
REJUVINATE THE DEGRADED OPEN FORESTS
LOCATED WITHIN 100 METERS FROM OUTER
PERIMETER OF MINING LEASE**

IN

BAPHLIMALI BAUXITE MINES

OF

M/s UTKAL ALUMINA INTERNATIONAL LIMITED

UNDER

RAYAGADA & KALAHANDI (S) DIVISION.

Compliance to:

**Condition No. (xxvi) of the stage-I forest clearance granted by MoEF&CC,
Govt. of India vide F.No.8-18/2016-FC dt 29.06.2017**

**SCHEME FOR
GAP PLANTING AND SOIL & MOISTURE CONSERVATION MEASURES TO
RESTOCK AND REJUVINATE THE DEGRADED OPEN FORESTS LOCATED
WITHIN 100 mtr FROM OUTER PERIMETER OF MINING LEASE**

(As per condition No.(xxvi) of the stage-I forest clearance granted by MoEF&CC,
Govt.of India vide F.No.8-18/2016-F.C dt. 29.06.2017)

1. INTRODUCTION

Stage-I approval for diversion of 233.343 ha. DLC forest land for non-forest purpose for Baphilimali Bauxite mine has been accorded vide **F.No.8-18/2016-F.C dt. 29.06.2017** of Ministry of Environment, Forests & Climate Change subject to fulfillment of certain conditions.

As per condition No. (xxvi) of the Stage-I approval, ***“User Agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.40), if any, located in the area within 100 m. from outer perimeter of the mining lease. The plan for plantation and SMC activities will be prepared and submitted to MoEF & CC before Stage-II Clearance.”***

This lease area is located on Survey of India Topo Sheet No.E44E-15 and bounded by latitude 19°19'17" to 19°22'08" North and longitude 82°56'28" to 82°59'17" East. The area exhibits a flat topped hill with moderate to steep hill slope with varying elevations from 800 mtr to 1095mtr above MSL. The plateau portion of the lease is devoid of tree growth with only some phoenix species scatteredly occur here and there. Of course grasses like Khadia grass (*Aristida setacea*), Panicum species, Sinkula (*Heteropogon contortus*) comes during rainy season and vanishes completely during summer. However, the slope portion on the northern and north-western parts of the lease bordering both the district although non-forest land have degraded vegetation. But the forest land located on Eastern & Southern part of the lease in Rayagada Division bordering the forest land proposed to be diverted hosts degraded type of bushy forest.

As per the condition it is essential to treat the 100 mts width area around the lease boundary involving DLC forest land with strategic soil and moisture conservation measures and gap plantation with ANR practices. The DLC forest land located in Rayagada Division continuous to the lease boundary over a

length of 4.17km covering an area of 41.7ha shall be regenerated and rehabilitated by gap plantation to mitigate the adverse impact of mining and to prevent all sorts of environmental pollution.

The 100mtr wide area all around the entire lease boundary are not forest areas excepting 4.17km length of DLC forest land under Rayagada Forest Division.

However, only DLC forest land occurs on the eastern and southern part of 100 mtrs zone comes under the following villages of Rayagada District.

Name of the village	Plot No.	Length of DLC forest land in Km	Area in ha
Dhaturapas	1,3,4,330 & 331	1.53km	15.3ha
Paikakupakhal	16,552 & 553	1.27km	12.7ha
Karanjakupkhal	2,3,80,81,82 & 84	1.37km	13.7ha
Total		4.17km	41.7ha

These three patches located on Survey of India Toposheet No. E44E15 between latitude & longitude as mentioned in foregoing para.

Topography : The altitude of the plateau portion of the lease is about 1095m from the MSL. However, the altitude of the boundary varies from 900mtr to 1020mtr with respect to Rayagada Division and 800mtr to 1000 mtr with respect to Kalahandi(S) Division. Therefore, the topography of 100mtr area from periphery of the boundary also fall in that range of altitude. The topography is entirely hilly and undulating with large number of seasonal nalas/ water channels coming down from the plateau to the nearby vallies and natural perennial nalas.

Vegetation : No reserve, protected forests are there inside 100mts width of outer boundary of the lease. However, there are DLC forests encircling the periphery of the lease in village Dhaturapas, Paika kupakhal, Karanjakupakhal in Rayagada Division where the crown density of the existing crop is less than 0.4. These forests are continuous to the DLC forest land proposed to be diverted inside the lease area. The vegetation is in complete degraded condition comprising forest species like Asana (*Terminalia tomentosa*), Bandhana (*Ougeinia oojeinensis*), Dhaura (*Anogeissus latifolia*), Kendu (*Diospyras melanoxylon*), Chara (*Buchnanania lanzan*), Kasi (*Bridelia retusa*), Amla (*Emblica officinalis*), Neem (*Azadirachta indica*), Kumbhi (*Careya arborea*), Harida (*Terminalia chebula*), Bahada (*Terminalia belerica*), Sisoo (*Dalbergia latifolia*), Jamun (*Syzygium cumini*),

Anchu(*Morinda tinctoria*) Sidha(*Lagerstroemia parviflora*) & Salia Bamboo(*Dendrocalamus strictus*) and other miscellaneous species of tropical moist deciduous. Only root stocks some of the above species are noticed in addition to other species in bushy condition. The condition of the existing vegetation in the forests are due to lack of proper silvicultural operations, annual fire hazard and other anthropogenic pressures.

It is proposed to take up ANR practices with gap plantations of fruit bearing, browsing & fodder species in these DLC forests of Rayagada Division.

In view of the present condition of the DLC forests falling within 100mtr width in Rayagada division, an area of 41.7ha spreading over a length of 4.17km will be rejuvenated through ANR practices with gap plantation. However due to presence of nalas and rocky surfaces unsuitable for plantation 10% of total area have been excluded from the area of 41.7ha and the net area came to 37.53ha which shall be rejuvenated and regenerated.

Details of villagewise ANR practices with grass plantation in DLC forest land of Rayagada Division falling within 100 mtr width of the lease boundary

Name of the village falling in the DLC Forest land	Patch	Length of 100 mtr wide strip	Area in ha after 10% deduction	Latitude	Longitude
Dhaturapas	Patch -1	1.53km	13.77	19°21'32.8"	82°58'55.7"
Paika Kupakhal	Patch-2	1.27km	11.43	19°20'34.5"	82°58'56.5"
Karanja Kupakhal	Patch-3	1.37km	12.33	19°20'2.5"	82°57'50.5"
Total		4.17km	37.53		

Survey of India Toposheet showing 3 patches of ANR plantation site is enclose as **Plate-I**

Choice of Species :

Plants selected for plantation shall be drought hardy, fast growing in nature. The species selected will be from among the following:

Common Name	Scientific name	Family
Neem	<i>Azadirachta indica</i>	Meliaceae
Anla	<i>Emblica officinalis</i>	Euphorbiaceae
Bela	<i>Aegle marmelos</i>	Rutaceae
Karanja	<i>Pongamia pinnata</i>	Papillionaceae
Dhaura	<i>Anogeissus latifolia</i>	Combretaceae

Kendu	<i>Diospyras melanoxylon</i>	Ebenaceae
Chara	<i>Buchnanania lanzan</i>	Anacardiaceae
Harida	<i>Terminalia chebula</i>	Combretaceae

Species that would be native to the area can also be raised in addition to the above species.

Aided natural regeneration with Gap plantation using 200 plants per ha

Improvement of vegetative cover through silvicultural practices i.e. tending the degraded vegetation. Tending operation as per standard practice like stool manipulation, cutting of high stumps, singling thinning, deweeding and pruning etc. shall be taken up. Gap plantations with 200 plants per ha shall be taken up utilizing the above species. Detail cost norm for plantation and ANR practices for regeneration of natural species and filling up gaps through plantations along with other soil and moisture conservation measures is furnished in harmony with the approved cost norm of PCCF, Odisha Vide Office Order No.- 143/12F (Affn.)247/2012 dt. 29.01.2016 is annexed at **Annexure-I**.

Peoples participation in protecting the plantation

As the periphery of the lease is encircled by three villages of Rayagada Division it is proposed to involve those villages by organizing V.S.S, if not formed earlier for protection of the regenerated forest and plantations on JMF mode.

Basing on their cultural and religious sentiments which are ought to be taken care of, incentives on developmental/cultural activities shall be provided to them which will benefit the success of plantation programme. All forest conservation events shall be celebrated in their villages for creating awareness among them for protection of the plantation. Funds to the tune of 20% of the plantation cost shall be earmarked for various expenditure on this account. The funds will be spent in consultation with the villagers and as per their social and cultural requirements.

SOIL & MOISTURE CONSERVATION MEASURES :

In view of impact of mining activities inside the lease, MoEF has stipulated in condition No. xxvi to undertake gap planting & soil & moisture conservation activities to rehabilitate the forests having crown density less than 0.40 if any located in the area within 100 mtr from the outer periphery. Thereby a 100mtr width green belt can be created in the DLC forest area of Rayagada Division over

a length of 4.17km so as to reduce the impact of mining in the adjoining forest, wildlife habitat and the habitations.

In order to increase water availability within the forest area around the lease and to recharge underground water, it is essential to take steps for soil and moisture conservation activities in various seasonal/perennial streams originating from the lease area which is hilly with cliffs at some points. Therefore, loose boulder check dams of 2 mtr and 3mtr span can be constructed across the season perennial nalas and water channels occurring within the 100mtr width area to prevent massive soil erosion, subsequent siltation and to check surface run off to recharge rain water into the ground considering the site conditions.

In addition to the soil and moisture conservation measures such as staggered trenching of size to 2mtr x 0.5mtr x 0.5mtr @ 60 per ha in gap plantation, as prescribed in the approved cost norm for the above gap plantation, the following soil conservation measures as narrated above are proposed for better management of the landscape to protect the degraded forests damaged by heavy soil erosion due to the nature of terrain and to rejuvenate the same.

There are some seasonal and perennial nalas inside the DLC Forest land stretching over a length of 4km in Rayagada Division of the lease area those discharge the surface runoff of the plateau of the lease through this 100mtr width to the valley during rainy season causing very soil erosion and heavy siltation in the perennial nalas that ultimately meet Indravati reservoir.

Therefore it is proposed to construct the following nos of loose boulder check dam in the width of 100mtr inside DLC Forest land all around the lease boundary for soil and moisture conservation measures in side the plantations and to prevent siltation in the perennial nalas.

Name of the village	Patch No.	Area of treatment in (ha)	2meter size	3 meter size
DhuturaPas	No.1	15.3	10	4
Paika Kupakhal	No.2	12.7	5	10
Karanja Kupakhal	No.3	13.7	6	3
Total			21	17

The location of the check dams proposed to be constructed within 100mtrs from the outer boundary of the lease have been shown on Survey of India Toposheet No. E44E15 and the engineering specifications to construction and the approved cost norm for construction of the Check dams are enclosed at **Annexure-II & Annexure-III**

Size and specification of loose boulder checkdam

<u>2mtr Span</u>	<u>3mtr span</u>
Height : .6 mtrs	Height : 1 mtr
Upstream slope : 1 : 1.5mtr	Up stream slope : 1: 1.5mtr
Down Stream slope : 1: 1.2mtr	Down stream slope : 1:2mtr

Survey of India Topo sheet showing the location of three patches of ANR GAP plantation and the Check dams is furnished at **Annexure-IV**.

Executing Agency:

Since the area is outside the Mining Lease, the work will be executed by the D.F.O Rayagada Division with the funds provided by the User Agency.

The total financial outlay for proposed SMC activities and gap plantation comes to Rs. **21,87,272/-/-** (Twenty one lakhs eighty seven thousand two hundred seventy two) only.

For Utkal Alumina International Ltd.

Authorised Signatory

8.24.08.17
Divisional Forest Officer
Rayagada Division

Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
KORAPUT CIRCLE

TOTAL FINANCIAL OUTLAY OF THE PROJECT

SL. NO	PARTICULARS OF WORK	RAYAGADA DIVISION		
		QUANTITY	RATE	AMOUNT IN RS.
1	ANR practices with Gap Plantation	37.53ha	29698/-ha	11,14,566/-
2	Loose Boulder Check Dams 2 mtr span	21 nos	7113/-per each	1,49,373/-
3	Loose Boulder Check Dams 3 mtr span	17 nos	15000/-per each	2,55,000/-
	SubTotal			15,18,939/-
4	Entry point activities for 3 villages in protecting the plantation @ 20% of total cost.	3 villages	20 %	3,03,788/-
	Total			18,22,727/-
	Add 20% towards cost escalation		20%	3,64,545/-
	Grand Total			21,87,272/-


 24.08.17
Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

ANNEXURE-I**COST NORM FOR AIDED NATURAL REGENERATION (ANR) @ 200 PLANTS
PER HA.**

Wage rate Rs. 200/-per day.

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
0th year						
1	Survey, Demarcation and Pillar Posting, GPS reading with mapping	Nov-Dec.	2	400	0	400
2	Site preparation	Nov-Dec.	2	400	0	400
3	Silvicultural operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc.	Jan-Feb.	5	1000	0	1000
4	Nursery cost (6 months old seedling) part @ Rs. 9.45/- seedling (Rs. 6.67 in 0 th year + Rs. 2.78 in 1 st year) for 220 seedlings (200+20)	Jan-Mar.	5.5	1100	367	1467
5	Contingency and Unforeseen Expenditures		0	0	133	133
	Total		14.5	2900	500	3400
1st year						
1	Nursery cost (6 months old seedling) balance @ Rs. 2.78 for 220 seedling	April-Jul.	2.5	500	112	612
2	Pitting 30 cm cube size	Feb-Mar	6	1200	0	1200
3	Carriage and planting including casualty replacement	Jul-Aug.	5	1000	0	1000
4	Complete weeding, Soil working, Manuring	Aug-Sep.	6	1200	0	1200
5	Cost of Vermi compost @ 200 gms/plant @ Rs. 20/- per kg. = Rs. 800/- and Granular insecticide 5 gms/plant @ Rs. 80/- per kg.=Rs. 80/-	Aug-Sep.	0	0	880	880
6	Cost of Chemical fertilizer (a) Urea 70 gms/plant in two subsequent doses @ Rs. 6/- per kg. = Rs. 84/- (b) NPK 50 gms/plant @ Rs. 24/- per kg.=Rs. 240/- as basal dose		0	0	324	324

Sl. No.	Item of work	Preferable period of Execution	Person days	Labour (Rs.)	Material (Rs.)	Total (Rs.)
7	Silvicultural operation involving clearance of weeds, cutting of climbers, singing of shoots etc.	Sep-Oct.	15	3000	0	3000
8	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5m x @ 60 nos. per ha.) or its equivalent	Sep-Oct.	20	4000	0	4000
9	Fire line Tracing and Inspection Path	Feb-Mar.	3	600	0	600
10	Watch & Ward	Aug-Mar.	7	1400	0	1400
11	Contingency and Unforeseen expenditures		0	0	304	304
	Total		64.5	12900	1620	14520
2nd year						
1	Casualty replacement including cost of seedling, carriage and planting	July-Aug.	1	200	189	389
2	Complete weeding and cultural operations	Sep-Oct.	2	400	0	400
3	Soil working and manuring	Sep-Oct.	2	400	0	400
4	Cost of Chemical fertilizer (a) Vermicompost 200gms/plant @ Rs. 20/- per kg.=Rs. 800/-. (b) Granular insecticides 5 gms/plant for 20 plants 100 gms @ Rs. 80/- per kg.=Rs. 8/-.	Sep/Oct.	0	0	808	808
5	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep-Oct.	8	1600	0	1600
6	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
7	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
8	Contingency and Unforeseen expenditures		0	0	181	181
	Total		21	4200	1178	5378
3rd year						
1	Complete weeding and cultural operation	Aug-Sep.	1	200	0	200
2	Soil working	Aug-Sep.	1	200	0	200
3	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
4	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
5	Contingency and Unforeseen expenditures		0	0	200	200
	Total		10	2000	200	2200
4th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600
5th year						
1	Fireline tracing and inspection path	Feb-Mar	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600
6th year						
1	Fireline tracing and inspection path	Feb-Mar	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600
7th year						
1	Fireline tracing and inspection path	Feb-Mar	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600
8th year						
1	Fireline tracing and inspection path	Feb-Mar	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600
9th year						
1	Fireline tracing and inspection path	Feb-Mar	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600
10th year						
1	Fireline tracing and inspection path	Feb-Mar	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar	2	400	0	400
	Total		3	600	0	600

A B S T R A C T

Sl. No.	Item of work		Mandays	Lobour cost @ Rs. 200/-	Materials cost in Rs.	Total cost in Rs.
1	0 th year		14.5	2900	500	3400
2	1 st year		64.5	12900	1620	14520
3	2 nd year		21	4200	1178	5378
4	3 rd year		10	2000	200	2200
5	4 th year		3	600	0	600
6	5 th year		3	600	0	600
7	6 th year		3	600	0	600
8	7 th year		3	600	0	600
9	8 th year		3	600	0	600
10	9 th year		3	600	0	600
11	10 th year		3	600	0	600
	Total		131	26200	3498	29698

Annexure-II

COST ESTIMATE FOR CONSTRUCTION OF CHECK DAMS ACROSS SEASONAL AND SEMI PERINIAL NALAS

Span : 2 mtr.
Ht. : 0.6 mtr.
Slope : U/S - 1:1.5
D/S Slope : 1:2

Sl. No.	Particulars of works	Quantity	Total quantity	Rate in Rs.	Total cost in Rs.
1	Levelling the unshaped surface of the selected site & layout the structure foundation L.S 1 MD				200.00
2	Excavation of foundation in hard soil within initial lead of 50mtr. Including rough dressing and breaking of clods to maximum size 5 cm to 7 cm laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx. bund of loose boulder structure.				
	Base with apron- 1 x 3.70 x 3.00 x 0.30	3.33			
	Wing wall - 4 x 0.50 x 0.50 x 0.30 =	0.30			
	@ 8774.00 per 100 cum		3.63	87.74/ cum	318.50
3	Rough stone Dry packing up to				
	Base with apron- 1 x 3.70 x 3.00 x 0.30 =	3.33			
	Wing wall - 4 x 0.50 x 0.50 x 0.30 =	0.30			
	Above GL Super structure 1 x 2.00 x 2.70 + 0.60 x 0.60 = 2	1.980			
	Wing wall - 4 x 0.50 x 0.50 x 0.50 =	0.50			
	Side wall				
i	2 x 0.50 + 1.10 x 0.9 x 0.5 = 2	0.72			
ii	2 x 0.5 + 1.10 x 1.2 x 0.5 = 2	0.96			
iii	2 x 0.6 x 0.6 x 0.5 =	0.36			
iv	2 x 1.0 x 0.5 x 0.5 =	0.50	8.65 cum	762.30/cum	
	@ 762.30 per cum				6,593.90
	Grand Total				7112.40 or 7113.00

(Rupees Seven thousand one hundred thirteen) only

Annexure-III

COST ESTIMATE FOR CONSTRUCTION OF CHECK DAMS ACROSS SEASONAL AND SEMI- PERENNIAL NALAS

Cost estimate is furnished below.

Size of the check dam

Span - 3 mtr Height - 1.0mtr

Slope- U/S : - 1:1.5 D/S Slope :- 1:2.0

Cross section of the check dam is in the form of a trapezium

Wage rate @ Rs.200.00/day.

Sl. No.	Particulars of works	Quantity	Total quantity	Rate in Rs.	Total cost in Rs.
1	Leveling the unshaped surface of the selected site & layout the structure foundation L.S. 1MD				200.00
2	Excavation of foundation in hard soil within initial lead of 50mtr. including rough dressing and breaking of clods to maximum size 5cm. to 7cm. laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx bund of loose boulder structure. Base Base with aprox- 1 x 5.10 x 4.00 x 0.30 Wing wall - 4 x 0.50 x 0.50 x 0.30 @ Rs. 8959.00 per 100 cum as per PWD schedule of rate and site condition.	6.12 0.30	6.42cum	8960	575.23
3	Rough stone dry packing Up to GL Base with apron- 1 x 5.10 x 4.00 x 0.30 = Wing wall- 4 x 0.50 x 0.50 x 0.30 =	6.12 0.30 7.05			

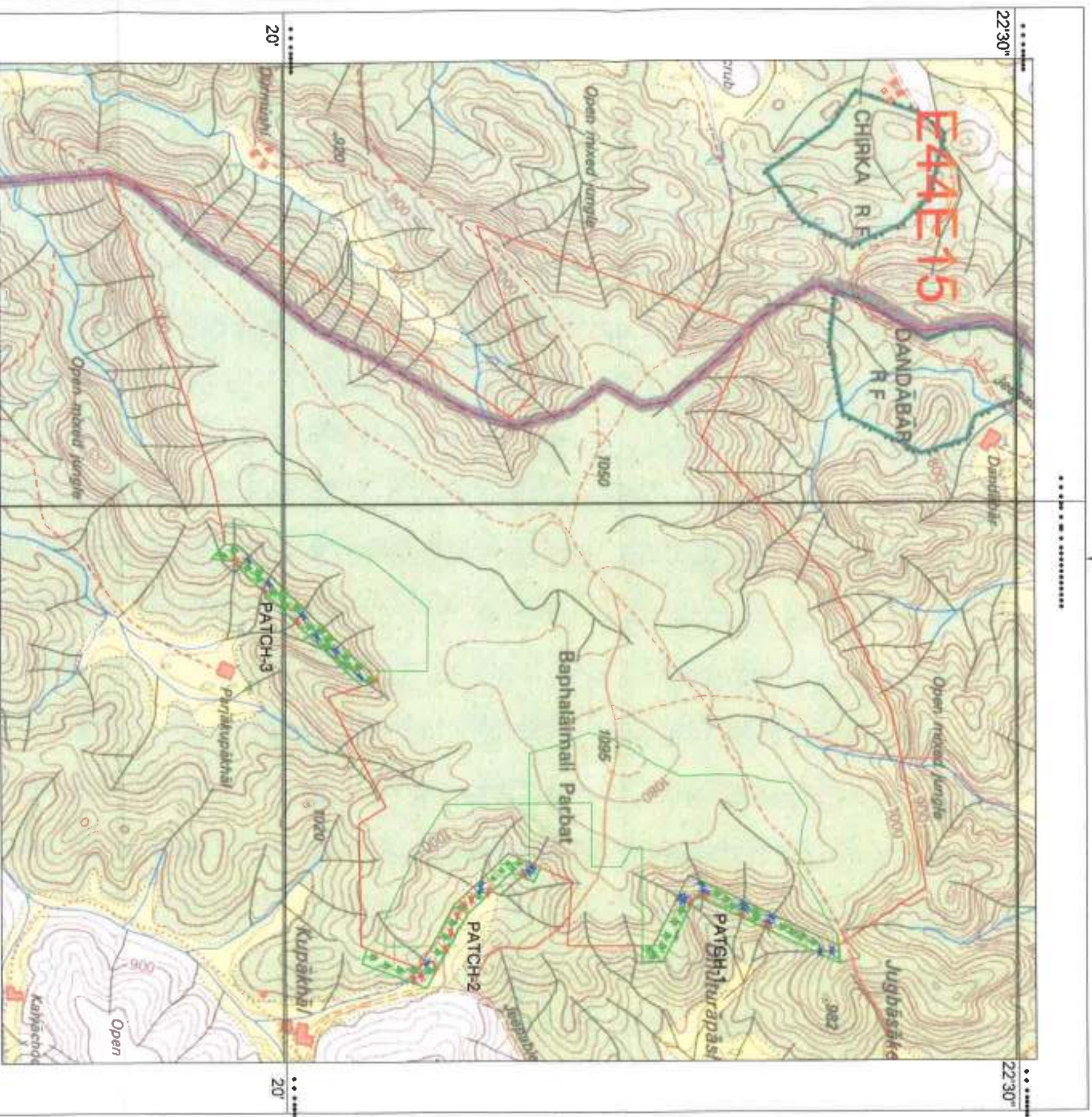
Above GL	0.50			
Super structure- 1 x $\frac{4.10+0.60}{2} \times 1.00 \times 3.0$	1.50			
Wing wall- 4 x 0.50 x 0.50 x 0.50 =	2.0			
Side wall	0.60			
i. 2 x $\frac{0.50+1.50}{2} \times 1.5 \times 0.5$	0.50			
=	18.57			14,154.42
ii. 2 x $\frac{0.50+1.50}{2} \times 2.0 \times 0.5$	cum			
=				
iii. 2 x 0.6 x 1.0 x 0.5 =				
iv. 2 x 1.0 x 0.5 x 0.5 =				
@ Rs. 762.22 per cum				14,929.65 or 15,000.00
G. Total				15,000.00

(Rupees fifteen thousand) only.

LEASE AREA ON TOPO
SCALE-1:50,000



ENLARGE MAP NOT TO SCALE



LEGEND

INDEX

- M.L. BOUNDARY
- 100M. RADIUS BOUNDARY
- DISTRICT BOUNDARY
- LOCATION OF GAP PLANTATION
- LOCATION OF CHECK DAMS (2M.SPAN)
- LOCATION OF CHECK DAMS (3M.SPAN)

COMPLIANCE TO THE CONDITION NO.-XXVI OF
MOEF LETTER F. NOB-18/2016-FC DATED 29-06-2017

TOPOGRAPHICAL MAP SHOWING GAP PLANTATIONS AND SOIL & MOISTURE CONSERVATION ACTIVITIES WITHIN 100 METER FROM THE OUTER PERIMETER IN SIDE THE DLC FOREST LAND OF THE MINING LEASE (RAYAGADA DIVISION) OF BAPHILMALI BAUXITE MINE OF M/S UTKAL ALUMINA INTERNATIONAL LTD. IN RAYAGADA & KALAHANDI DISTRICT OF ODISHA ON SURVEY OF INDIA TOPOSHEET NO. E44E15
SCALE-1:50,000

For Utkal Alumina International Ltd.

Authorised Signatory

Divisional Forest Officer
Rayagada Division

**SCHEME
FOR CONSTRUCTION OF CHECK DAMS, RETENTION/TOE
WALLS TO ARREST SLIDING DOWN OF THE EXCAVATED
MATERIAL ALONG THE CONTOUR OF THE ML**

**AT
BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)
FOREST DIVISION
OF
M/S UTKAL ALUMINA INTERNATIONAL LTD**

(As per the condition No. XXIV-C of the Stage-I Forest clearance granted by MoEF & CC,
Govt. of India vide F.No.8-18/2016-F.C dt 29.06.2017)

5

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide F.No.8-18/2016-F.C dt 29.06.2017 for diversion of 233.343 ha. forest area in Baphlimali Bauxite Mines of UAIL Ltd. In his approval MoEF & CC, Govt imposed one condition vide No. (XXIV)-C to develop a scheme

"for construction of check dams, retention/toe walls to arrest sliding down of the excavated material along the contour of Baphlimali mining project"

In order to comply with the conditions, the current scheme is prepared for the project within Baphlimali Bauxite M.L area spreading over 1388.748ha.

OBJECTIVE OF THE SCHEME:

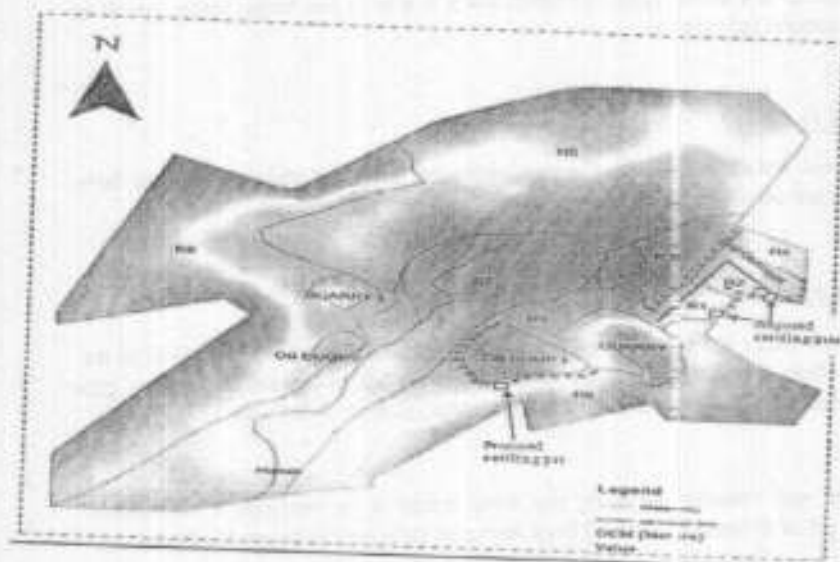
1. To construct check dams, retention/toe walls to arrest sliding down of the excavated material along the contour
2. To meet the requirement of the stipulation imposed by the MoEF & CC, Govt vide their memo no F.No.8-18/2016-F.C dt 29.06.2017 for diversion of 233.343 ha. forest area in Baphlimali Bauxite Mines of UAIL Ltd

ITEM OF WORK TO BE TAKEN UP:

1. Drains
2. Check Dams
3. Retaining Walls

The complete Baphlimali ML area has been divided into seven (7) nos. of zones, nomenclature as R1 to R 7, keeping in view the proneness of sliding of the excavator materials from the existing mining area & surface topography of the lease area. Special environmental protection measures are recommended to arrest the sliding down of the excavated material along the contour of the ML.

DEM MODEL SHOWING ALL THE REGIONS



REGION-1 :

There is a need of settling pit near crusher having dimension 42m x 20m x 4m along with the earthen garland drain in the eastern boundary to channelize the runoff to the sump.

REGION-2:

Two settling ponds each of capacity 3360 cubic meter i.e. (40m x 21m x 4m) to be constructed along with the earthen garland drain to channelize the runoff to the settling pits.

REGION-3:

Earthen Drain of 1170 m length 4m width and 2m depth to be constructed parallel to the conveyor belt i.e. BC-5 and channelized the runoff to quarry. Culverts and Hume pipe to be provided wherever required.

REGION-4, 5 & 6:

Please refer the above figure in which R-4,5 & 6 is in the virgin state, runoff to follow natural topography.

REGION-7:

A seasonal Nallah exist in this region. However, series of check dam have been constructed across the nallah needs to be repaired & maintained.

REGION-8:

The runoff water from service centre facility area needs to be channelized to the valley after the settlement of the suspended solids in small settling pits constructed near to boundary of capacity approx. (L-8 m, B-5 m, D- 3 m).

DUMP-1:

Retaining wall constructed along the dump needs to be repaired & maintained. Settling pit of dimension 45m x 25m x 4m to be constructed below the dump.

DUMP-2:

All the run off from the Dump-2 needs to be channelized thru earthen garland drain to the Quarry-2.

TOP SOIL & BAUXITE STORAGE YARD:

Retaining wall and earthen garland drain provided along the Topsoil & Bauxite Storage yard needs to be repaired and maintained.

Note:-

Addition to these protection measures as suggested above, 15-mtrs peripheral barrier has been left all along the surface plateau of the ML. This barrier is acting as the natural fence & preventing the sliding down of the excavated material along the contour of ML. Even after the complete mining, the height of the reclaimed area shall be less than the initial topography, hence chances of sliding down of the excavated material along the slope of the contour does not arise in future.

Cost Estimation:-

Description	Unit	Rate	Quantity	Amount
Settling Pit near crusher				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc. complete, as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	2688.00	304496.64
Ordinary rock without blasting	cum	250.16	672.00	168107.52
				472604.16
Two Settling pit near entrance gate				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc. complete, as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	2688.00	304496.64
Ordinary rock without blasting	cum	250.16	672.00	168107.52
				472604.16
Earthen Garland Drain along the BC-4				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc. complete, as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	7488.00	848240.64
Ordinary rock without blasting	cum	250.16	1872.00	468299.52
				1316540.16

Settling pit below the Dump-1				
Earth work in excavation in all kinds of soil (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm plan area) including dressing the sides and leveling the bed and depositing the excavated material away from the site upto an initial lead distance of 50 mtrs & lift of 1.5 mtr, including disposed soil to be levelled and neatly dressed. The cost includes the charges for all labour, supervision, tools and plant etc. complete, as per the direction of the Engineer-in-charge.				
All kinds of soil	cum	113.28	3600.00	407808.00
Ordinary rock without blasting	cum	250.16	900.00	225144.00
				632952.00

The entire cost shall be borne by the Agency & shall be implemented within 2-Years. Further the whole arrangement shall be maintained at the cost of the agency till the end of life of the Mining lease.

For Utkal Alumina International Ltd.

Authorised Signatory

22.09.17
Divisional Forest Officer
Fayagada Division

22.09.17
Regional Chief Conservator of Forests
KORAPUT CIRCLE

SCHEME FOR
STABILIZATION OF THE OVERBURDEN DUMPS BY
APPROPRIATE GRADING/BENCHING
AT

BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)

FOREST DIVISION

OF

M/S UTKAL ALUMINA INTERNATIONAL LTD

(As per the condition No. (xxiv) (d) of the stage-I forest
clearance granted by MoEF &CC, Govt. of India vide F.No.8-
18/2016-FC dt 29.6.2017)

6

Ministry of Environment, Forests & Climate Change Govt. of India accorded Stage-I approval for diversion of 233.343 ha. forest land for non-forest purpose for Baphimali Bauxite mine vide F.No.8-18/2016-FC dt 29.6.2017 subject to fulfillment of certain conditions.

As per condition No. (xxiv) (d) of the Stage-I approval, the User Agency shall take up "Stabilize the overburden dumps by appropriate grading/benching, in accordance with the approved scheme, so as to ensure that angles of repose at any given place is less than 28 degree " at project cost. In compliance with this condition, an approved mining plan from IBM, Bhubaneswar is in place for implementation of the same.

This mining lease area is located on Survey of India Topo Sheet No.E44E15 and bounded by latitude 19°19'17" to 19°22'08" North and longitude 82°56'28" to 82°59'17" East. The mineral deposit has a linear shape along NNE-SSW within the ML over a maximum length of 16 km and average width of 3 km. The area exhibits a flat topped hill with moderate to steep hill slope in the north with varying elevations from 800 mtr to 1095mtr above MSL. The area is devoid of tree growth.

Topsoil/Overburden Removal

This operation is done in two phases, the topsoil removal and then lateritic overburden waste excavation. Fertile topsoil wherever occurs is excavated separately by scraping with dozer and the heaps so formed is lifted by loader dumper combinations to be spread on top of backfilled areas for land reclamation. Overburden is to be excavated after loosening by ripper dozer or blasting by a combination of hydraulic shovel, loader, dumper combination. The overburden waste is then backfilled into mined out areas as part of land reclamation scheme.

Major environmental impacts of opencast mining are degradation of landscape and aesthetics of the area by creating huge overburden dumps and deep voids at the mining sites. These overburden dumps are characterized by high rock fragment contents, low moisture retention capacity, higher bulk density, low nutrients, lower pH and elevated metal concentrations.

The scheme of backfilling is planned for the entire life of the deposit. During initial three years backfilling is not implemented as mined out areas are not available. During this period, the overburden is dumped on southern part of the deposit. However, the process of rehandling overburden dumps is expedited so as to complete it before the scheduled period, as and when area for dumping is available.

Selection of the dumping site mostly depends upon the factors like topography, drainage, land use, mineral inventory, pit configuration, mine waste characteristics, its

Further, from environmental protection point of view & to prevent the sliding of the piled materials from the dump yards, it is always essential to stabilize the waste dump by the application of machineries. The compaction of the surface of the overburden dumps are made normally by the movement of higher capacity dumpers (60 tonners) during the course of dumping. The benching of the overburden dumps is done maintaining a height of 6 to 8 mtrs in two flitches. The slope of the individual terrace is nearly 45 degree & the widths of the two terraces are maintained at 12 mtrs, only to maintain the angle of repose within 28 degree.

There will be no external waste dumping after 2022 onwards. By end of 2022, Dump-2 (Kalahandi Dump) shall be evacuated completely & utilized for the backfilling purpose & subsequently the next waste dump i.e. Dump-1 (Rayagada Dump) shall be utilized in the similar pattern.

Retaining walls has been constructed around the OB Dump-1 & 2 to control the wash-offs and garland drains as well as settling tanks has already been developed to arrest loose materials coming out of the retaining wall and drain clean water outside. The drain will be de-silted regularly and maintained properly.


Engineering Details of Protective Measures taken at OB Dump: Laterite boulders, sand and cement has been utilized for construction of retaining, gawland drain and settling pond.

Name of Dump	Retaining wall (m)			Garland drain (m)			Settling tank (m)			Check dam		
	L	B	H	L	B	D	L	B	D	L	B	H
Dump-1	700	0.8	1	1060	2.8	1	30	8	2.2	---	---	---
Dump-2	268	0.8	1	300	2.8	1	10	8	2.2	---	---	---
Topsoil stack	---	---	---	362	3	0.6	---	---	---	---	---	---
Natural nala course	---	---	---	---	---	---	---	---	---	76	0.8	1
	---	---	---	---	---	---	---	---	---	47	0.8	1
	---	---	---	---	---	---	---	---	---	35	0.8	1

These retaining walls, gartand drains and settling tanks will be maintained properly till the re-handling of entire dumped waste materials for back-filling of the mined out area.

However, over burden dumps are stabilized by regular dozing, grading & terracing according to the approved Mining Plan & the angle of repose is maintained less than 28 degree.

For Utkal Alumina International Ltd.


Authorized Signatory Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division


Regional Chief Conservator of Forests
KORAPUT CIRCLE

SCHEME FOR
TOP SOIL MANAGEMENT PLAN
WHICH WILL PROTECT FROM THE DAMAGE
CAUSED TO THE TOP SOIL

AT

BAPHILIMALI BAUXITE MINES
UNDER RAYAGADA & KALAHANDI(S)

FOREST DIVISION

OF

M/S UTKAL ALUMINA INTERNATIONAL LTD

(As per the condition No. XXIV-E of the Stage-I Forest clearance granted
by MoEF & CC, Govt. of India vide F.No.8-18/2016-F.C dt. 29.06.2017)

7

TOP SOIL MANAGEMENT PLAN

(As per condition No. (xxiv) (e) of the stage-I forest clearance granted by MoEF&CC, Govt of India vide F.No.8-18/2016-FC dt 29.6.2017)

Ministry of Environment, Forests & Climate Change Govt. of India accorded the Stage-I approval for diversion of 233.343 ha. DLC Forest land for Baphimali Bauxite Mine vide F.No.8-18/2016-FC dt. 29.6.2017 subject to fulfillment of certain conditions.

As per condition No. (xxiv) (e) of the Stage-I approval, the User Agency shall take up **"No damage shall be caused to the top-soil and the user agency will follow the top soil management plan."** at project cost. In compliance with this condition, an approved mining plan from IBM, Bhubaneswar is in place for implementation of the same.

Baphimali bauxite Mining lease is located on Survey of India Topo Sheet No.E44E15 and bounded by latitude 19°19'17" to 19°22'08" North and longitude 82°56'28" to 82°59'17" East. The mineral deposit has a linear shape along NNE-SSW within the ML over a maximum length of 16 km and average width of 3 km. The area exhibits a flat topped hill with moderate to steep hill slope in the north with varying elevations from 800 mtr to 1095 mtr above MSL. The area is devoid of tree growth.

Principally, Bauxite mining involves the following activities:-

1. Topsoil Removal
2. Drilling & blasting
3. Overburden removal
4. Bauxite winning
5. Crushing of Bauxite
6. Transportation of Bauxite to Plant

Out of 6 major activities the 1st & foremost activity is Topsoil removal from the capping of the bauxite plateau. Fertile topsoil wherever occurs is excavated separately by scraping with dozer and the heaps so formed is lifted by loader/ excavator dumper combinations to be stored at a designated place for the future use.

During the course of mining the overburden is removed by the application of drilling & blasting due to its hardy nature. There is no bauxite content available in the said material. Hence, the removed material lifted by the loader/ excavator dumper combinations to store at a designated place for the future use.

After the overburden removal, bauxite are being dealt by the application of drilling & blasting for its loosening similarly due to its hardy nature. However, in specific locations & after a specific depth of mining the bauxite is available in the form of soft rock which can be removed directly by

applying the excavator dumper combinations without the application of drilling & blasting.

Subsequently, sufficient depth is available within the ML area after evacuation of overburden followed by bauxite ore. Moreover, the ML is completely occupied with sufficient voids. From environmental protection point of view & to bring the topography of the location to its previous level the voids are backfilled with the overburden materials transporting from its designated locations. This overburden does not hold any soil, so to take up the planation over the surface of the hard & loose boulders, topsoil shall be filled in layer wise.

Moreover, the Top soil generation in the mine is very less. Topsoil is not fully fertile in nature. Water holding capacity, pH and calcium content in the topsoil is in lower side. pH will be neutralised and low calcium content will be corrected. Cow dung and farm manures will be added. Soil enrichment will be experimented.

A total of 1, 32,189 m³ topsoil is available in the existing stock. Average thickness of top (fertile) soil is experienced to be 0.17m thick which will be scrapped off and stored during the mining plan period.

Presently the available topsoil is 1, 32,189 m³, out of the total topsoil of 15,10,686 m³ which will be generated during the life of the mine.

Initially, to protect the top-soil storage yards specific arrangements as like garland drains, retaining walls & check dams inside the drains are constructed. The measures are in a low scale as its generation is very less & being regularly utilized for the rehabilitation purposes.

Further, as the concurrent mining & backfilling is of regular nature, so there shall not be any separate preservation as a long term arrangement for the top-soil, shall be utilized concurrently for the rehabilitation purposes. Rehabilitation shall be taken up through Tree Planation.

The tree planation activities have started for the FY 2017-18 in the backfilled area after soil testing & selecting the appropriate species.

For Utkal Alumina International Ltd.

Authorised Signatory

8.2.16 P.17
Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
KOPAPUT CIRCLE

Annexure-25

Email

OFFICE OF THE DIVISIONAL FOREST OFFICER, RAYAGADA DIVISION

Memo No. 3357 /4F(Misc) 1263 /2016
Dated, Rayagada the 19 th May 2016

To

The Addl. Principal Chief Conservator of Forests (F. D. & N.O. FC Act),
O/O the Principal Chief Conservator of Forests,
Odisha, Bhubaneswar

Sub:-

Proposal for diversion of 233.343 hectare of DLC forest land in village
Paik Kupakhal, Dhutapasa and Karanja Kupakhal under Kashiapur Tahsil
out of total mining lease area of 1388.74 hectares in Baphilimali Bauxite
mines of M/s Utkal Alumina International Ltd. (State SI No. OR 08/2016
dated 15.02.2016).


Ref:

1. This office memo No.2578 dated 24.04.2016
2. Memo No. 1872 dated 14.05.2016 of R.C.C. T., K/C to your address

In inviting a kind reference to the above cited correspondence on the captioned
subject I submit herewith the required certificate in 4 (four) copies in the prescribed Form-II
along with Gram Sabha Resolution in both Odia and English, proceeding of SDLC meeting on
FRA, Rayagada and Proceeding of DLC meeting on FRA along with other required certificates
in respect of village Paik Kupakhal, Karanja Kupakhal and Dhutapasa under Kashiapur Block of
Rayagada District received from the Collector, Rayagada in his letter No.2432 dated 16.05.2016
for inclusion in the above diversion proposal against item no. 25 of check list of the proposal.
The same may kindly be inserted in the copy of the proposals.

This is for favor of kind information and necessary action.

Encl: As above.


19/5/2016
Divisional Forest Officer,
Rayagada Division.

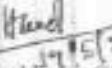
Email

Memo No. 3358 /4F Date. 19-05-16

Copy along with the copy of above enclosures forwarded to the Regional
Chief Conservator of Forests, Koraput Circle, Koraput for favor of kind information and
necessary action with reference to his memo no.1873 dated 14.05.2016, he is requested to
kindly insert the above enclosures in the copy of diversion proposal, against item no.25 of the
checklist.

Encl: As above.

24 May 2016


19/5/2016
Divisional Forest Officer,
Rayagada Division.



FORM-II

Annexure-II

(For projects other than linear projects)

Government of Odisha

Office of the District Collector, Rayagada

No. 2435 (C)

Dated 16/5/16

TO WHOMSOEVER IT MAY CONCERN

In compliance of the Ministry of Environment and Forests (MoEF), Government of India's letter No.11-9/98-FC (pt.) dated 3rd August 2009 wherein the MoEF issued guidelines on submission of evidences for having initiated and completed the process of settlement of rights under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 ('FRA' for short) on the forest land proposed to be diverted for non-forest purposes, it is certified that 233.343 hectares of forest land proposed to be diverted in favour of M/s Utkal Alumina International Ltd., Doragada, Post-Kucheipadar-765015, District-Rayagada (name of user agency) for mining lease of Baphilimali Bauxite Mines of M/s Utkal Alumina International Ltd., (purpose for diversion of forest land) in Rayagada district falls within jurisdiction of Paika Kupakhal, Karanja Kupakhal and Dhutrapasa village(s) in Kashipur Mahanil. It is further certified that:

- (a) The complete process for identification and settlement of rights under the FRA has been carried out for the entire 233.34 hectares of forest land proposed for diversion. A copy of records of all consultation and meetings of the Forest Rights Committee(s), Gram Sabha(s), Sub-Divisional Level Committee(s) and the District Level Committee are enclosed as annexure 'A' to annexure 'N'.
- (b) The proposal for such diversion (with full details of the project and its implications, in vernacular/local language) has been placed before each concerned Gram Sabha of forest-dwellers, who are eligible under the FRA.
- (c) The each of concerned Gram Sabha(s), has certified that all formalities/processes under the FRA have been carried out, and that they have given their consent to the proposed diversion and the compensation and ameliorative measures, if any, having understood the purpose and details of proposed diversion. A copy of certificate issued by the gram sabha of Paika Kupakhal, Karanja Kupakhal and Dhutrapasa village(s) is enclosed as annexure 'O' to 'T'.
- (d) The discussion and decisions on such proposals had taken place only when there was a quorum of minimum 50% of the members of Gram Sabha present.
- (e) The diversion of forest land for facilities managed by the Government as required under section 3(2) of the FRA have been completed and the Gram Sabhas have given their consent to it.
- (f) The rights of Primitive Tribal Groups and Pre-Agricultural Communities, where applicable have been specifically safeguarded as per section 3(1) (e) of the FRA.

Enclosed: As above.

Sri Jagannath Mohanty, OAS (SAG),
Collector & District Magistrate, Rayagada

କୃଷି ପଣ୍ଡା

ପ୍ରମାଣକ କଥାଟାହୁଁ ଯେ, ବିଧି ସୁଚାବଳ

ଡୋକ୍ଟର ଆର୍ତ୍ତ କାର୍ଯ୍ୟ ୨୦୦୫ ଏବଂ ୨୦୦୬ ମସିହା
 ୨୦୦୭ ର ସମସ୍ତ ଉପାଦାନକୁ କୃତ୍ରିମ ଭାବରେ କଟିବାର
 ଉଦ୍ଦେଶ୍ୟ ସ୍ପଷ୍ଟ ଭାବରେ ଗ୍ରାମ୍ୟାଞ୍ଚଳରେ କରାଯାଇଥିବା
 ଗ୍ରାମ୍ୟାଞ୍ଚଳ କମିଟିର ଲେଖାରେ ଦେଖିବାକୁ ମିଳେ । ୨୦୦୭ ମସିହା
 ଆଷାଢ଼ ଶୁକ୍ଳ ତିଥିରେ ଡୋକ୍ଟର ଆର୍ତ୍ତ କାର୍ଯ୍ୟ କମିଟିର
 ଉପାଦାନକୁ କଟିବାର ଉଦ୍ଦେଶ୍ୟ ସ୍ପଷ୍ଟ ଭାବରେ ଗ୍ରାମ୍ୟାଞ୍ଚଳ
 କମିଟିର ଲେଖାରେ ଦେଖିବାକୁ ମିଳେ । ଡୋକ୍ଟର ଆର୍ତ୍ତ କାର୍ଯ୍ୟ
 କମିଟିର ଉପାଦାନକୁ କଟିବାର ଉଦ୍ଦେଶ୍ୟ ସ୍ପଷ୍ଟ ଭାବରେ
 ଗ୍ରାମ୍ୟାଞ୍ଚଳ କମିଟିର ଲେଖାରେ ଦେଖିବାକୁ ମିଳେ । ଡୋକ୍ଟର
 ଆର୍ତ୍ତ କାର୍ଯ୍ୟ କମିଟିର ଉପାଦାନକୁ କଟିବାର ଉଦ୍ଦେଶ୍ୟ
 ସ୍ପଷ୍ଟ ଭାବରେ ଗ୍ରାମ୍ୟାଞ୍ଚଳ କମିଟିର ଲେଖାରେ ଦେଖିବାକୁ
 ମିଳେ । ଡୋକ୍ଟର ଆର୍ତ୍ତ କାର୍ଯ୍ୟ କମିଟିର ଉପାଦାନକୁ
 କଟିବାର ଉଦ୍ଦେଶ୍ୟ ସ୍ପଷ୍ଟ ଭାବରେ ଗ୍ରାମ୍ୟାଞ୍ଚଳ କମିଟିର
 ଲେଖାରେ ଦେଖିବାକୁ ମିଳେ । ଡୋକ୍ଟର ଆର୍ତ୍ତ କାର୍ଯ୍ୟ
 କମିଟିର ଉପାଦାନକୁ କଟିବାର ଉଦ୍ଦେଶ୍ୟ ସ୍ପଷ୍ଟ ଭାବରେ
 ଗ୍ରାମ୍ୟାଞ୍ଚଳ କମିଟିର ଲେଖାରେ ଦେଖିବାକୁ ମିଳେ ।

[illegible]

Executive Officer
Maikanch G.P.

Rowan T. B.
Sarapanch
Maikanch G.P.

CERTIFICATE

Certified that all formalities/processes under the Forest Right Act (FRA), 2006 and Amendment Rule, 2012 have been carried out for diversion of Ac.153.11 or 61.962 Ha of forest land to non-forest purpose in village Karanja Kupakhal, G.P-Maikanch under Kashipur Tahasil of Rayagada District for mining lease of Baphilimali Bauxite Mines of M/s Utkal Alumina International Ltd.,. That, the Gram Sabha has given consent to the proposed diversion and the compensation and ameliorative measures, if any, and fully understood the purpose and details of proposed diversion.

Block	Gram Panchayat	Name of the Village/Mouza	Resolution No./Date of Gram Sabha	Khata No.	Plot No.	Area (In Ac.)	Kissam	Revised Kissam	Remarks
Kashipur	Maikanch	Karanja Kupakhal	1/20.04.2016	64 (Abada Ajegya Aashadi)	1	6.62	Part	Non-Forest	Full Plot
					2	8.20			Part Plot
					3	1.97			Part Plot
					80	1.95			Part Plot
					81	5.00			Part Plot
					82	11.12			Part Plot
					83	11.50			Part Plot
					84	24.75			Full Plot
					85	10.00			Part Plot
					Total	Ac 153.11			Full Plot

[Signature]
Executive Officer
Maikanch G.P.

[Signature]
Sarpanch
Maikanch G.P.

Annexure - R

CERTIFICATE

Certified that all formalities/processes under the Forest Right Act (FRA), 2006 and Amendment Rule, 2012 have been carried out for diversion of Ac.303.89 or 122.981 Ha of forest land to non-forest purpose in village Paika Kupakhal, G.P-Maikanch under Kashipur Tahasil for mining lease of Baphilimali Bauxite Mines of M/s Utkal Alumina International Ltd.,. That, the Gram Sabha has given consent to the proposed diversion and the compensation and ameliorative measures, if any, and fully understood the purpose and details of proposed diversion.

Block	Gram Panchayat	Name of the Village/Moosa	Resolution No./Date of Gram Sabha	Khata No.	Plot No.	Area (In A.)	Kinam	Revised Kinam	Remarks
Kashipur	Maikanch	Paikakupakhal	1/22.04.2016	76 (Abadi Aajoga Arabad)	1	33.25	Parbat	Non-Forest	Full Plot
					2	30.00			Full Plot
					3	38.50			Full Plot
					4	51.80			Full Plot
					5	41.80			Full Plot
					16	36.45			Full Plot
					552	46.30			Part Plot
					553	25.59			Part Plot
					Total	Ac.303.89			Part Plot

[Signature]
Executive Officer
Maikanch G.P

[Signature]
Sarpanch
Maikanch G.P

ପ୍ରମାଣ ପତ୍ର

ପ୍ରମାଣନ ଜଣାଯାଉଛି ଯେ, ବିଏ ମୁଦାବିତ ଜଣାଯାଉ
ଅଧିକାରୀ ଆହୁନ ୨୦୦୨ ଏବଂ ସଂଜ୍ଞାପନ ନିମ୍ନ ୫୧୨
ରୁ ସମସ୍ତ ଶ୍ରମିକମାନଙ୍କୁ ପାଳନ କରାଯାଇ ଜାଣିପୁର
ଦେଶର ଅନ୍ତର୍ଗତ ମାଲକନ୍ଧି ଗ୍ରାମପଞ୍ଚାୟତର ପାଠକପାଠାଳୟ
ଗ୍ରାମର ନିମ୍ନଲିଖିତ ମୋ.ନଂ ୧୮୧ ଏବଂ ୧୨୨.୧୮୧ ଡକ୍ଟର
ଜନ ଅନୁର୍ଣ୍ଣନାକୁ ଉଚିତ୍ ଅନୁମତି। କମିଟିର ସମସ୍ତଙ୍କୁ
ସହାୟତା ଓ ଏହି ଅର୍ଥରେ ଜଣାଯାଉ ଯେଉଁ ଶ୍ରମିକମାନଙ୍କୁ
ବ୍ୟବହାର କରିବା ପାଇଁ ସମ୍ମତି ପ୍ରଦାନ କରାଯାଇଛି। ଏହାକୁ
ପ୍ରମାଣିତ କରିବା ପାଇଁ ପଞ୍ଚାୟତର ସହ ସମ୍ମତି ଦେବା ଅନୁରୋଧ
କରାଯାଉଛି। ସବିପୁରଣ ତା ପୁନଃବର୍ଣ୍ଣନା ଏବଂ ଜିଲ୍ଲା ପଞ୍ଚାୟତର
ସହାୟତା ସମସ୍ତ ବିଷୟ ଶାନ୍ତ ହୋଇ ସମସ୍ତଙ୍କୁ ଜଣାଯାଉ।

ବୃତ୍ତ	ଗ୍ରାମପଞ୍ଚାୟତ	ଗ୍ରାମ/ବିଧାନ	ଆଧାର ନଂ	ଆକା ନଂ	ପୃଷ୍ଠା ନଂ	ଉପାଧିକାରୀ	କାର୍ଯ୍ୟ	କାର୍ଯ୍ୟକାରୀ	ମାଧ୍ୟମ
					୧	୩୩.୭୨			ଅନୁମତି
					୨	୩୩.୭୩			ଅନୁମତି
					୩	୩୩.୭୪			ଅନୁମତି
					୪	୩୩.୭୫			ଅନୁମତି
					୫	୩୩.୭୬			ଅନୁମତି
					୬	୩୩.୭୭			ଅନୁମତି
					୭	୩୩.୭୮			ଅନୁମତି
					୮	୩୩.୭୯			ଅନୁମତି
					୯	୩୩.୮୦			ଅନୁମତି
					୧୦	୩୩.୮୧			ଅନୁମତି
					୧୧	୩୩.୮୨			ଅନୁମତି
					୧୨	୩୩.୮୩			ଅନୁମତି
					୧୩	୩୩.୮୪			ଅନୁମତି
					୧୪	୩୩.୮୫			ଅନୁମତି
					୧୫	୩୩.୮୬			ଅନୁମତି
					୧୬	୩୩.୮୭			ଅନୁମତି
					୧୭	୩୩.୮୮			ଅନୁମତି
					୧୮	୩୩.୮୯			ଅନୁମତି
					୧୯	୩୩.୯୦			ଅନୁମତି
					୨୦	୩୩.୯୧			ଅନୁମତି
					୨୧	୩୩.୯୨			ଅନୁମତି
					୨୨	୩୩.୯୩			ଅନୁମତି
					୨୩	୩୩.୯୪			ଅନୁମତି
					୨୪	୩୩.୯୫			ଅନୁମତି
					୨୫	୩୩.୯୬			ଅନୁମତି
					୨୬	୩୩.୯୭			ଅନୁମତି
					୨୭	୩୩.୯୮			ଅନୁମତି
					୨୮	୩୩.୯୯			ଅନୁମତି
					୨୯	୩୩.୧୦୦			ଅନୁମତି
					୩୦	୩୩.୧୦୧			ଅନୁମତି
					୩୧	୩୩.୧୦୨			ଅନୁମତି
					୩୨	୩୩.୧୦୩			ଅନୁମତି
					୩୩	୩୩.୧୦୪			ଅନୁମତି
					୩୪	୩୩.୧୦୫			ଅନୁମତି
					୩୫	୩୩.୧୦୬			ଅନୁମତି
					୩୬	୩୩.୧୦୭			ଅନୁମତି
					୩୭	୩୩.୧୦୮			ଅନୁମତି
					୩୮	୩୩.୧୦୯			ଅନୁମତି
					୩୯	୩୩.୧୧୦			ଅନୁମତି
					୪୦	୩୩.୧୧୧			ଅନୁମତି
					୪୧	୩୩.୧୧୨			ଅନୁମତି
					୪୨	୩୩.୧୧୩			ଅନୁମତି
					୪୩	୩୩.୧୧୪			ଅନୁମତି
					୪୪	୩୩.୧୧୫			ଅନୁମତି
					୪୫	୩୩.୧୧୬			ଅନୁମତି
					୪୬	୩୩.୧୧୭			ଅନୁମତି
					୪୭	୩୩.୧୧୮			ଅନୁମତି
					୪୮	୩୩.୧୧୯			ଅନୁମତି
					୪୯	୩୩.୧୨୦			ଅନୁମତି
					୫୦	୩୩.୧୨୧			ଅନୁମତି
					୫୧	୩୩.୧୨୨			ଅନୁମତି
					୫୨	୩୩.୧୨୩			ଅନୁମତି
					୫୩	୩୩.୧୨୪			ଅନୁମତି
					୫୪	୩୩.୧୨୫			ଅନୁମତି
					୫୫	୩୩.୧୨୬			ଅନୁମତି
					୫୬	୩୩.୧୨୭			ଅନୁମତି
					୫୭	୩୩.୧୨୮			ଅନୁମତି
					୫୮	୩୩.୧୨୯			ଅନୁମତି
					୫୯	୩୩.୧୩୦			ଅନୁମତି
					୬୦	୩୩.୧୩୧			ଅନୁମତି
					୬୧	୩୩.୧୩୨			ଅନୁମତି
					୬୨	୩୩.୧୩୩			ଅନୁମତି
					୬୩	୩୩.୧୩୪			ଅନୁମତି
					୬୪	୩୩.୧୩୫			ଅନୁମତି
					୬୫	୩୩.୧୩୬			ଅନୁମତି
					୬୬	୩୩.୧୩୭			ଅନୁମତି
					୬୭	୩୩.୧୩୮			ଅନୁମତି
					୬୮	୩୩.୧୩୯			ଅନୁମତି
					୬୯	୩୩.୧୪୦			ଅନୁମତି
					୭୦	୩୩.୧୪୧			ଅନୁମତି
					୭୧	୩୩.୧୪୨			ଅନୁମତି
					୭୨	୩୩.୧୪୩			ଅନୁମତି
					୭୩	୩୩.୧୪୪			ଅନୁମତି
					୭୪	୩୩.୧୪୫			ଅନୁମତି
					୭୫	୩୩.୧୪୬			ଅନୁମତି
					୭୬	୩୩.୧୪୭			ଅନୁମତି
					୭୭	୩୩.୧୪୮			ଅନୁମତି
					୭୮	୩୩.୧୪୯			ଅନୁମତି
					୭୯	୩୩.୧୫୦			ଅନୁମତି
					୮୦	୩୩.୧୫୧			ଅନୁମତି
					୮୧	୩୩.୧୫୨			ଅନୁମତି
					୮୨	୩୩.୧୫୩			ଅନୁମତି
					୮୩	୩୩.୧୫୪			ଅନୁମତି
					୮୪	୩୩.୧୫୫			ଅନୁମତି
					୮୫	୩୩.୧୫୬			ଅନୁମତି
					୮୬	୩୩.୧୫୭			ଅନୁମତି
					୮୭	୩୩.୧୫୮			ଅନୁମତି
					୮୮	୩୩.୧୫୯			ଅନୁମତି
					୮୯	୩୩.୧୬୦			ଅନୁମତି
					୯୦	୩୩.୧୬୧			ଅନୁମତି
					୯୧	୩୩.୧୬୨			ଅନୁମତି
					୯୨	୩୩.୧୬୩			ଅନୁମତି
					୯୩	୩୩.୧୬୪			ଅନୁମତି
					୯୪	୩୩.୧୬୫			ଅନୁମତି
					୯୫	୩୩.୧୬୬			ଅନୁମତି
					୯୬	୩୩.୧୬୭			ଅନୁମତି
					୯୭	୩୩.୧୬୮			ଅନୁମତି
					୯୮	୩୩.୧୬୯			ଅନୁମତି
					୯୯	୩୩.୧୭୦			ଅନୁମତି
					୧୦୦	୩୩.୧୭୧			ଅନୁମତି

Executive Officer
Maikanch G:P

Sarapanch
Maikanch G:P

ପ୍ରମାଣ ପତ୍ର

Annexure - I

ପ୍ରମାଣନ କରାଯାଇଛି ଯେ, ବିଶ୍ୱମୁଖାଙ୍କ ଜଣାଥିବା
 ଶ୍ରେଣୀରେ ଆୟ ୨୦୧୯ ଏବଂ ସଂସଦର କିରୁମ, ୨୦୧୯ର
 ସମସ୍ତ ଆୟପତ୍ରଛାଡ଼ି କୃତ୍ରିମ ଭାବରେ ଜଣାଯାଇ କାଗିଜିଟ୍
 ଡ୍ରାମାଟିକ୍ ଅନୁର୍ବଦ୍ଧ ଫ୍ରେଣ୍ଡି ଗ୍ରାମପଞ୍ଚାୟତରୁ ଯୁକ୍ତାପାତ୍ର
 ଗ୍ରାମର ବିଶ୍ୱମୁଖାଙ୍କ ୧୧୧.୬୦ ଏକର ବା ୪୫.୪୦୦
 ହେକ୍ଟର ଜମି ଅନୁର୍ବଦ୍ଧ ଡ୍ରାମାଟିକ୍ ଅନୁର୍ବଦ୍ଧ କମିଶନର
 ଉପକଳ୍ପନା କରାଯାଇ ଗମି ଅନୁର୍ବଦ୍ଧ ଜଣାଥିବା ଜମିକୁ
 ଅନୁର୍ବଦ୍ଧ ଡ୍ରାମାଟିକ୍ କମିଶନର କ୍ଷମା ପାଇଁ ସମ୍ମତି
 ପ୍ରଦାନ କରାଯାଇଛି । ଏହାପରେ ପ୍ରସ୍ତୁତ ଜମିର
 କରମ ପରିବର୍ତ୍ତନ ପାଇଁ ସମ୍ମତି ଦେବା ଅନୁର୍ବଦ୍ଧ
 ଗ୍ରାମ ସହାୟକ ସଂସ୍ଥା ଓ ପୁରସ୍କାର ଏବଂ ବିଶ୍ୱମୁଖାଙ୍କ
 ପରିବର୍ତ୍ତନ ସମ୍ମତି ପ୍ରଦାନ କରାଯାଇଛି ।

ସ୍ଥାନ	ଗ୍ରାମପଞ୍ଚାୟତ	ଗ୍ରାମ/ଭାଗ	ଗ୍ରାମ ସଂଖ୍ୟା ୧୯୯୯	ଭାଗ ନଂ	ଫୁଲ ନଂ	ଫୁଲ (ଫୁଲ)	କ୍ଷମା	କରମ ପରିବର୍ତ୍ତନ	ସମ୍ମତି
କାଗିଜିଟ୍	ଫ୍ରେଣ୍ଡି	ଯୁକ୍ତାପାତ୍ର	୧/୨୦-୦୧-୨୦୧୯	ମାମୁ କାଗିଜି କମିଶନ	୧	୫.୫୨	୧୧୧.୬୦	୧୧୧.୬୦	୧୧୧.୬୦
					୨	୧୧.୫୫			
					୩	୧୧.୫୫			
					୪	୧୧.୫୫			
					୫	୧୧.୫୫			
					୬	୧୧.୫୫			
					ମୋଟ	୧୧୧.୬୦			


 Executive Officer
 Chandragiri G.P.


 Sarpancha
 Chandragiri G.P.

Amendment - 0

CERTIFICATE

Certified that all formalities/processes under the Forest Right Act (FRA), 2006 and Amendment Rule, 2012 have been carried out for diversion of Ac.119.60 or 48.400 Ha of forest land to non-forest purpose in village Dhuturapas, G.P-Chandragiri under Kashipur Tahasil, Rayagada District for mining lease of Baphilimali Bauxite Mines of M/s Utkal Alumina International Ltd., That, the Gram Sabha has given consent to the proposed diversion and the compensation and ameliorative measures, if any, and fully understood the purpose and details of proposed diversion as noted below.

Block	Gram Panchayat	Name of the Village/Mouza	Resolution No./Date of Gram Sabha	Khata No.	Plot No.	Area (In Ac.)	Khasam	Revised Khasam	Remarks
Kashipur	Chandragiri	Dhuturapas	1/20.04.2016	32 (Abada Ajogya Anahadi)	1	.52	Purbat	Non-Forest	Part Plot
					2	18.25			Full Plot
					3	21.13			Part Plot
					4	23.84			Part Plot
					330	21.08			Part Plot
					331	27.78			Part Plot
					Total	119.60			


Executive Officer
Chandragiri G.P.


Sarapancha
Chandragiri G.P.

SCHEME

FOR

**GAP PLANTING AND SOIL & MOISTURE
CONSERVATION MEASURES TO RESTOCK AND
REJUVINATE THE DEGRADED OPEN FORESTS
LOCATED WITHIN 100 METERS FROM OUTER
PERIMETER OF MINING LEASE**

IN

BAPHLIMALI BAUXITE MINES

OF

M/s UTKAL ALUMINA INTERNATIONAL LIMITED

UNDER

RAYAGADA & KALAHANDI (S) DIVISION.

Compliance to:

Condition No. (xxvi) of the stage-I forest clearance granted by MoEF&CC,
Govt. of India vide F.No.8-18/2016-FC dt 29.06.2017

**SCHEME FOR
GAP PLANTING AND SOIL & MOISTURE CONSERVATION MEASURES TO
RESTOCK AND REJUVINATE THE DEGRADED OPEN FORESTS LOCATED
WITHIN 100 mtr FROM OUTER PERIMETER OF MINING LEASE**

(As per condition No.(xxvi) of the stage-I forest clearance granted by MoEF&CC,
Govt.of India vide F.No.8-18/2016-P.C dt. 29.06.2017)

1. INTRODUCTION

Stage-I approval for diversion of 233.343 ha. DLC forest land for non-forest purpose for Baphilimah Bauxite mine has been accorded vide F.No.8-18/2016-P.C dt. 29.06.2017 of Ministry of Environment, Forests & Climate Change subject to fulfillment of certain conditions.

As per condition No. (xxvi) of the Stage-I approval, *"User Agency either himself or through the State Forest Department shall undertake gap planting and soil & moisture conservation activities to restock and rejuvenate the degraded open forests (having crown density less than 0.40), if any, located in the area within 100 m. from outer per-meter of the mining lease. The plan for plantation and SMC activities will be prepared and submitted to MoEF & CC before Stage-II Clearance."*

This lease area is located on Survey of India Topo Sheet No.E44E-15 and bounded by latitude 19°19'17" to 19°22'08" North and longitude 82°55'28" to 82°59'17" East. The area exhibits a flat topped hill with moderate to steep hill slope with varying elevations from 800 mtr to 1095mtr above MSL. The plateau portion of the lease is devoid of tree growth with only some phoenix species scatteredly occur here and there. Of course grasses like Khadia grass (*Aristida setacea*), Panicum species, Sinkula (*Heteropogon contortus*) comes during rainy season and vanishes completely during summer. However, the slope portion on the northern and north-western parts of the lease bordering both the district although non-forest land have degraded vegetation. But the forest land located on Eastern & Southern part of the lease in Rayagada Division bordering the forest land proposed to be diverted hosts degraded type of bushy forest.

As per the condition it is essential to treat the 100 mts width area around the lease boundary involving DLC forest land with strategic soil and moisture conservation measures and gap plantation with ANR practices. The DLC forest land located in Rayagada Division continuous to the lease boundary over a

length of 4.17km covering an area of 41.7ha shall be regenerated and rehabilitated by gap plantation to mitigate the adverse impact of mining and to prevent all sorts of environmental pollution.

The 100mtr wide area all around the entire lease boundary are not forest areas excepting 4.17km length of DLC forest land under Rayagada Forest Division.

However, only DLC forest land occurs on the eastern and southern part of 100 mtrs zone comes under the following villages of Rayagada District.

Name of the village	Plot No.	Length of DLC forest land in Km	Area in ha
Dhaturapas	1,3,4,330 & 331	1.53km	15.3ha
Paikakupakhal	16,552 & 553	1.27km	12.7ha
Karanjakupakhal	2,3,80,81,82 & 84	1.37km	13.7ha
Total		4.17km	41.7ha

These three patches located on Survey of India Toposheet No. E44E15 between latitude & longitude as mentioned in foregoing para.

Topography : The altitude of the plateau portion of the lease is about 1095m from the MSL. However, the altitude of the boundary varies from 900mtr to 1020mtr with respect to Rayagada Division and 800mtr to 1000 mtr with respect to Kalahandi(S) Division. Therefore, the topography of 100mtr area from periphery of the boundary also fall in that range of altitude. The topography is entirely hilly and undulating with large number of seasonal nalas/ water channels coming down from the plateau to the nearby valleys and natural perennial nalas.

Vegetation : No reserve, protected forests are there inside 100mts width of outer boundary of the lease. However, there are DLC forests encircling the periphery of the lease in village Dhaturapas, Paika kupakhal, Karanjakupakhal in Rayagada Division where the crown density of the existing crop is less than 0.4. These forests are continuous to the DLC forest land proposed to be diverted inside the lease area. The vegetation is in complete degraded condition comprising forest species like Asana (*Terminalia tomentosa*), Bandhana (*Ougeinia cojcinensis*), Dhatura (*Anogeissus latifolia*), Kerdu (*Diospyros melanoxylon*), Chara (*Buchananania lanzari*), Kasi (*Bridelia retusa*), Amra (*Emblica officinalis*), Neem (*Azadirachta indica*), Kumbhi (*Careya arborea*), Harida (*Terminalia chebula*), Bahada (*Terminalia belerica*), Sisoo (*Dalbergia latifolia*), J unun (*Syzygium cumini*),

Anchu(*Morinda tinctoria*) Sidha(*Lagerstroemia parviflora*) & Salia Bamboo(*Dendrocalamus strictus*) and other miscellaneous species of tropical moist deciduous. Only root stocks some of the above species are noticed in addition to other species in bushy condition. The condition of the existing vegetation in the forests are due to lack of proper silvicultural operations, annual fire hazard and other anthropogenic pressures.

It is proposed to take up ANR practices with gap plantations of fruit bearing, browsing & fodder species in these DLC forests of Rayagada Division.

In view of the present condition of the DLC forests falling within 100mtr width in Rayagada division, an area of 41.7ha spreading over a length of 4.17km will be rejuvenated through ANR practices with gap plantation. However due to presence of nalas and rocky surfaces unsuitable for plantation 10% of total area have been excluded from the area of 41.7ha and the net area came to 37.53ha which shall be rejuvenated and regenerated.

Details of village wise ANR practices with grass plantation in DLC forest land of Rayagada Division falling within 100 mtr width of the case boundary

Name of the village falling in the DLC Forest land	Patch	Length of 100 mtr wide strip	Area in ha after 10% deduction	Latitude	Longitude
Dhuturapas	Patch -1	1.53km	13.77	19°21'32.8"	82°58'55.7"
Paika Kupakhal	Patch-2	1.27km	11.43	19°20'34.5"	82°58'56.5"
Karanja Kupakhal	Patch-3	1.37km	12.33	19°20'2.5"	82°57'50.5"
Total		4.17km	37.53		

Survey of India Toposheet showing 3 patches of ANR plantation site is enclosed as **Plate-I**

Choice of Species :

Plants selected for plantation shall be drought hardy, fast growing in nature.

The species selected will be from among the following:

Common Name	Scientific name	Family
Neem	<i>Azadirachta indica</i>	Meliaceae
Anla	<i>Emblia officinalis</i>	Euphorbiaceae
Bela	<i>Aegle marmelos</i>	Rutaceae
Karanja	<i>Pongamia pinnata</i>	Papilionaceae
Dhaura	<i>Anogeissus latifolia</i>	Combretaceae

Kendu	<i>Diospyros melanoxylon</i>	Ebenaceae
Chara	<i>Buchanania lanzan</i>	Anacardiaceae
Harida	<i>Terminalia chebula</i>	Combretaceae

Species that would be native to the area can also be raised in addition to the above species.

Aided natural regeneration with Gap plantation using 200 plants per ha

Improvement of vegetative cover through silvicultural practices i.e. tending the degraded vegetation. Tending operation as per standard practice like stool manipulation, cutting of high stumps, singling thinning, deweeding and pruning etc. shall be taken up. Gap plantations with 200 plants-per ha shall be taken up utilizing the above species. Detail cost norm for plantation and ANR practices for regeneration of natural species and filling up gaps through plantations along with other soil and moisture conservation measures is furnished in harmony with the approved cost norm of PCCF, Odisha Vide Office Order No.- 143/12F (Affn./247/2012 dt. 29.01.2016 is annexed at **Annexure-I**.

Peoples participation in protecting the plantation

As the periphery of the lease is encircled by three villages of Rayagada Division it is proposed to involve those villages by organizing V.S.S, if not formed earlier for protection of the regenerated forest and plantations on JMF mode.

Basing on their cultural and religious sentiments which are ought to be taken care of, incentives on developmental/cultural activities shall be provided to them which will benefit the success of plantation programme. All forest conservation events shall be celebrated in their villages for creating awareness among them for protection of the plantation. Funds to the tune of 20% of the plantation cost shall be earmarked for various expenditure on this account. The funds will be spent in consultation with the villagers and as per their social and cultural requirements.

SOIL & MOISTURE CONSERVATION MEASURES :

In view of impact of mining activities inside the lease, MoEF has stipulated in condition No. xxvi to undertake gap planting & soil & moisture conservation activities to rehabilitate the forests having crown density less than 0.40 if any located in the area within 100 mtr from the outer periphery. Thereby a 100mtr width green belt can be created in the DLC forest area of Rayagada Division over

a length of 4.17km so as to reduce the impact of mining in the adjoining forest, wildlife habitat and the habitations.

In order to increase water availability within the forest area around the lease and to recharge underground water, it is essential to take steps for soil and moisture conservation activities in various seasonal/perennial streams originating from the lease area which is hilly with cliffs at some points. Therefore, loose boulder check dams of 2 mtr and 3mtr span can be constructed across the season perennial nalas and water channels occurring within the 100mtr width area to prevent massive soil erosion, subsequent siltation and to check surface run off to recharge rain water into the ground considering the site conditions.

In addition to the soil and moisture conservation measures such as staggered trenching of size to 2mtr x 0.5mtr x 0.5mtr @ 60 per ha in gap plantation, as prescribed in the approved cost norm for the above gap plantation, the following soil conservation measures as narrated above are proposed for better management of the landscape to protect the degraded forests damaged by heavy soil erosion due to the nature of terrain and to rejuvenate the same.

There are some seasonal and perennial nalas inside the DLC Forest land stretching over a length of 4km in Rayagada Division of the lease area those discharge the surface runoff of the plateau of the lease through this 100mtr width to the valley during rainy season causing very soil erosion and heavy siltation in the perennial nalas that ultimately meet Indravati reservoir.

Therefore it is proposed to construct the following nos of loose boulder check dam in the width of 100mtr inside DLC Forest land all around the lease boundary for soil and moisture conservation measures in side the plantations and to prevent siltation in the perennial nalas.

Name of the village	Patch No.	Area of treatment in (ha)	2meter size	3 meter size
Dhuturapas	No.1	15.3	10	4
Paika Kupakhal	No.2	12.7	5	10
Karanja Kupakhal	No.3	13.7	6	3
Total			21	17

The location of the check dams proposed to be constructed within 100mtrs from the outer boundary of the lease have been shown on Survey of India Toposheet No. E44E15 and the engineering specifications to construction and the approved cost norm for construction of the Check dams are enclosed at **Annexure-II & Annexure-III**

Size and specification of loose boulder checkdam

<u>2mtr Span</u>	<u>3mtr span</u>
Height : 0.6 mtrs	Height : 1 mtr
Upstream slope : 1 : 1.5mtr	Up stream slope : 1: 1.5mtr
Down Stream slope : 1: 1.2mtr	Down stream slope : 1:2mtr

Survey of India Topo sheet showing the location of three patches of ANR GAP plantation and the Check dams is furnished at **Annexure-IV**.

Executing Agency:

Since the area is outside the Mining Lease, the work will be executed by the D.F.O Rayagada Division with the funds provided by the User Agency.

The total financial outlay for proposed SMC activities and gap plantation comes to Rs. **21,87,272/-/-** (Twenty one lakhs eighty seven thousand two hundred seventy two) only.

For Uttal Alumina International Ltd.


Authorized Signatory

24-9-17
Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division

Regional Chief Conservator of Forests
KORAPUT CIRCLE

TOTAL FINANCIAL OUTLAY OF THE PROJECT

SL. NO	PARTICULARS OF WORK	RAYAGADA DIVISION		
		QUANTITY	RATE	AMOUNT IN RS.
1	ANR practices with Gap Plantation	37.53ha	29698/-ha	11,14,566/-
2	Loose Boulder Check Dams 2 mtr span	21 nos	7113/-per each	1,49,373/-
3	Loose Boulder Check Dams 3 mtr span	17 nos	15000/-per each	2,55,000/-
	SubTotal			15,18,939/-
4	Entry point activities for 3 villages in protecting the plantation @ 20% of total cost.	3 villages	20 %	3,03,788/-
	Total			18,22,727/-
	Add 20% towards cost escalation		20%	3,64,545/-
	Grand Total			21,87,272/-


 24.08.17
 Divisional Forest Officer
 Rayagada Division
 Divisional Forest Officer
 Rayagada Division

Sl. No.	Item of work	Preferable period of Execution	Person days	Labour (Rs.)	Material (Rs.)	Total (Rs.)
7	Subcultural operation involving clearance of weeds, cutting of climbers, singing of shoots etc.	Sep-Oct.	15	3000	0	3000
8	Soil Conservation Measures (Staggered trenches of dimension 2 m x 0.5m x @ 60 nos. per ha.) or its equivalent	Sep-Oct.	20	4000	0	4000
9	Fire line Tracing and Inspection Path	Feb-Mar.	3	600	0	600
10	Watch & Ward	Aug-Mar	7	1400	0	1400
11	Contingency and Unforeseen expenditures		0	0	304	304
	Total		64.5	12900	1620	14520
2nd year						
1	Casualty replacement including cost of seedling, carriage and planting	July-Aug.	1	200	189	389
2	Complete weeding and cultural operations	Sep-Oct.	2	400	0	400
3	Soil working and manuring	Sep-Oct.	2	400	0	400
4	Cost of Chemical fertilizer (a) Vermicompost 200gms/plant @ Rs. 20/- per kg.=Rs. 800/-, (b) Granular insecticides 5 gms/plant for 20 plants 100 gms @ Rs. 80/- per kg.=Rs. 8/-	Sep-Oct.	0	0	808	808
5	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep-Oct.	8	1600	0	1600
6	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
7	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
8	Contingency and Unforeseen expenditures		0	0	181	181
	Total		21	4200	1178	5378
3rd year						
1	Complete weeding and cultural operation	Aug-Sep.	1	200	0	200
2	Soil working	Aug-Sep.	1	200	0	200
3	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
4	Watch & Ward (whole year)	Apr-Mar.	7	1400	0	1400
5	Contingency and Unforeseen expenditures		0	0	200	200
	Total		10	2000	200	2200
4th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200

Sl. No.	Item of work	Preferable period of Execution	Person days	Lobour (Rs.)	Material (Rs.)	Total (Rs.)
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
5th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
6th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
7th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
8th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
9th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600
10th year						
1	Fireline tracing and inspection path	Feb-Mar.	1	200	0	200
2	Watch & Ward (whole year)	Apr-Mar.	2	400	0	400
	Total		3	600	0	600

ABSTRACT

Sl. No.	Item of work	Mandays	Lobour cost @ Rs. 200/-	Materials cost in Rs.	Total cost in Rs.
1	0 th year	14.5	2900	500	3400
2	1 st year	64.5	12900	1620	14520
3	2 nd year	21	4200	1178	5378
4	3 rd year	10	2000	200	2200
5	4 th year	3	600	0	600
6	5 th year	3	600	0	600
7	6 th year	3	600	0	600
8	7 th year	3	600	0	600
9	8 th year	3	600	0	600
10	9 th year	3	600	0	600
11	10 th year	3	600	0	600
	Total	131	26200	3498	29698

Annexure-II

COST ESTIMATE FOR CONSTRUCTION OF CHECK DAMS ACROSS SEASONAL AND SEMI PERENIAL NALAS

Span : 2 mtr.
Ht. : 0.6 mtr.
Slope : U/S - 1:1.5
D/S Slope : 1:2

Sl. No.	Particulars of works	Quantity	Total quantity	Rate in Rs.	Total cost in Rs.
1	Levelling the unshaped surface of the selected site & layout the structure foundation L.S I MD				200.00
2	Excavation of foundation in hard soil within initial lead of 50mtr. Including rough dressing and breaking of clods to maximum size 5 cm to 7 cm laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx. bund of loose boulder structure.				
	Base with apron- $1 \times 3.70 \times 3.00 \times 0.30$	3.33			
	Wing wall - $4 \times 0.50 \times 0.50 \times 0.30 =$	0.30			
	@ 8774.00 per 100 cum.		3.63	87.74/ cum	318.50
3	Rough stone Dry packing up to				
	Base with apron- $1 \times 3.70 \times 3.00 \times 0.30 =$	3.33			
	Wing wall - $4 \times 0.50 \times 0.50 \times 0.30 =$	0.30			
	Above GL Super structure $1 \times 2.00 \times 2.70 \times 0.60 \times 2 =$	1.980			
	Wing wall - $4 \times 0.50 \times 0.50 \times 0.50 =$	0.50			
	Side wall				
i	$2 \times 0.50 \times 1.10 \times 0.9 \times 0.5 =$	0.72			
ii	$2 \times 0.5 \times 1.10 \times 1.2 \times 0.5 =$	0.96			
iii	$2 \times 0.6 \times 0.6 \times 0.5 =$	0.36			
iv	$2 \times 1.0 \times 0.5 \times 0.5 =$	0.50	8.65 cum	762.30/cum	
	@ 762.30 per cum				6,593.90
	Grand Total				7112.40 or 7113.00

[Rupees Seven thousand one hundred thirteen] only

Annexure-III

COST ESTIMATE FOR CONSTRUCTION OF CHECK DAMS ACROSS SEASONAL AND SEMI- PERENNIAL NALAS

Cost estimate is furnished below.

Size of the check dam

Span - 3 mtr Height - 1.0mtr
 Slope- U/S : - 1:1.5 D/S Slope :- 1:2.0
 Cross section of the check dam is in the form of a trapezium
 Wage rate @ Rs 200.00/day.

Sl. No.	Particulars of works	Quantity	Total quantity	Rate in Rs.	Total cost in Rs.
1	Leveling the unshaped surface of the selected site & layout the structure foundation L.S. 1MD				200.00
2	Excavation of foundation in hard soil within initial lead of 50mtr. including rough dressing and breaking of clods to maximum size 5cm. to 7cm. laying in layer not exceeding 0.3 in depth to strengthening both side U/S approx bund of loose boulder structure. Base Base with aprox- 1 x 5.10 x 4.00 x 0.30 Wing wall - 4 x 0.50 x 0.50 x 0.30 @ Rs. 8959.00 per 100 cum as per PWD schedule of rate and site condition.	6.12 0.30	6.42cum	8960	575.23
3	Rough stone dry packing Up to GL Base with apron- 1 x 5.10 x 4.00 x 0.30 = Wing wall- 4 x 0.50 x 0.50 x 0.30 =	6.12 0.30 7.05			

Above GL	0.50			
Super structure- 1 x				
$\frac{4.25+2.50}{2} \times 1.00 \times 3.0$	1.50			
Wing wall- 4 x 0.50 x				
0.50 x 0.50 =	2.0			
Side wall	0.60			
i. $2 \times \frac{0.50+1.50}{2} \times 1.5 \times 0.5$	0.50			
=	18.57			14,154.42
ii. $2 \times \frac{0.50+1.50}{2} \times 2.0 \times 0.5$	cum			
=				
iii. $2 \times 0.5 \times 1.0 \times 0.5 =$				
iv. $2 \times 1.0 \times 0.5 \times 0.5 =$				
@ Rs. 762.22 per cum				14,929.65 or
				15,000.00
G. Total				15,000.00

(Rupees fifteen thousand) only.



Proposed Road Alignment Map

Proposed Road Alignment Map

SCHEME

FOR

**DE-SILTING OF VILLAGE TANKS AND OTHER WATER BODIES
LOCATED WITHIN 05 KM FROM THE MINING LEASE BOUNDARY
SO AS TO MITIGATE THE IMPACT OF SILTATION OF SUCH
TANKS & WATER BODIES.**

IN

BAPHLIMALI BAUXITE MINES

OF

M/s UTKAL ALUMINA INTERNATIONAL LIMITED

UNDER

RAYAGADA & KALAHANDI (S) DIVISION.

Compliance to:

**Condition No. (xxvii) of the stage-I forest clearance granted by MoEF&CC,
Govt. of India vide F.No.8-18/2016-FC dt 29.06.2017**

**SCHEME FOR DE-SILTING OF VILLAGE TANKS AND OTHER WATER BODIES
LOCATED WITHIN 05 KM FROM THE MINING LEASE BOUNDARY SO AS TO
MITIGATE THE IMPACT OF SILTATION OF SUCH TANKS & WATER BODIES**

(As per condition No. (xxvii) of the stage-I forest clearance granted by MoEF&CC, Govt. of India vide
F.No.8-18/2016-FC dt 29.06.2017)

1. INTRODUCTION

Stage-I approval for diversion of 233.343ha. of DLC forest land for non-forest purpose for Baphilimali Bauxite mine has been accorded vide F.No.8-18/2016-FC dt 29.06.2017 of Ministry of Environment, Forests & Climate Change subject to fulfillment of certain conditions.

As per condition No. (xxvii) of the Stage-I approval, *"The User Agency shall prepare a list of existing village tanks and other water bodies with GPS co-ordinates located within five km. from the mine lease boundary. This list is to be duly verified by the concerned Divisional Forest Officer. The User Agency shall regularly undertake desilting of these village tanks and other water bodies so as to mitigate the impact of siltation of such tanks/water bodies. A detailed plan for desilting of identified ponds and water bodies to be prepared in consultation with forest department and shall be submitted to MoEF & CC before Stage-II approval."*

In compliance with this condition, a comprehensive scheme is prepared for implementation of the same within 5 km from boundary of the said mining lease.

This lease area is located on Survey of India Topo Sheet No.E44E- 15 and bounded by latitude 19°19'17" to 19°22'08" North and longitude 82°56'28" to 82°59'17" East.

2. LOCATIONAL DETAILS

It is observed that the following tanks / water bodies fall within 5 Km from boundary of the mining lease area which need de- silting. The water bodies/ponds have been identified in consultation with local forest staff, stake holders and from the satellite imagery on Google earth. The detail list of such water bodies/Ponds with reference to GPS co-ordinates are furnished as under. A copy of jointed Survey of India Toposheet No. E 44 E 15 & E 44 F3 and the copy of satellite imagery showing the location of the site is also enclosed in the scheme.

DISTRICT : RAYAGADA- RAYAGADA DIVISION

Sl No Pond/ Water Body	Name of the village	Longitude	Latitude	Length in mtr	Width in mtr	Surface area in ha.	Depth in mtr		Volume in cu.m (Taking area as 70% of total area	Expenditure	
										Earth work @ Rs 101.85 per cum in Rs	Inlet & outlet pipes in Rs
1	Bhramarajori	82°57'46.136"	19°24'18.764"	60	33	0.1980	1	1980	1386	141164.1	5000
2	Kaptasil	82°58'10.693"	19°24'51.359"	40	40	0.160	1.2	1920	1344	136886.4	5000
3	Dhangirsil	82°56'09.991"	19°16'32.462"	40	30	0.12	0.8	960	672	68443.2	5000
4	Phulapinhda	83°01'50.548"	19°19'35.271"	50	42	0.21	1	2100	1470	149719.5	5000
5	Jaugbasaeuri	82°59'31.549"	19°22'19.124"	40	40	0.160	1.4	2240	1568	159700.8	5000
6	Ramgiri	82°56'26.268"	19°24'21.280"	25	23	0.0575	0.6	345	241.5	24596.78	5000
7	Kapatsil	82°58'10.407"	19°24'29.013"	40	32	0.128	2	2560	1792	182515.2	5000
8	Jogiparitunda	82°59'55.707"	19°17'32.732"	50	27	0.135	0.8	1080	756	76998.6	5000
9	Ramgiri	82°56'35.513"	19°24'29.593"	20	14	0.028	1.1	308	215.6	21958.86	5000
10	Ramgiri	82°56'36.868"	19°24'21.549"	25	18	0.045	0.9	405	283.5	28874.48	5000
11	Dandabada	82°58'02.361"	19°23'11.253"	40	32.5	0.130	1.5	1950	1365	139025.3	5000
12	Gumundisupel	82°59'58.374"	19°24'11.002"	25	15	0.0375	2	750	525	53471.25	5000
13	Chandragiri	82°58'50.031"	19°22'40.281"	35	30	0.105	0.7	735	514.5	52401.83	5000
14	Jogiparitunda	83°00'10.018"	19°18'22.575"	30	20	0.060	1.3	780	546	55610.1	5000
15	Andirakanchi	83°01'00.231"	19°19'18.339"	80	50	0.400	0.8	3200	2240	228144	5000
16	Kalyachochra	82°59'23.225"	19°18'51.493"	20	15	0.030	1.2	360	252	25666.2	5000
17	Panjora	82°55'26.833"	19°17'25.121"	40	29.5	0.118	0.9	1062	743.4	75715.29	5000
18	Jogipahar (Tunda)	82°59'51.946"	19°17'29.735"	18	14	0.0252	1.2	302.4	211.68	21559.61	5000
19	Andirakanch	83°00'56.435"	19°19'05.209"	35	27	0.0945	1.5	1417.5	992.25	101060.7	5000
	Total					2.2417				1743512	95000

Sl No Pond/ Water Body	Name of the village	Longitude	Latitude	Leng th in mtr	Width in mtr	Surface area in ha.	Dept h in mtr		Volume in cum (Taking area as 70% of total area	Expenditure	
										Earth work @ Rs 101.85 per cum in Rs	Inlet & outlet pipes in Rs
DISTRICT-KALAHANDI- KALAHANDI (SOUTH) DIVISION											
1	Udri	82°55'26.654"	19°22'20.579"	50	38	0.19	0.8	1520	1064.00	108368.40	5000
2	Kendumundi	82°55'27.592"	19°20'48.280"	70	45	0.315	0.7	2205	1543.50	157205.48	5000
3	Photokimahula	82°53'42.771"	19°20'49.404"	75	52	0.39	1.2	4680	3276.00	333660.60	5000
4	Phtokimahula	82°53'59.843"	19°21'15.083"	34	30	0.102	2	2040	1428.00	145441.80	5000
5	Maligaon	82°54'02.575"	19°18'37.893"	40	32	0.128	1	1280	896.00	91257.60	5000
6	Duarsanichapta										
	ghat	82°54'01.626"	19°18'06.992"	50	48	0.24	1.1	2640	1848.00	188218.80	5000
7	Tentulipadar	82°55'57.463"	19°23'58.758"	34	30	0.102	2	2040	1428.00	145441.80	5000
8	Tangiri	82°56'27.583"	19°23'19.137"	22	20	0.044	1.9	836	585.20	59602.62	5000
9	Tangiri/Tentulip										
	adar	82°56'19.751"	19°23'25.570"	15	14	0.021	2	420	294.00	29943.90	5000
10	Tangiri	82°56'22.812"	19°23'12.415"	22	22	0.0484	1.5	726	508.20	51760.17	5000
11	Chiniyapash	82°54'03.127"	19°20'50.185"	34	31	0.1054	1.6	1686.4	1180.48	120231.89	5000
12	Phtokimahul	82°53'40.937"	19°20'47.644"	60	45	0.27	1.2	3240	2268.00	230995.80	5000
13	Gopinathpur	82°53'39.961"	19°20'36.575"	30	26	0.078	2	1560	1092.00	111220.20	5000
14	Maligaon	82°54'36.589"	19°19'02.160"	33	32	0.1056	1.1	1161.6	813.12	82816.27	5000
15	Maligaon	82°54'20.376"	19°18'55.156"	45	42	0.189	0.9	1701	1190.70	121272.80	5000
16	Muskuta	82°54'30.040"	19°19'28.844"	50	25	0.125	0.5	625	437.50	44559.38	5000
17	Phtokimahul	82°53'55.148"	19°20'58.068"	80	39.25	0.314	0.6	1884	1318.80	134319.78	5000
18	Dhotapash	82°55'24.218"	19°23'34.394"	25	20	0.05	1.2	600	420.00	42777.00	5000
19	Tentulipadar	82°55'56.524"	19°24'13.080"	24	18	0.0432	1.7	734.4	514.08	52359.05	5000
20	Tentulipadar	82°56'19.604"	19°23'49.484"	40	25	0.1	1.5	1500	1050.00	106942.50	5000
21	Maligaon	82°54'31.530"	19°18'41.163"	35	32.5	0.1138	1.1	1251.25	875.88	89207.87	5000
	Total					3.0744				2447604	105000

3. TOPOGRAPHY:

The ponds and water bodies are located in the valley and mostly on plain terrain. They are situated close to habitations and at places nearer to the semi perennial and shallow water perennial nala flowing nearby of these habitations.

4. SOIL TYPE

The soil is hard and lateritic. The pond silt is basically of clay, silt and sand. The silts are soft and easily can be removed. The depth of siltation as observed varies from 30cm to 200cm. On an average 115cm or say 1 meter silt is proposed to be removed.

5. FACTORS RESPONSIBLE FOR SILTATION

Siltation is an inherent problem with ponds, lakes and almost all types of water reservoirs world over. It is a fact that all the habitations, ponds and water bodies are located in the vallies and low line areas and are always subject to siltation. Siltation occurs due to deposition or settling of soil eroded from the shore line, decaying fallen leaves, grass and other vegetative materials and decomposed organic materials settled on pond bottoms. Soil erosion may be attributed as the primary factor responsible for pond siltation in this area. Higher gradient and excess rainfall are the most common reasons of soil erosion. Erosion of Soil occurs from the waste dumps, excavated areas and naturally denuded ground surface. However, looking into the current problem of siltation of the village ponds, the major factors are the surface runoff containing silt particles entering into the pond. As the age of the ponds increases, new layers of silt accumulate on the older ones and the silt layers become thicker. Finally the depth of the pond decreases and it loses its water storage capacity. At this time it needs to be desilted to recover. The best practice against siltation is to de-silt pond bottom at regular intervals as well as taking adequate preventive measures like soil conservation measures in the seasonal nalas/water channels occurring across the hill slope of the lease.

6. METHODOLOGY FOR DE-SILTATION

- i. Keeping in view the site condition it is proposed to take up de-siltation on a cycle of five year basis (i.e. each pond will be de-silted twice within the plan period over 10 year) particularly during summer months when the pond / water bodies are dried up with exposed silts. Removal of silts is to be done either manually or mechanically basing on ground condition and quantity of silts accumulation. Silt accumulation occurs in the basal area of the tank which is roughly estimated to be 30% less of the aerial area. The estimated quantum of silt that is required to be removed is given in the table. During excavation the excavated silt are to be put on the embankment of the pond with top height at least of 1 meter and base width 3meter basing on availability of land at the periphery. The height of the embankments shall be raised sufficiently so that the surface run off does not entered directly in to these ponds and water bodies. The soil on embankment to be compacted and two inlet and two outlet pipe are to be fixed across the embankment (6" diameter PVC pipe or Cement Pipe) at suitable locations.
- ii. Plantation on the embankment of the pond :It is proposed to take up single row plantation comprising of species like Mango, Jack fruit, Jamun and other Horticultural plants at spacing of 4 mtrs along the embankments of individual 40 water bodies. The plantation will be raised on the approved cost norm for 250nos of plants per km of PCCF, Odisha. The cost estimate for plantation is furnished below.
- iii. Plantation of soil binding grasses :It is also proposed to plant soil binding grasses all along the embankment at a width of 3 mtrs to stabilize the soil of the embankment and

to prevent re-siltation inside the pond. The cost estimate for plantation is furnished below.

- iv. **Aquatic plantation** : As the ponds are located in the valleys, there are chances of evaporation loss of water from these water bodies during the dry summer months. It is proposed to take up aquatic plantations using the root/bulb (sucker) of water lilies, lotus etc. inside the ponds and water bodies to reduce the rate of evaporation of surface water. Root sucker collected locally and will be planted @ 1 in each 10 sqmtr area before the monsoon. The suckers shall proliferate gradually inside the water bodies and shall cover the entire the surface area. The cost estimate for plantation is furnished below.

7. Execution Planning.

As indicated above de-siltation will be carried out in a five year cycle. All the ponds will be de-silted twice in the plan period. The year wise work programme and cost estimate is as follows.

Rayagada District- (Rayagada Division)		
Years	Waterbodies	Total estimated expenditure
2018-19 & 2022-23	Bhramarajori- 1, Kaptasil-1 Dangirisil-1, Phulapindha-1, Jaugbasaaauri-1- Total 5 water bodies	6,80,914.00
2019-20 & 2023-24	Ramgiri-1, Kaptasil-, Jogiparitunda-1, Ramgiri-1, Ramgiri-1- Total- 5 water bodies.	3,59,944.00
2020-21 & 2024-25	Dandabad-1, Gumundisupel-1, Chandragiri-1, Jogiparitunda-1, Andirakanchi-1- Total-5- water bodies	5,53,652.00
2021-22 & 2025-26	Kalyachochra-1, Panjora-1, Jogipahar-1 Andirakanchi-1- Total-4- water bodies	2,44,002.00
	Sub-Total	18,38,512.00
	Add 10% for wage escalation	1,83,851.00
	Total	20,22,363.00
Kalahandi District- (Kalahandi (S) Division)		
2018-19 & 2022-23	Udri-1, Kendumundi-1, Photokimahul-1, Photokimahul-1, Maligaon-1- Total 5 water bodies	860933.88
2019-20 & 2023-24	Duarsanichaptaghat-1, Tentulipadar-1, Tangiri-1, Tangiri/Tentulipadar-1, Tangiri-1- Total-5 water bodies	4,99,967.29
2020-21 & 2024-25	Chiniyapash-1, Phtokimahul-1, Gopinathpur-1, Maligaon-1, Maligaon-1- Total 5 water bodies	6,91,536.96
2021-22 & 2025-26	Muskuta-1, Phtokimahul-1, Dhotapash-1, Tentulipadar-1, Tentulipada-1, Maligaon-1- Total-6 water bodies	5,00,165.57
	Sub-Total	25,52,604.00
	Add 10% for wage escalation	2,55,260.00
	Total	28,07,864.00
	G. Total for 40 nos of water bodies of both the divisions comes to	48,30,227.00

8. A. Cost estimate of De-siltation:

As per schedule of rate for earth work "Earth work in excavation by mechanical means (hydraulic excavation means over areas exceeding 30cm depth 1.5m in width as well as 10sqm on plain including disposal of excavated earth lead up to 50 m and life up to 1.5m disposal earth to be levelled and neatly dressed etc complete @ `101.85/ cum. Basing on volume of earth work as indicated above Table No, cost estimate to be calculated. In addition cost of Inlet / outlet pipes, at each pond an additional cost of `5000/- per tank to be added. Year wise cost factor is calculated as follows.

Financial Forecast

Particulars of work	Quantity	Total Amount
De-siltation of Ponds/Water bodies & provision for inlet & outlet.	19 nos in Rayagada Division, 21nos in Kalahandi(S) Division	48,30,227.00
Plantation on the embankment of individual 40 nos of water body in single row at a spacing of 4mtrs over a length of about 1300rmt(Rayagada-600 rmt& Kalahandi(S)-700 rmt)	Plants required for 1300 rmt 325 nos. @ 1,04,200/- per rkm.	1,35,460.00
Soil binding grass plantation at a width of 3 mtr on the embankment of individual 40 nos of water body	Total area of plantation 1300 x 3 = 3900 sqr.mtr @ Rs. 50/- per sqr.mtr	1,95,000.00
Aquatic Plantation by planting root suckers of Water lilly, Lotus etc. inside the pond	Total surface area- 5.3161ha (Rayagada-2.2417ha & Kalahandi(S) 3.0744ha) @ 1 sucker per 10sqr. mtr., required 5316 @ Rs. 20/- per sucker	1,06,320.00
Total		52,67,007.00

9. Execution:

Total cost of this project is Rs. 52,67,007.00 (Fifty Two lakhs sixty seven thousand seven only) only. This project of De-siltation of village tanks/ water bodies and embankment plantation, grass plantation and aquatic plantation will be carried out by the user agency.

10. INSPECTION AND MONITORING.

The manner of execution & periodical monitoring will be made by M/s UAIL authority. The Execution and achievements shall be reviewed by the Divisional Forest Officer, Kalahandi (S) Division and Divisional Forest Officer, Rayagada Division from time to time. In case of some dispute if the earmarked tank could not be de- silted in assigned year it may be executed in the next year along with the next years programme.

For Utkal Alumina International Ltd.

Authorized Signatory

8
Divisional Forest Officer
Rayagada Division
Divisional Forest Office
Rayagada Division

8/9/12
Divisional Forest Officer
Kalahandi(S) Division

Regional Chief Conservator of Forests
Bhawanipatna Circle, Bhawanipatna

Regional Chief Conservator of Forests
KORAPUT CIRCLE

**SCHEME
FOR
RECLAMATION AFFORESTATION
&
BIOLOGICAL RECLAMATION
IN THE MINED OUT UNDULATING AREAS
OF
BAPHLIMALI MINING PROJECT
OF
M/s UAIL IN RAYAGADA DISTRICT ODISHA.**

Compliance to : The additional condition No. 4 stipulated by the State Govt. in F & E Deptt. while communicating Stage-I forest clearance accorded vide **F.No.8-18/2016-F.C dt 29.06.2017 of MoEF**, in their Memo No. 14843 dt.15.07.2017

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide **F.No.8-18/2016-F.C dt 29.06.2017** for diversion of 233.343 ha. forest area in Baphlimali Bauxite Mines of UAIL Ltd. In this approval order of MoEF& CC, the State Govt. in F & E Deptt. has stipulated in additional condition No. 4 communicated vide Memo No. 14843 dt.15.07.2017 to be fulfilled before Stage-II forest clearance is accorded. The condition no. 4 of the Stage-I forest clearance is read as under:

“Reclamation and afforestation scheme and biological reclamation for this mining project shall be provided by the User Agency”

In order to comply with the conditions, the current scheme is prepared for Reclamation and Afforestation and Biological reclamation for the project within Baphlimali Bauxite M.L area spreading over 1388.748ha.

OBJECTIVE:

1. The meet the requirement of the stipulation imposed by the F&E Deptt. Govt. of Odisha in condition No.4 communicated vide Memo No. 14843 dt. 15.07.2017 of F &E Deptt. Govt. of Odisha.
2. The main objective and approach of the scheme of reclamation, afforestation & bio-logical reclamation is to reclaim and stabilize the mined out undulating areas by taking up plantation along the benches and back filled areas with required soil and moisture conservation measures so as to check up soil erosion and runoff as well as to enrich the reclaimed areas with green vegetation and to bring back original eco-system.

ITEM OF WORK TO BE TAKEN UP :

- a) **RECLAMATION** :The process of scientific reclamation of the mine void areas are as under.
 - Dumping the overburden in the mined out area layer by layer.
 - Dozing it to make the flat terrain.
 - Spreading of fertile topsoil over the backfilled area, suitable soil treatment to regain the fertility of the land which is part of biological reclamation to allow germination of grasses, herbs and shrubs. This will add humus and other soil micro-organism to the soil for natural germination and to make land suitable for afforestation.
- b) **Afforestation** : This will be taken up in the backfilled areas by applying fertile soil, farmyard manure and in organic fertilizer to the plantation in phased manure with 10 years maintenance. As the plantation will be taken up in a complete barren land devoid of fertility, Bald hill cost norm as approved by the PCCF, Odisha shall be adopted while taking up plantation. Plantation shall be taken up with drought hardy, light demander species at a spacing of 2.5mtr x 2.5 mtr with plant population 1600 per ha.

Out of 939 hectares mined out area, 689 hectares will be reclaimed by way of concurrent back-filling and plantation. Total generation of OB (including topsoil) is 66.704 Million m³ and there is an ample scope of reclamation (backfilling & plantation) of mined out area in a progressive, sequential & scientific manner.

Topsoil contains beneficial bacteria and other organisms that assist newly planted trees to grow over the back-filled area which will be planted with native indigenous species for conservation of flora & fauna after spreading the topsoil over the overburden.

A total of 1,32,189 m³ topsoil is available in the existing stock. Average thickness of top (fertile) soil is to be 0.17m thick which will be scrapped off and stored during the mining plan period.

Presently the available topsoil is 1,32,189 m³, out of the total topsoil of 25,68,167 m³ which will be generated during the life of the mine.

Post Mining Land Use Plan : Post mining land use pattern of M.L area will include plantation, reclamation, rehabilitation and road as per the following table :

Type of post mining land use	Non-Forest Area (ha)	Forest Area (ha)	Area (ha)	
Reclamation (back-filling and plantation) of mined out area	550.890	138.110	689.000	939
Rehabilitation (water storage) of mined out area	250.000	---	250.000	
Road	2.000	---	2.000	
Infrastructure	1.386	7.834	9.220	
Green belt / Plantation	320.991	76.529	397.520	
Peripheral barrier	30.130	10.870	41.000	
Total	1155.397	233.343	1388.740	

The land to be degraded by way of mining/excavation conceptually and reclamation to be done against the land degradation are as follows :

Land Degradation/ Rehabilitation		As at the end of plan period (ha)	As at the end of conceptual period (ha)
Land under mining / excavation		239.800	939.000
Reclamation	Back-filling	121.278	689.000
	Plantation		
Rehabilitation	Water storage	---	250.000

Plantation in the levelled area will be executed con-currently in approved plan period and onwards.

Summary of yearwise proposal: The information on protective measures for reclamation and rehabilitation works year wise may be provided as per the following table :

Items	Details	As on 2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Dump management	Area to be afforested (ha)	---	---	---	---	---	---
	No of saplings to be planted	---	---	---	---	---	---
	Cumulative no of plants	---	---	---	---	---	---
	Cost including watch and care during the year (Rs.)	---	---	---	---	---	---
Management of worked out benches	Area available for rehabilitation (ha)	---	---	---	---	---	---
	Afforestation done (ha)	---	---	---	---	---	---
	No of saplings to be planted in the year	---	---	---	---	---	---
	Cumulative no of plants	---	---	---	---	---	---
	Any other method of rehabilitation (specify)	---	---	---	---	---	---
	Cost including watch and care during the year	---	---	---	---	---	---

Reclamation and rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise /slope wise (ha)	50.361	49.265	29.430	28.994	34.298	47.452
	Void filled by OB / tailings (ha)	20.982	22.779	19.862	23.392	27.592	27.653
	backfilled area to be afforested (ha)	---	20.982	22.779	19.862	23.392	27.592
	Rehabilitation by making water reservoir	---	---	---	---	---	---
	Any other means (specify)	---	---	---	---	---	---
Rehabilitation of waste land within lease	Area available (slope area) (ha)	195.520	195.520	175.520	155.520	135.520	115.520
	Area to be rehabilitated (ha)	195.520	20	20	20	20	20
	Method of rehabilitation	Plantation	Plantation	Plantation	Plantation	Plantation	Plantation
Others (specify)	Retaining wall (Dump-1 & sub-grade stack)	700m x 0.8m x 1m	635m x 1m x 1.5m	---	---	---	---
	Garland drain (Dump-1 & sub-grade stack)	1060m x 2.8m x 1m	635m x 1m x 1.5m	---	---	---	---
	Settling tank (Dump-1)	10m x 8m x 2.2m (3 nos.)	---	---	---	---	---
	Retaining wall (Dump-2)	268m x 0.8m x 1m	400m x 1m x 1.5m	---	---	---	---
	Garland drain (Dump-2)	300m x 2.8m x 1m	635m x 1m x 1.5m	---	---	---	---
	Settling tank (Dump-2)	10m x 8m x 2.2m	---	---	---	---	---
	Garland drain (Topsoil stack)	362m x 3m x 0.6m	---	---	---	---	---

AFFORESTATION

Afforestation shall be taken up in the back fill areas as per the statement given in the above format during the plan period i.e. upto 2021-22 and at the end of conceptual period

- Block plantation with a spacing of 2.5mtr x 2.5mtr with plant population of 1600 plants per ha will be taken up in the back filled areas with suitable soil and moisture conservation measures with subsequent maintenance up to 10th years.

The Baphlimali hill top is devoid of any vegetative cover, hence the top soil scrapped on the hill top during the course of bauxite mining is un-fertile & devoid of any humus content.

The moisture holding capacity of the top soil is very poor due to lack of humus content and other organic matter. Therefore, the survival and growth of planted indigenous species in the backfilled areas will not be tenable. Hence it is desirable to provide the pits with fertile earth, cow dung manure and chemical fertilizers before plantation.

There is also provision for required soil and moisture conservation measure along with additional in-puts like fertile earth, farm yard manure etc for the plants in this cost norm.

Besides the above input attention must be given to the robustness of the seedling and shall be used for better growth and survival. The species to be planted should be indigenous, drought hardy to withstand the adverse climatic condition.

Choice of Species

Karanja	<i>Pongamiapinnata</i>
Sisoo	<i>Dalbergiasisoo</i>
Babul	<i>Acacia nilotica</i>
Su-babul	<i>Leucaenaleucocephala</i>
DhalaSiris	<i>Albizziaprocera</i>
Anla	<i>Emblicaofficinalis</i>
Neem	<i>Azadirachtaindica</i>

In the peripheral areas that are susceptible to grazing, Chakunda, Krushnachuda and Radhachuda be planted.

Concurrent Mining & reclamation through backfilling, already implemented.

There will be no external waste dumping after 2022 onwards. By end of 2022, Dump-2 (Kalahandi Dump) shall be evacuated completely & utilised for the backfilling purpose & subsequently the next waste dump i.e. Dump-1 (Rayagada Dump) shall be utilised in the similar pattern.

There shall not any separate preservation arrangement for the top-soil, shall be utilised concurrently for the rehabilitation purposes. Rehabilitation shall be taken up through Tree Plantation.

The tree plantation activities have started after soil testing & selecting the appropriate species.

Present Status:

Sl.No	Particulars	Area in Ha	
		As per Scheme of Mining (2017-18)	Present Status
1.	Reclaimed Area (Void filled by OB/tailings)	22.779	22.779
2.	Rehabilitation (Backfilled area to be afforested)	Complete reclamation area rehabilitated thru trees plantation as per the guidance of Forest Regional office.	

The planting should be preferable be taken up with one and half year old seedlings i.e. second year seedlings raised in poly-bags of size 12 inch x 9 inch maintained in the nursery. As the seedlings are indigenous species and slow growing, it is proposed to plant 1½ year old seedlings. The approved cost norm for raising 1½ year seedlings is enclosed as **Annexure-I**. In case of Bamboo and pre-sprouted seedling from rhizomes should be used for plantation purpose.

The best time of planting of the potted seedling is soon after the on-set of regular monsoon or after a good shower of rain. Before planting, the pits are to be treated with good earth and farm yard manure, basal dose fertilizer as prescribed in the cost norm of bald hill plantation (**Annexure-II**).The following precautions shall be taken during the handling of saplings from nursery.

- Roots escaping from the container should be trimmed
- Plant should be stripped off lower bigger leaf
- All large side branches should be pruned
- Pots containing the plant should be watered

At the time of transportation, care should be taken so that the ball of earth of the poly pots does not get disturbed and the shoots are not broken. Manual transportation should be given preference.

Planting should be taken up on rainy/cloudy days by adopting all standard techniques of plantation.

Seedling die due to various causes like heavy rains, drought, fire and grazing etc. But in a well-managed plantation, where the planting stock consists of healthy and stout seedlings, say about 10% may die in the time between plantation and 1st weeding. The operation of casualty replacement may be combinidly done with weeding. Seedlings to be use for casualty replace should earmarked and kept reserved at the time of planting. Only healthy and stout seedlings slightly larger than those planted at the time of operation should be used. This is important because only such seedlings can catch up with those that have survived and are

growing. Before planting for casualty replacement, the following operation are to be taken up.

- The failure pit is to be dug again
- Another dose of fertilizer, farm yard manure and insecticide should be given to the pit.
- Watering is to be done generally directly after planting, if the planting is done on a dry day.

2nd Year Operation: Different Silvicultural operation as prescribed in the approved cost norm shall be adopted in 2nd year maintenance.

Casualty replacement can also be taken up in the 2nd year of the plantation. There is provision for raising another 10% of seedlings in the cost norm.

To improve and enhance the growth of plants, it is necessary to see that the plants get as much nutrients as possible and that no other plants are contesting for space, light and nutrients. Therefore, weeding and soil working must be undertaken in a newly established plantation. Soil working consists of loosening soil around the plant with a hoe or even with a pick-axe and pulling out all unwanted growth along with their roots, rhizomes, stools etc. While doing so, care should be taken to see that the root system of the planted seedling is not damaged.

Soil working within a radius of 0.5 meters around the plant should be done. Under the prevailing conditions, two weedings are considered sufficient, the first to take place a few weeks after the main planting is over, say in August and the second weeding in early winter, i.e. in October or November. Strip weeding which involves cutting of weeds flush to the ground may be confined to the place in between the planted contour lines. The cut material may be placed along the contour between two rows of plantation, which will ultimately help in conservation of soil and moisture. Soil working is equally important operation and it should be carried out at the time of each weeding. While loosening the soil, it is important to see that the soil is not pulverized but left in clods. This not only helps in checking soil erosion but also helps in moisture conservation by breaking soil capillary.

3rd Year maintenance like weeding, soil working, fireline tracing etc. Shall be taken up in 3rd year of the Plantation.

Subsequent maintenance from 4th year to 10th year like fire tracing, watch & ward shall be taken up along with pruning where necessary.

Pruning of lower branches of the seedlings planted should be done in the third and subsequent years. This operation is beneficial for the following reasons.

- They allow the plants to be healthy and stout and have knot free stems.
- It reduces fire hazard by lessening the chance of ground fire.

As per the statement narrated above 939ha area will be mined out at the end of conceptual period, out of which 689ha will be back filled and afforested through plantations and 250ha will be rehabilitated for water storage for public utility. Of course benches of water bodies shall be afforested as per the instruction of the state forest Dept.

According to the approved mining scheme/plan, during the current plan period ending on 2021-22 the following area will be afforested on approved Bald hill cost norm with 1½ year old tall seedlings and with plant population 1600 per ha.

Details of work	2016-17	2017-18 (in ha)	2018-19 (in ha)	2019-20 (in ha)	2020-21 (in ha)	2021-22 (in ha)	Total (in ha)
Back filled area to be afforested		20.982	22.779	19.862	23.392	27.592	114.607
Rehabilitation of waste land within the lease through plantation	195.520 already done	20	20	20	20	20	100.000

**Financial Forecast of Afforestation
cost for the waste land within the lease & back filled area
during the plan period**

Year	Area of plantation	Cost per ha	Total cost
2017-18	40.982	2,56,286.00	10503113.00
2018-19	42.779		10963659.00
2019-20	39.862		10216073.00
2020-21	43.392		11120762.00
2021-22	47.592		12197163.00
Total	214.607		5,50,00,070.00

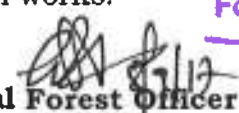
(Rupees Five crore fifty lakhs seventy only)

MONITORING & EXECUTION :

For successful implementation of the afforestation scheme, the various works are proposed to be maintained over 10 years.

A record will be maintained enlisting extent of different works taken up, period of work, material utilized and expenditure made.

The scheme may be executed departmentally through agency well experience in plantation works.


Divisional Forest Officer
Kalahandi South Division

For Utkal Alumina International Ltd.


Authorised Signatory


Divisional Forest Officer
Rayagada Division


Regional Chief Conservator of Forests
Bhawanipatna Circle, Bhawanipatna


Regional Chief Conservator of Forests
KORAPUT CIRCLE

ANNEXURE- I

GOVT. APPROVED COST NORM FOR RAISING 1000 SEEDLINGS WITH MAINTENANCE UPTO 1½ YEARS (ANNEXURE -2 OF COST NORM APPROVED BY PCCF, ODISHA)

Wage Rate Rs. 200/- per day								
Sl. No		Preferable period of execution	Unit	Unit cost	No./ Quantity	Labour cost (Rs.)	Material Cost (Rs.)	Total cost (Rs.)
A. COSTS FOR 6 MONTHS OLD SEEDLINGS								
1	Cost of Polythene (9" x 5" x 160) 400 nos/Kg = 2.5Kg		Kg.	170	2.5	0	425	425
2	Polypot Mixture (Soil, sand and CDM in ratio (2:1:1)							
	(i) Soil @ 8/- cft		Cft	8	22	0	176	176
	(ii) Sand @ 12/- cft		Cft	12	11	0	132	132
	(iii) CDM @ 15/- cft		Cft	15	12	0	180	180
	(iv) Insecticide (Thimate) 2kg @ 80/- kg.		Kg	80	2	0	160	160
3	Preparation of Soil Mixture includes pulverisation and straining	November-December	MD	200	2	400	0	400
4	Filling & Setting	November-December	MD	200	2	400	0	400
5	Collection of seed grading & treatment	December	MD	200	2	400	0	400
6	Preparation of germination bed, dibbling/transplanting & provision of shed (including cost of straw, bamboo, split etc)	January	MD	200	2	400	200	600
7	Watering (January to March)	January-March	MD	200	9	1800	0	1800
8	Maintenance of Nursery including Fencing upto March	January-March	MD	200	8	1600	400	2000
9	Watering for 3 months (April to June)	April-June	MD	200	9	1800	0	1800
10	Sorting, weeding, grading and resecting	May-June	MD	200	3	600	0	600
11	Application of insecticides	May-June	MD	200	0.25	50	0	50
12	Contingencies (Water can, Buckets, Nursery shed etc.)					0	327	327
	Total					7450	2000	9450

B. COST UPTO END OF FINANCIAL YEAR								
1	Watering (October to March)	October-March	MD	200	19	3800	0	3800
2	Sorting, weeding, grading and resetting over one year period	October - November	MD	200	9	1800	0	1800
3	Application of insecticides (Cost)	November-December	MD	200	0.2	40	30	70
4	Contingencies						550	550
	Total					5640	580	6220
C. COST DURING SUBSEQUENT FINANCIAL YEAR- Seedlings are to be shifted to larger polythene bag to avoid root coiling etc.								
1	Poly pot (12" x 8" x 300 gauge)		Kg	170	12.5	0	2125	2125
2	Potting mixture							0
	(iv) Soil @ 8/- cft		Cft	8	55	0	440	440
	(v) Sand @ 12/- cft		Cft	12	27	0	324	324
	(vi) CDM @ 15/- cft		Cft	15	28	0	420	420
	(iv) Insecticide (Thimate) 2kg @ 80/- kg.		Kg	80	2	0	160	160
3	Preparation of potting mixture including pulverisation & straining	January	MD	200	3	600	0	600
4	Filling of polythene bags including repotting and setting	March	MD	200	20	4000	0	4000
5	Watering for 3 months (April to June)	April-June	MD	200	10	2000	0	2000
6	Weeding shifting & gardening through out the year	May-June	MD	200	2	400	0	400
7	Application of insecticides	May-June	MD	200	0.5	100	100	200
8	Contingencies		MD				421	421
	Total					7100	3990	11090
ABSTRACT								
A	Cost for 6 months old seedling					7450	2000	9450
B	Cost upto End of financial Year					5640	580	6220
C	Cost During subsequent financial year					7100	3990	11090
	Total					20190	6570	26760

Wage rate @ Rs. 200/- per manday

(a) Cost for 6 months old seedlings Rs. 9.45

(b) Cost for 1 year and 6 months old seedlings Rs. 26.76

8
Divisional Forest Office
Rayagada Division

ANNEXURE-II

GOVT. APPROVED COST NORM FOR BALD HILL PLANTATION

@ 1600 PLANTS PER HA

(ANNEXURE - 12 OF COST NORM APPROVED BY PCCF, ODISHA)

Sl. No.	Item of work	Preferable period of execution	Manday	Labour cost @ Rs. 200 per day	Material Cost per ha. in Rs.	Total cost per ha in Rs.
Preparatory Operation (0th year)						
1	Survey and Demarcation	June	2	400	0	400
2	Fencing					
	i. For an average of 126 meters @ Rs. 56.57/- per meter for bamboo twigs and bamboo thorn fencing (LM=40-60)	June-Sept	19	3800	4280	8080
	ii. To be strengthened by planting of bamboo and other seedlings in two rows, Bamboo to be planted at 2 meter spacing in staggered manner on the two rows and the rest of the species to be planted at ½ meter spacing along the two rows the rows being 2m apart. Thus 500 plant (125 bamboo and 375 others) to be planted in two rows to cover 126m of periphery/Ha by the vegetative fence. (Bamboo seedlings @ Rs. 9.45 per seedlings x 125 = Rs. 1181.00 Agave seedling @ Rs. 3.50 per seedling x 375 = Rs. 1312.00)	June-Sept	11	2200	2493	4693
3	Pitting (1600 per ha) each pit- 45 cm 3	Nov-Dec	128	25600	0	25600
4	Soil and Water conservation measures					
	a. Staggered trench along the contour @ 300 per ha (2.5m x 0.5m x 0.5m) digging of percolation pits @ 600 per ha in lieu of staggered trenches gully plugging and Drainage line treatment half moon trench on the uphill side of each planting pit (100MD for staggered trench/percolation pits and 30MD for gully plugging drainage line treatment and half moon trench)	Sept-Nov	130	26000	0	26000
	b. Site clearance- 8 MD alignment and staking of contour lines on ground planting pits. Contour trenches/percolation pits and check dam sites etc - 2MD	July-August	10	2000	0	2000

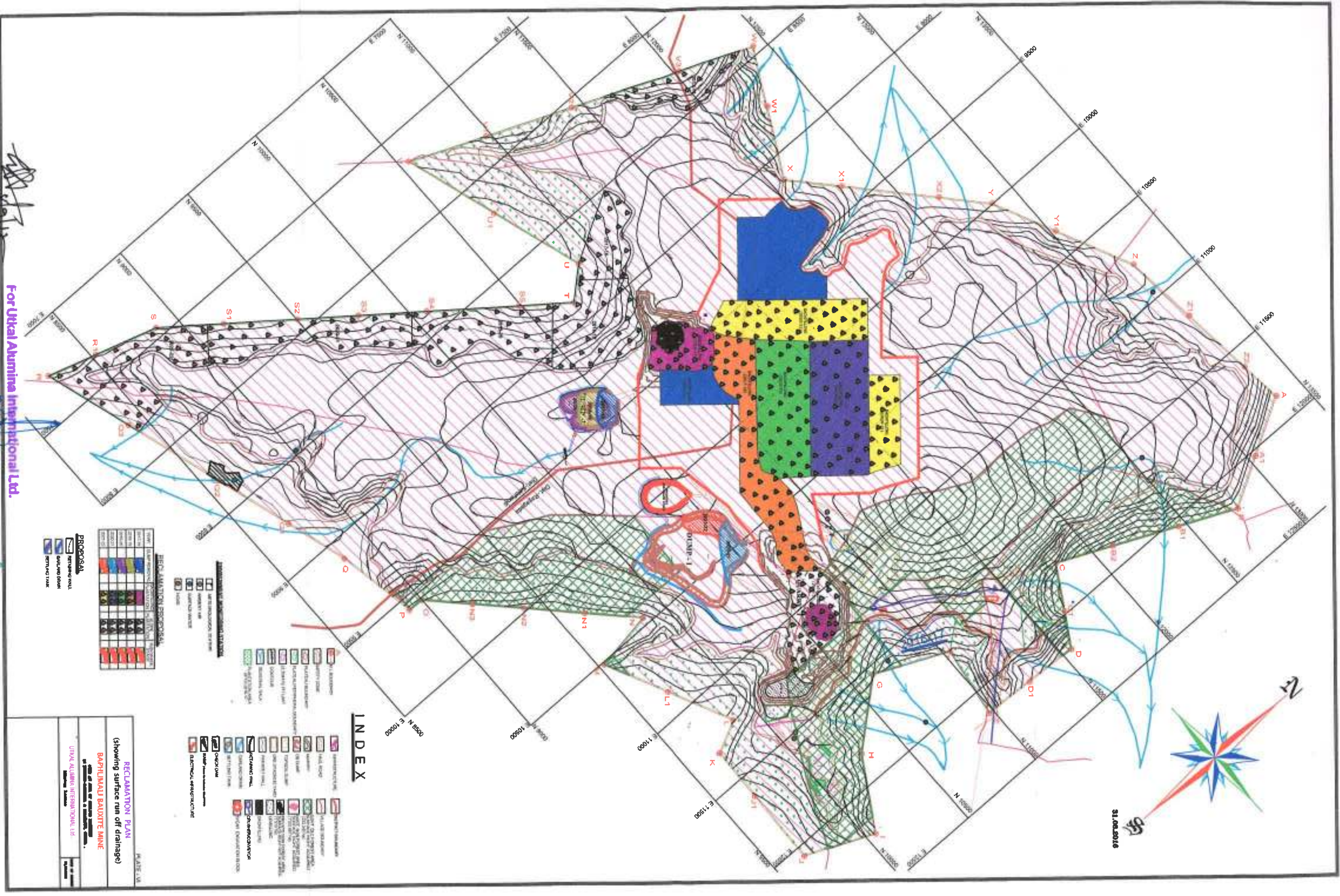
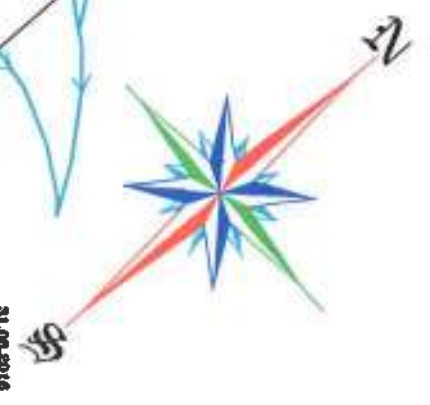
5	Raising of seedlings in poly bags (One year six months old @ Rs. 26.76) seedling (Rs. 15.67 in 0 th year) Part (1760 saplings to be raised for one ha. from 0 th year Nov. to end of next financial year @ Rs. 27579/-)	October-March & End of next financial year.	115	23000	4579	27579
Total 0th Year			415	83000	11352	94352
Planting Operation (1st year)						
1	Cost of saplings (balance) from January-June/July @Rs. 11.09 per seedlings for 1760 seedlings = Rs. 19518/-.	April-July	62	12400	7118	19518
2	Freshening of pits - 64 MD, filling with fertile soil and farm yard manure (FYM) - 24 MD. Application of insecticide and planting of 60 cm tall saplings including carriage of plants -21 MD.	June-July	109	21800	0	21800
3	Cost of fertile soil 0.25 cft @ Rs. 8.00 per cft. FTN 0.25 cft @ 15.00 per cft, per pit.		0	0	9200	9200
4	Sowing of seeds on dug out earth of trench	June	6	1200	200	1400
5	Carriage -6 MD, planting including casualty replacement-6 MD, fertiliser application - 5 MD, 1 st weeding-7 MD, 2 nd weeding -5 MD, soil working -7 MD.	July-August	36	7200	0	7200
6	Cost of fertiliser and insecticide (Granular insecticide @ 5 gms/plant @ Rs. 80/- per kg= Rs. 640.00, NPK 100 gms/plant in two doses @ Rs. 24/- per kg = 3840		0	0	4480	4480
7	Repair and maintenance of bamboo fence including material cost	Aug.-Oct.	15	3000	2540	5540
8	Maintenance of soil and Moisture Conservation measures (20% of cost).	Oct.-Dec.	25	5200	0	5200
9	Closure to grazing fire and other biotic interference by engaging watch & ward.	April-March	30	6000	0	6000
10	Fire tracing and control display board construction painting/writing other miscellaneous cost.	Jan.-Feb.	10	2000	360	2360
Total 1st Year			293	58800	23898	82698
Maintenance Operation (2nd year)						
1	Casualty replacement - 6 MD including seedling cost @ Rs. 9.45 per seedling and its transportation	June-July	10	2000	1512	3512
2	Soil working-7 MD, 1 st weeding-6 MD and fertilizer application-4 MD	Aug.-Oct.	23	4600	0	4600
3	Cost of fertilizer @ 50 gms NPK per plant @ Rs. 24/- per kg. for 1600 plants = Rs. 1920/-, Insecticide @ 5 gm. per plant for 160 nos. of plants @ Rs. 80 per kg. = 64.00		0	0	1984	1984

4	Repair and maintenance of bamboo fence including material cost	Aug.-Oct.	15	3000	2540	5540
5	Maintenance of Soil and Moisture Conservation measures (20% of cost)	Aug.-Oct.	26	5200	0	5200
6	Fire tracing and control and other miscellaneous cost	Feb.-March	10	2000	0	2000
7	Closure to grazing, fire and other biotic interference by engaging watch and ward	April-March	30	6000	0	6000
Total 2nd Year			114	22800	6036	28836
Maintenance Operation (3rd year)						
1	Repair and maintenance of fence-15 MD/(in case of barbed wire fencing Rs. 9000/- for repair), SMC measures (Renovation)-26 MD and maintenance of plantation-14 MD as per requirement	April-March	55	11000	500	11500
2	Closure to grazing fire and other biotic interference by engaging watch and ward.	April-March	18	3600	0	3600
Total 3rd Year			73	14600	500	15100
Maintenance Operation (4th year)						
1	Repair and maintenance of fence-13 MD/no maintenance in case of barbed wire fencing, SMC measures-21 MD and maintenance of plantation-14 MD	April-March	48	9600	500	10100
2	Closure to grazing fire and other biotic interference by engaging watch and ward.	April-March	18	3600	0	3600
Total 4th Year			66	13200	500	13700
5th year to 10th year @ 18 manday per year			108	21600		21600

ABSTRACT

Sl. No.	Year	Mandays	Labour cost in Rs.	Material cost in Rs.	EPA in Rs.	Total in Rs.
1	0 th year	415	83000	11352		94352
2	1 st year	293	58800	23898		82698
3	2 nd year	114	22800	6036		28836
4	3 rd year	73	14600	500		15100
5	4 th year	66	13200	500		13700
	5 th year to 10 th year	108	21600			21600
	Total	1069	214000	42286		256286

Cost norm of bald hill plantation @ 1600 plants per ha as per the approved cost norm in Annexure- 12 of PCCF, Odisha circular has been revised in nursery item where 1½ year old seedling (Annexure-2 of the circular) have been proposed instead of six month old seedling for better survivability of plantation in mine void filling area.



INDEX

- 1. BOUNDARY
- 2. ROAD
- 3. FENCE
- 4. WATER COURSE
- 5. DRAINAGE
- 6. CATCHMENT AREA
- 7. CATCHMENT AREA
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PROPOSED	EXISTING	REMARKS
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100	101	102

RECLAMATION PLAN
(showing surface run off drainage)

BAPILMALI BAUXITE MINE
UTKAL ALUMINA INTERNATIONAL LTD.
Rayagada Division

Divisional Forest Officer
Kalahandi South Division
For Utkal Alumina International Ltd.
Authorised Signatory

Divisional Forest Officer
Rayagada Division

8/29/2017

NEF

Annexure - 15

AGENCY COPY	
NEFT / RTGS CHALLAN for Ad-HOC CAMPA	
Date : 29-08-2017	
Agency Name.	M/S HINDALCO INDUSTRIES LTD.
Application No.	109140062015073
Location.	ORRISA
Address.	Century Bhavan, 3rd Floor, Dr. Annie Besant Road, Mumbai City
Amount(In Rs)	134118420/-
Amount in Words :Thirteen Crore Forty-One Lakh Eighteen Thousand Four Hundred and Twenty Rupees Only	
SBINR5201725000009064	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	CORP0000633
Pay to Account No.	15082109140062015073
Bank Name & Address:	Corporation Bank FCS Bangalore, * Note : The proceeds of the payment will be credited to the respective CAMPA State Account.
• This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

After making successful payment, User Agencies m
Email: helpdeskampa@corpbank.co.in


Divisional Forest Officer
Rayagada Division

AGENCY COPY	
NEFT / RTGS CHALLAN for Ad-HOC CAMPA	
Date : 29-08-2017	
Agency Name.	M/S HINDALCO INDUSTRIES LTD.
Application No.	109140062015073
Location.	ORRISA
Address.	Century Bhavan, 3rd Floor, Dr. Annie Besant Road, Mumbai City
Amount(in Rs)	1341184207
Amount in Words :Thirteen Crore Forty-One Lakh Eighteen Thousand Four Hundred and Twenty Rupees Only	
SB/NR5201708000009064	
NEFT/RTGS to be made as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	CORP0000633
Pay to Account No.	15082109140062015073
Bank Name & Address:	Corporation Bank FCS Bangalore, * Note : The proceeds of the payment will be credited to the respective CAMPA State Account.
• This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

After making successful payment, User Agencies m
Email: helpdeskampa@corpbank.co.in

[Signature]
7/3/9/12
Divisional Forest Officer
Rayagada Division

**SCHEME
FOR
RECLAMATION AFFORESTATION
&
BIOLOGICAL RECLAMATION
IN THE MINED OUT UNDULATING AREAS
OF
BAPHLIMALI MINING PROJECT
OF
M/s UAIL IN RAYAGADA DISTRICT ODISHA.**

Compliance to : The additional condition No. 4 stipulated by the State Govt. in F & E Deptt. while communicating Stage-I forest clearance accorded vide **F.No.8-18/2016-P.C** dt 29.06.2017 of MoEF, in their Memo No. 14843 dt.15.07.2017

INTRODUCTION:

Government of India in the Ministry of Environment, Forests & Climate Change have approved Stage-I forest clearance vide **F.No.8-18/2015-F.C dt 29.06.2017** for diversion of 233.343 ha. forest area in Baphimali Bauxite Mines of UAIL Ltd. In this approval order of MoEF& CC, the State Govt. in F & E Deptt. has stipulated in additional condition No. 4 communicated vide Memo No. 14343 dt 15.07.2017 to be fulfilled before Stage-II forest clearance is accorded. The condition no. 4 of the Stage-I forest clearance is read as under:

"Reclamation and afforestation scheme and biological reclamation for this mining project shall be provided by the User Agency"

In order to comply with the conditions, the current scheme is prepared for Reclamation and Afforestation and Biological reclamation for the project within Baphimali Bauxite M.L area spreading over 1388.748ha.

OBJECTIVE:

1. To meet the requirement of the stipulation imposed by the F&E Deptt. Govt. of Odisha in condition No.4 communicated vide Memo No. 14843 dt. 15.07.2017 of F & E Deptt. Govt. of Odisha.
2. The main objective and approach of the scheme of reclamation, afforestation & bio-logical reclamation is to reclaim and stabilize the mined out undulating areas by taking up plantation along the benches and back filled areas with required soil and moisture conservation measures so as to check up soil erosion and runoff as well as to enrich the reclaimed areas with green vegetation and to bring back original eco-system.

ITEM OF WORK TO BE TAKEN UP :

- a) **RECLAMATION** : The process of scientific reclamation of the mine void areas are as under.
 - > Dumping the overburden in the mined out area layer by layer.
 - > Dosing it to make the flat terrain.
 - > Spreading of fertile topsoil over the backfilled area, suitable soil treatment to regain the fertility of the land which is part of biological reclamation to allow germination of grasses, herbs and shrubs. This will add humus and other soil micro-organism to the soil for natural germination and to make land suitable for afforestation.
- b) **Afforestation** : This will be taken up in the backfilled areas by applying fertile soil, farmyard manure and in organic fertilizer to the plantation in phased manner with 10 years maintenance. As the plantation will be taken up in a complete barren land devoid of fertility, B&H hill cost norm as approved by the PCCP, Odisha shall be adopted while taking up plantation. Plantation shall be taken up with drought hardy, light demander species at a spacing of 2.5mtr x 2.5 mtr with plant population 1600 per ha.

Out of 939 hectares mined out area, 689 hectares will be reclaimed by way of concurrent back-filling and plantation. Total generation of OB (including topsoil) is 66.704 Million m³ and there is an ample scope of reclamation (backfilling & plantation) of mined out area in a progressive, sequential & scientific manner.

Topsoil contains beneficial bacteria and other organisms that assist newly planted trees to grow over the back-filled area which will be planted with native indigenous species for conservation of flora & fauna after spreading the topsoil over the overburden.

A total of 1,32,189 m³ topsoil is available in the casting stack. Average thickness of top (fertile) soil is to be 0.17m thick which will be scrapped off and stored during the mining plan period.

Presently the available topsoil is 1,32,189 m³, out of the total topsoil of 25,68,167 m³ which will be generated during the life of the mine.

Post Mining Land Use Plan : Post mining land use pattern of M.L area will include plantation, reclamation, rehabilitation and road as per the following table :

Type of post mining land use	Non-Forest Area (ha)	Forest Area (ha)	Area (ha)	
Reclamation (back-filling and plantation) of mined out area	550.890	138.10	689.000	939
Rehabilitation (water storage) of mined out area	250.000	—	250.000	
Road	2.000	—	2.000	
Infrastructure	1.386	7.834	9.220	
Green belt / Plantation	320.991	76.529	397.520	
Peripheral barrier	30.130	10.870	41.000	
Total	1155.397	233.343	1388.740	

The land to be degraded by way of mining/excavation conceptually and reclamation to be done against the land degradation are as follows :

Land Degradation / Rehabilitation		As at the end of plan period (ha)	As at the end of conceptual period (ha)
Land under mining / excavation		239.800	939.000
Reclamation	Back-filling	121.278	689.000
	Plantation		
Rehabilitation	Water storage	—	250.000

Plantation in the levelled area will be executed concurrently in approved plan period and onwards.

Summary of yearwise proposal: The information on protective measures for reclamation and rehabilitation works year wise may be provided as per the following table :

Items	Details	As on 2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Dump management	Area to be afforested (ha)						
	No of saplings to be planted						
	Cumulative no of plants						
	Cost including watch and care during the year (Rs.)						
Management of worked out benches	Area available for rehabilitation (ha)						
	Afforestation done (ha)						
	No of saplings to be planted in the year						
	Cumulative no of plants						
	Any other method of rehabilitation (specify)						
	Cost including watch and care during the year						

Reclamation and rehabilitation by backfilling	Void available for Backfilling (L x B x D) pit wise /slope wise (ha)	50.361	49.265	29.430	28.994	34.298	47.452
	Void filled by OB / tailings (ha)	20.982	22.779	19.862	23.392	27.592	27.653
	backfilled area to be afforested (ha)	---	20.982	22.779	19.862	23.392	27.592
	Rehabilitation by making water reservoir	---	---	---	---	---	---
	Any other means (specify)	---	---	---	---	---	---
Rehabilitation of waste land within lease	Area available (slope area) (ha)	195.520	195.520	175.520	155.520	135.520	115.520
	Area to be rehabilitated (ha)	195.520	20	20	20	20	20
	Method of rehabilitation	Plantation	Plantation	Plantation	Plantation	Plantation	Plantation
Others (specify)	Retaining wall (Dump-1 & sub-grade stack)	700m x 0.8m x 1m	635m x 1m x 1.5m	---	---	---	---
	Garland drain (Dump-1 & sub-grade stack)	1060m x 2.8m x 1m	635m x 1m x 1.5m	---	---	---	---
	Settling tank (Dump-1)	10m x 8m x 2.2m (3 nos.)	---	---	---	---	---
	Retaining wall (Dump-2)	268m x 0.8m x 1m	400m x 1m x 1.5m	---	---	---	---
	Garland drain (Dump-2)	300m x 2.8m x 1m	635m x 1m x 1.5m	---	---	---	---
	Settling tank (Dump-2)	10m x 8m x 2.2m	---	---	---	---	---
	Garland drain (Topsoil stack)	362m x 3m x 0.6m	---	---	---	---	---

AFFORESTATION

Afforestation shall be taken up in the back fill areas as per the statement given in the above format during the plan period i.e. upto 2021-22 and at the end of conceptual period

- Block plantation with a spacing of 2.5mtr x 2.5mtr with plant population of 1600 plants per ha will be taken up in the back filled areas with suitable soil and moisture conservation measures with subsequent maintenance up to 10th years.

The Baphlimali hill top is devoid of any vegetative cover, hence the top soil scrapped on the hill top during the course of bauxite mining is un-fertile & devoid of any humus content.

The moisture holding capacity of the top soil is very poor due to lack of humus content and other organic matter. Therefore, the survival and growth of planted indigenous species in the backfilled areas will not be tenable. Hence it is desirable to provide the pits with fertile earth, cow dung manure and chemical fertilizers before plantation.

There is also provision for required soil and moisture conservation measure along with additional in-puts like fertile earth, farm yard manure etc for the plants in this cost norm.

Besides the above input attention must be given to the robustness of the seedling and shall be used for better growth and survival. The species to be planted should be indigenous, drought hardy to withstand the adverse climatic condition.

Choice of Species

Karanja	<i>Pongamia pinnata</i>
Sisoo	<i>Dalbergia sisoo</i>
Babul	<i>Acacia nilotica</i>
Su-babul	<i>Leucaena leucocephala</i>
DhalaSiris	<i>Albizia procera</i>
Anla	<i>Embilica officinalis</i>
Neem	<i>Azadirachta indica</i>

In the peripheral areas that are susceptible to grazing, Chakurda, Krushnachuda and Radhachuda be planted.

Concurrent Mining & reclamation through backfilling, already implemented.

There will be no external waste dumping after 2022 onwards. By end of 2022, Dump-2 (Kalahandi Dump) shall be evacuated completely & utilised for the backfilling purpose & subsequently the next waste dump i.e. Dump-1 (Rayagada Dump) shall be utilised in the similar pattern.

There shall not any separate preservation arrangement for the top-soil, shall be utilised concurrently for the rehabilitation purposes. Rehabilitation shall be taken up through Tree Plantation.

The tree plantation activities have started after soil testing & selecting the appropriate species.

Present Status:

Sl.No	Particulars	Area in Ha	
		As per Scheme of Mining (2017-18)	Present Status
1.	Reclaimed Area (Void filled by OB/tailings)	22.779	22.779
2.	Rehabilitation (Backfilled area to be afforested)	Complete reclamation area rehabilitated thru trees plantation as per the guidance of Forest Regional office.	

The planting should be preferable be taken up with one and half year old seedlings i.e. second year seedlings raised in poly-bags of size 12 inch x 9 inch maintained in the nursery. As the seedlings are indigenous species and slow growing, it is proposed to plant 1½ year old seedlings. The approved cost norm for raising 1½ year seedlings is enclosed as **Annexure-I**. In case of Bamboo and pre-sprouted seedling from rhizomes should be used for plantation purpose.

The best time of planting of the potted seedling is soon after the on-set of regular monsoon or after a good shower of rain. Before planting, the pits are to be treated with good earth and farm yard manure, basal dose fertilizer as prescribed in the cost norm of bald hill plantation (**Annexure-II**). The following precautions shall be taken during the handling of saplings from nursery.

- Roots escaping from the container should be trimmed
- Plant should be stripped off lower bigger leaf
- All large side branches should be pruned
- Pots containing the plant should be watered

At the time of transportation, care should be taken so that the ball of earth of the poly pots does not get disturbed and the shoots are not broken. Manual transportation should be given preference.

Planting should be taken up on rainy/cloudy days by adopting all standard techniques of plantation.

Seedling die due to various causes like heavy rains, drought, fire and grazing etc. But in a well-managed plantation, where the planting stock consists of healthy and stout seedlings, say about 10% may die in the time between plantation and 1st weeding. The operation of casualty replacement may be conveniently done with weeding. Seedlings to be use for casualty replace should earmarked and kept reserved at the time of planting. Only healthy and stout seedlings slightly larger than those planted at the time of operation should be used. This is important because only such seedlings can catch up with those that have survived and are

growing. Before planting for casualty replacement, the following operation are to be taken up.

- The failure pit is to be dug again
- Another dose of fertilizer, farm yard manure and insecticide should be given to the pit.
- Watering is to be done generally directly after planting, if the planting is done on a dry day.

2nd Year Operation: Different Silvicultural operation as prescribed in the approved cost norm shall be adopted in 2nd year maintenance.

Casualty replacement can also be taken up in the 2nd year of the plantation. There is provision for raising another 10% of seedlings in the cost norm.

To improve and enhance the growth of plants, it is necessary to see that the plants get as much nutrients as possible and that no other plants are contesting for space, light and nutrients. Therefore, weeding and soil working must be undertaken in a newly established plantation. Soil working consists of loosening soil around the plant with a hoe or even with a pick-axe and pulling out all unwanted growth along with their roots, rhizomes, stools etc. While doing so, care should be taken to see that the root system of the planted seedling is not damaged.

Soil working within a radius of 0.5 meters around the plant should be done. Under the prevailing conditions, two weedings are considered sufficient, the first to take place a few weeks after the main planting is over, say in August and the second weeding in early winter, i.e. in October or November. Strip weeding which involves cutting of weeds flush to the ground may be confined to the place in between the planted contour lines. The cut material may be placed along the contour between two rows of plantation, which will ultimately help in conservation of soil and moisture. Soil working is equally important operation and it should be carried out at the time of each weeding. While loosening the soil, it is important to see that the soil is not pulverized but left in clods. This not only helps in checking soil erosion but also helps in moisture conservation by breaking soil capillary.

3rd Year maintenance like weeding, soil working, fireline tracing etc. Shall be taken up in 3rd year of the Plantation.

Subsequent maintenance from 4th year to 10th year like fire tracing, watch & ward shall be taken up along with pruning where necessary.

Pruning of lower branches of the seedlings planted should be done in the third and subsequent years. This operation is beneficial for the following reasons.

- They allow the plants to be healthy and stout and have knot free stems.
- It reduces fire hazard by lessening the chance of ground fire.

As per the statement narrated above 939ha area will be mined out at the end of conceptual period, out of which 689ha will be back filled and afforested through plantations and 250ha will be rehabilitated for water storage for public utility. Of course benches of water bodies shall be afforested as per the instruction of the state forest Dept.

According to the approved mining scheme/plan, during the current plan period ending on 2021-22 the following area will be afforested on approved Bald hill cost norm with 1½ year old tall seedlings and with plant population 1600 per ha.

Details of work	2016-17	2017-18 (in ha)	2018-19 (in ha)	2019-20 (in ha)	2020-21 (in ha)	2021-22 (in ha)	Total (in ha)
Back filled area to be afforested	-	20.982	22.779	19.862	23.392	27.592	114.607
Rehabilitation of waste land within the lease through plantation	195.520 already done	20	20	20	20	20	100.000

**Financial Forecast of Afforestation
cost for the waste land within the lease & back filled area
during the plan period**

Year	Area of plantation	Cost per ha	Total cost
2017-18	40.982	2,56,286.00	10503113.00
2018-19	42.779		10963659.00
2019-20	39.862		10216073.00
2020-21	43.392		11120762.00
2021-22	47.592		12197163.00
Total	214.607		5,50,00,070.00

(Rupees Five crore fifty lakhs seventy only)


MONITORING & EXECUTION :

For successful implementation of the afforestation scheme, the various works are proposed to be maintained over 10 years.

A record will be maintained enlisting extent of different works taken up, period of work, material utilized and expenditure made.

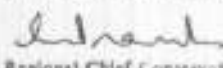
The scheme may be executed departmentally through agency well experience in plantation works.


For Utkal Alumina International Ltd


Divisional Forest Officer
Kalahandi(S) Division
Divisional Forest Officer
Kalahandi South Division

Authorised Signatory


Divisional Forest Officer
Rayagada Division
Divisional Forest Officer
Rayagada Division


Regional Chief Conservator of Forests
Bhanupatna Circle, Bhanupatna


Regional Chief Conservator of Forests
KORAPUT CIRCLE

ANNEXURE-1

GOVT. APPROVED COST NORM FOR RAISING 1000 SEEDLINGS WITH MAINTENANCE UPTO 1½ YEARS (ANNEXURE -2 OF COST NORM APPROVED BY PCCF, ODISHA)

Sl. No	Wage Rate Rs. 200/- per day							
	Preferable period of execution	Unit	Unit cost	No./ Quantity	Labour cost (Rs.)	Material Cost (Rs.)	Total cost (Rs.)	
A. COSTS FOR 6 MONTHS OLD SEEDLINGS								
1	Cost of Polythene (9" x 5" x 160) 400 nos/Kg = 2.5Kg	Kg.	170	2.5	0	425	425	
2	Polypot Mixture (Soil, sand and CDM in ratio (2:1:1))							
	(i) Soil @ 8/- cft	Cft	8	22	0	176	176	
	(ii) Sand @ 12/- cft	Cft	12	11	0	132	132	
	(iii) CDM @ 15/- cft	Cft	15	12	0	180	180	
	(iv) Insecticide (Thimate) 2kg @ 80/- kg.	Kg	80	2	0	160	160	
3	Preparation of Soil Mixture includes pulverisation and straining	November-December	MD	200	2	400	0	400
4	Filling & Setting	November-December	MD	200	2	400	0	400
5	Collection of seed grading & treatment	December	MD	200	2	400	0	400
6	Preparation of germination bed, dibbling/transplanting & provision of shed (including cost of straw, bamboo, split etc)	January	MD	200	2	400	200	600
7	Watering (January to March)	January-March	MD	200	9	1800	0	1800
8	Maintenance of Nursery including Fencing upto March	January-March	MD	200	8	1600	400	2000
9	Watering for 3 months (April to June)	April-June	MD	200	9	1800	0	1800
10	Sorting, weeding, grading and reselecting	May-June	MD	200	3	600	0	600
11	Application of insecticides	May-June	MD	200	0.25	50	0	50
12	Contingencies (Water can, Buckets, Nursery shed etc.)				0	327	327	
	Total				7450	2000	9450	

B. COST UPTO END OF FINANCIAL YEAR								
1	Watering (October to March)	October-March	MD	200	19	3800	0	3800
2	Sorting, weeding, grading and resetting over one year period	October - November	MD	200	9	1800	0	1800
3	Application of insecticides (Cost)	November-December	MD	200	0.2	40	30	70
4	Contingencies						550	550
	Total					5640	580	6220
C. COST DURING SUBSEQUENT FINANCIAL YEAR- Seedlings are to be shifted to larger polythene bag to avoid root coiling etc.								
1	Poly pot (12" x 8" x 300 gauge)		Kg	170	12.5	0	2125	2125
2	Potting mixture							0
	(iv) Soil @ 8/- cft		Cft	8	55	0	440	440
	(v) Sand @ 12/- cft		Cft	12	27	0	324	324
	(vi) CDM @ 15/- cft		Cft	15	28	0	420	420
	(iv) Insecticide (Thimate) 2kg @ 80/- kg.		Kg	80	2	0	160	160
3	Preparation of potting mixture including pulverisation & straining	January	MD	200	3	300	0	600
4	Filling of polythene bags including repotting and setting	March	MD	200	20	4000	0	4000
5	Watering for 3 months (April to June)	April-June	MD	200	10	2000	0	2000
6	Weeding shifting & guarding through out the year	May-June	MD	200	2	400	0	400
7	Application of insecticides	May-June	MD	200	0.5	100	100	200
8	Contingencies		MD				421	421
	Total					7100	3990	11090
ABSTRACT								
A	Cost for 6 months old seedling					7150	2000	9450
B	Cost upto End of financial Year					5640	580	6220
C	Cost During subsequent financial year					7100	3990	11090
	Total					20190	6570	26760

Wage rate @ Ra. 200/- per manday

(a) Cost for 6 months old seedlings Ra. 9.45

(b) Cost for 1 year and 6 months old seedlings Ra. 26.76

8
Divisional Forest Officer
Rayachoti Division

ANNEXURE-II

**GOVT. APPROVED COST NORM FOR BALD HILL PLANTATION
@ 1600 PLANTS PER HA
(ANNEXURE - 12 OF COST NORM APPROVED BY P.C.F., ODISHA)**

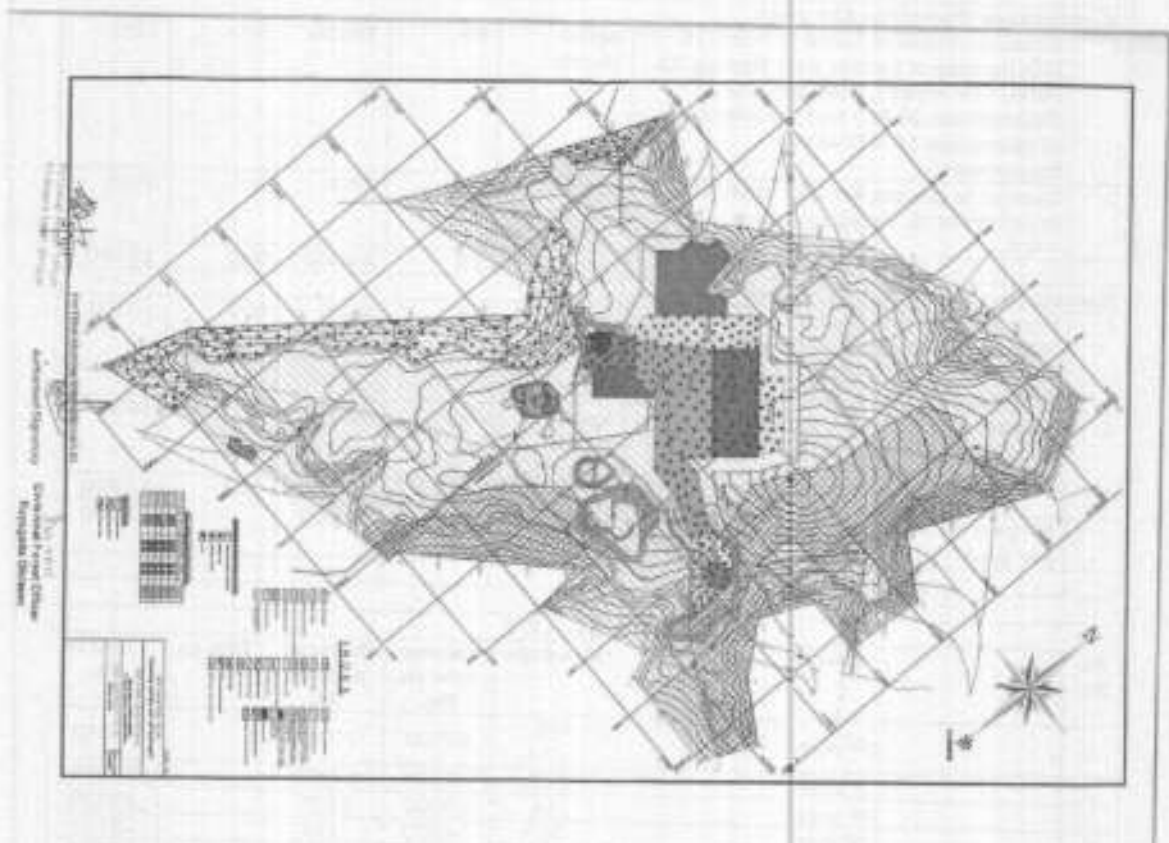
Sl. No.	Item of work	Preferable period of execution	Manday	Labour cost @ Rs. 200 per day	Material Cost per ha. in Rs.	Total cost per ha in Rs.
Preparatory Operation (0th year)						
1	Survey and Demarcation	June	2	400	0	400
2	Fencing					
	i. For an average of 126 meters @ Rs. 56.57/- per meter for bamboo twigs and bamboo thorn fencing (LM=40-60)	June-Sept	19	3800	4280	8080
	ii. To be strengthened by planting of bamboo and other seedlings in two rows. Bamboo to be planted at 2 meter spacing in staggered manner on the two rows and the rest of the species to be planted at ½ meter spacing along the two rows the rows being 2m apart. Thus 500 plant (125 bamboo and 375 others) to be planted in two rows to cover 126m of periphery/Ha by the vegetative fence. (Bamboo seedlings @ Rs. 9.45 per seedlings x 125 = Rs. 1181.00 Agave seedling @ Rs. 3.50 per seedling x 375 = Rs. 1312.00)	June-Sept	11	2200	2493	4693
3	Pitting (1600 per ha) each pit- 45 cm 3	Nov-Dec	128	25600	0	25600
4	Soil and Water conservation measures					
	a. Staggered trench along the contour @ 300 per ha (2.5m x 0.5m x 0.5m) digging of percolation pits @ 600 per ha in lieu of staggered trenches gully plugging and Drainage line treatment half moon trench on the uphill side of each planting pit (100MD for staggered trench/percolation pits and 30MD for gully plugging drainage line treatment and half moon trench)	Sept-Nov	130	26000	0	26000
	b. Site clearance- 8 MD alignment and staking of contour lines on ground planting pits. Contour trenches/percolation pits and check dam sites etc - 2MD	July-August	10	2000	0	2000

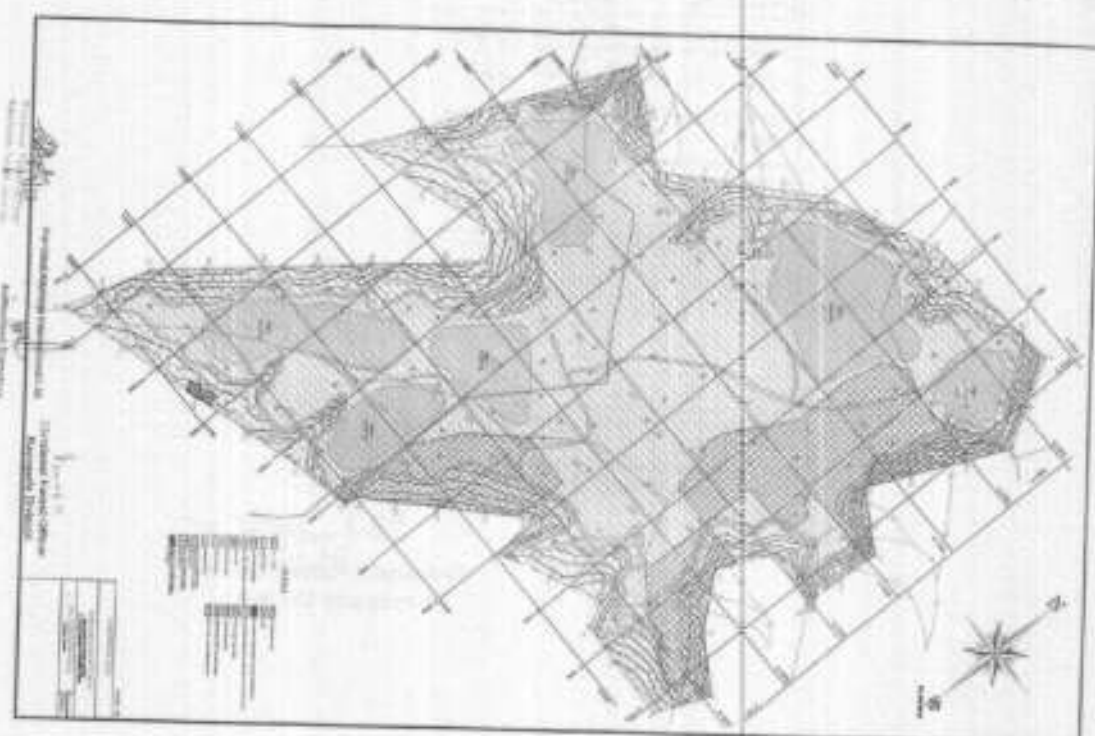
5	Raising of seedlings in poly bags (One year six months old @ Rs. 26.76) seedling (Rs. 15.67 in 0 th year) Part (1760 saplings to be raised for one ha. from 0 th year Nov. to end of next financial year @ Rs. 27579/-)	October-March & End of next financial year.	115	23000	4579	27579
Total 0th Year			415	83000	11352	94352
Planting Operation (1st year)						
1	Cost of saplings (balance) from January-June/July @Rs. 11.09 per seedlings for 1760 seedlings = Rs. 19518/-	April-July	62	12400	7118	19518
2	Freshening of pits - 64 MD, filling with fertile soil and farm yard manure (FYM) - 24 MD. Application of insecticide and planting of 60 cm tall saplings including carriage of plants -21 MD.	June-July	109	21800	0	21800
3	Cost of fertile soil 0.25 cft @ Rs. 8.00 per cft. PTN 0.25 cft @ 15.00 per cft, per pit.		0	0	9200	9200
4	Sowing of seeds on dug out earth of trench	June	6	1200	200	1400
5	Carriage -6 MD, planting including casualty replacement-6 MD, fertiliser application - 5 MD, 1 st weeding-7 MD, 2 nd weeding -5 MD, soil working -7 MD.	July-August	36	7200	0	7200
6	Cost of fertiliser and insecticide (Granular insecticide @ 5 gms/plant @ Rs. 80/- per kg = Rs. 640.00, NPK 100 gms/plant in two doses @ Rs. 24/- per kg = 3840		0	0	4480	4480
7	Repair and maintenance of bamboo fence including material cost	Aug.-Oct.	15	3000	2540	5540
8	Maintenance of soil and Moisture Conservation measures (20% of cost).	Oct.-Dec.	25	5200	0	5200
9	Closure to grazing fire and other biotic interference by engaging watch & ward.	April-March	30	6000	0	6000
10	Fire tracing and control display board construction painting/writing other miscellaneous cost.	Jan.-Feb.	10	2000	360	2360
Total 1st Year			293	58800	23898	82698
Maintenance Operation (2nd year)						
1	Casualty replacement - 6 MD including seedling cost @ Rs. 9.45 per seedling and its transportation	June-July	10	2000	1512	3512
2	Soil working-7 MD, 1 st weeding-6 MD and fertiliser application-4 MD	Aug.-Oct.	23	4600	0	4600
3	Cost of fertiliser @ 50 gms NPK per plant @ Rs. 24/- per kg. for 1600 plants = Rs. 1920/-, Insecticide @ 5 gm. per plant for 160 nos. of plants @ Rs. 80 per kg. = 64.00		0	0	1984	1984

4	Repair and maintenance of bamboo fence including material cost	Aug.-Oct.	15	3000	2540	5540
5	Maintenance of Soil and Moisture Conservation measures (20% of cost)	Aug.-Oct.	26	5200	0	5200
6	Fire tracing and control and other miscellaneous cost	Feb.-March	10	2000	0	2000
7	Closure to grazing, fire and other biotic interference by engaging watch and ward	April-March	30	6000	0	6000
Total 2nd Year			114	22800	6036	28836
Maintenance Operation (3rd year)						
1	Repair and maintenance of fence-15 MD/(in case of barbed wire fencing Rs. 9000/- for repair), SMC measures (Renovation)-26 MD and maintenance of plantation-14 MD as per requirement	April-March	55	11000	500	11500
2	Closure to grazing fire and other biotic interference by engaging watch and ward.	April-March	18	3600	0	3600
Total 3rd Year			73	14600	500	15100
Maintenance Operation (4th year)						
1	Repair and maintenance of fence-13 MD/no maintenance in case of barbed wire fencing, SMC measures-21 MD and maintenance of plantation-14 MD	April-March	48	9600	500	10100
2	Closure to grazing fire and other biotic interference by engaging watch and ward.	April-March	18	3600	0	3600
Total 4th Year			66	13200	500	13700
5th year to 10th year @ 18 manday per year			108	21600		21600

ABSTRACT						
Sl. No.	Year	Mandays	Labour cost in Rs.	Material cost in Rs.	EPA in Rs.	Total in Rs.
1	0 th year	415	83000	11352		94352
2	1 st year	293	58800	23898		82698
3	2 nd year	114	22800	6036		28836
4	3 rd year	73	14600	500		15100
5	4 th year	66	13200	500		13700
	5 th year to 10 th year	108	21600			21600
	Total	1069	214000	42286		256286

Cost norm of bald hill plantation @ 1600 plants per ha as per the approved cost norm in Annexure- 12 of PCCP, Odisha circular has been revised in nursery item where 1½ year old seedling (Annexure-2 of the circular) have been proposed instead of six month old seedling for better survivality of plantation in mine void filling area.





OFFICE OF THE DIVISIONAL FOREST OFFICER: RAYAGADA DIVISION.

No. 4849 /4F(Misc) 1263 /2017
Dated, Rayagada the 14 th September'2017.

To

The Vice - President-Mines,
M/s UAIL, Doraguda,
Post: Kuchelpadar - 765 015,
Dist: Rayagada

Subj:-

Diversion of 233.343 ha of DLC forest land including safety zone of 10.283 ha in village Paik-kupakhal, Dhuturapass and Karanj-kupakhal under Kashipur Tahasil of Rayagada district within mining lease area of 1388.74 ha for bauxite Mining in their Baphilimali bauxite Mines in Kalahandi and Rayagada district of Odisha by M/s UAIL(State SIno.OR-08/2016 dt.15.02.2016)

Ref:

This office letter No.4131 dated 03.08.2017 and your letter No.88 dated 19.08.2017.

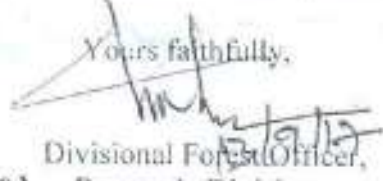
Sir,

In inviting a reference to the above cited correspondence on the subject this is to inform you that the Regional Chief Conservator of Forests, Koraput circle has approved the following schemes with a financial out noted against each in his memo no3334 dated 01.09.2017.

S. No.	Sl. No. / Condition No.	Name of the Scheme	Financial outlay
1	(x)	Scheme for afforestation on degraded forest land over 23.64 hectare being 1.5 times of the area of safety zone (15.75 ha) identified in Kashipur Range of Rayagada Forest Division	Rs.24,41,282.00
2	(xxvi)	Scheme for gap planting and Soil and Moisture conservation to restock and rejuvenate the degraded open forest located in the area within 100 meter from the outer perimeter of the mining lease area.	Rs.21,87,272.00
Total			Rs.46,28,554.00

You are therefore requested to deposit the above mentioned amount through 'e' payment in Ad-hoc CAMPA Account No. CA 1585 (IFSC No.CORP0000371) in the Corporation Bank, Lodhi Complex Branch, Ground Floor, Block No.11,CGO Complex Phase I, Lodi Road, New Delhi - 110003 and furnish the UTR No. with detail particulars for taking further action at this end.

Yours faithfully,

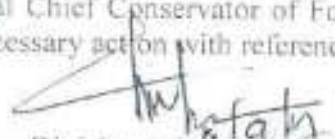

Divisional Forest Officer,
Rayagada Division

P.T.O

Memo No. 4850 /4F

Date 14.09.17 Email

Copy forwarded to the Regional Chief Conservator of Forests, Koraput Circle, Koraput for favour of kind information and necessary action with reference to his memo no. 3334 dated 01.09.2017.


Divisional Forest Officer
Rayagada Division

Memo No. 4851 /4F

Date 14.09.17 Email

Copy forwarded to the Addl. Principal Chief Conservator of Forests (F.D. & Nodal Officer, FC (Act), Office of the Principal Chief Conservator of Forests, Odisha, Bhubaneswar for favour of kind information and necessary action.


Divisional Forest Officer
Rayagada Division

AGENCY COPY

NEFT / RTGS CHALLAN for Ad-HOC CAMPA

Date : 23-09-2017

Agency Name.	M/S HINDALCO INDUSTRIES LTD.
Application No.	109140062015524
Location.	ORRISA
Address.	Century Bhavan, 3rd Floor, Dr. Annie Besant Road, Mumbai City
Amount(in Rs)	4628554/-

Amount in Words :Forty-Six Lakh Twenty-Eight Thousand Five Hundred and Fifty-Four Rupees: Only

NEFT/RTGS to be made as per following details;

Beneficiary Name:	ORRISA CAMPA
IFSC Code:	CORP0000633
Pay to Account No.	15082109140062015524
Bank Name & Address:	Corporation Bank FCS Bangalore, * Note : The proceeds of the payment will be credited to the respective CAMPA State Account.

- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

BANK COPY

NEFT / RTGS CHALLAN for Ad-HOC CAMPA

Date : 23-09-2017

Agency Name.	M/S HINDALCO INDUSTRIES LTD.
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- This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only

After making successful payment, User Agencies may send a line of confirmation through Email: helpdeskampa@corpbank.co.in

6780105 SHWET PRAKASH	
STATE BANK OF INDIA, UAC, TIKIRI	
CODE 17979	25 SEP 2017
Journal No.	Sign.
Checker ID No.	

SBIN 217268977938

8/29/2017

NEI

Annexure - 15

AGENCY COPY	
NEFT / RTGS CHALLAN for Ad-HOC CAMPA	
Date : 29-08-2017	
Agency Name.	M/S HINDALCO INDUSTRIES LTD.
Application No.	109140062016073
Location.	ORRISA
Address.	Century Bhavan, 3rd Floor, Dr. Annie Besant Road, Mumbai City
Amount(In Rs)	134110420/-
Amount in Words: Thirteen Crore Forty One Lakh Eighteen Thousand Four Hundred and Twenty Rupees - Only	
NEFT/RTGS to be made, as per following details;	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	CORP0000633
Pay to Account No.	16082108140062016073
Bank Name & Address:	Corporation Bank FCB Bangalore, * Note : The proceeds of the payment will be credited to the respective CAMPA State Account.
* This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

After making successful payment, User Agencies in
Email: helpdeskcampa@corpbank.co.in

[Signature]
Divisional Forest Officer
Rayapada Division

8/29/2017

NEI

Annexure - 15

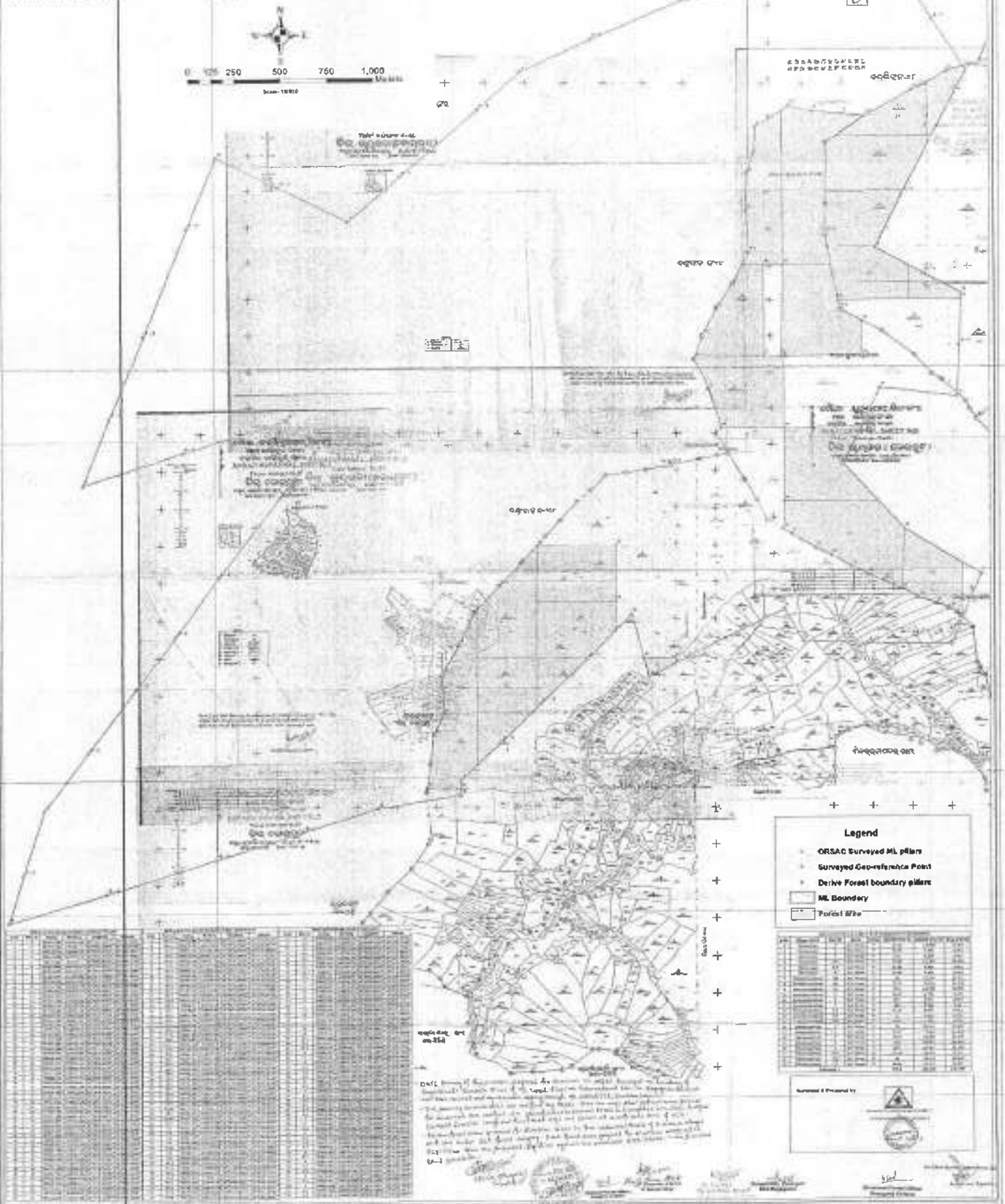
AGENCY COPY	
NEFT / RTGS CHALLAN for Ad-HOC CAMPA	
Date : 29-08-2017	
Agency Name.	M/S HINDALCO INDUSTRIES LTD.
Application No.	109140062016073
Location.	ORRISA
Address.	Century Bhavan, 3rd Floor, Dr. Amlo Besant Road, Mumbai City
Amount(In Rs)	134118420/-
Amount in Words: Thirteen Crore Forty One Lakh Eighteen Thousand Four Hundred and Twenty Rupees Only	
NEFT/RTGS to be made, as per following details:	
Beneficiary Name:	ORRISA CAMPA
IFSC Code:	CORP0000633
Pay to Account No.	16082109140062016073
Bank Name & Address:	Corporation Bank FCS Bangalore, Note: The proceeds of the payment will be credited to the respective CAMPA State Account.
• This Challan is strictly to be used for making payment to CAMPA by NEFT/RTGS only	

After making successful payment, User Agency m
Email: helpdeskampa@corpbank.co.in

[Signature]
Divisional Forest Officer
Rayagada Division

http://forestsclearance.nic.in/UserAccount/Nett_ChallenCorp.aspx?pid=MIN

MAP SHOWING DOFS SURVEYED FOREST AREA PROPOSED TO BE DIVERTED
WITHIN BAPHIJUMAL MINING LEASE AREA OF M/s UTKAL ALUMINA INTERNATIONAL Ltd. IN RAYAGADA DISTRICT





COMPANY NO. 15-03416 OF 1993-04

CIN: U13203OR1993PLC003416

FRESH CERTIFICATE OF INCORPORATION
CONSEQUENT OF CHANGE OF STATUS OF THE
COMPANY IN THE OFFICE OF THE REGISTRAR OF
COMPANIES, ORISSA, CUTTACK

(UNDER THE COMPANIES ACT, 1956)

IN THE MATTER OF M/S. UTKAL ALUMINA INTERNATIONAL LIMITED

I hereby certify that M/S. UTKAL ALUMINA INTERNATIONAL LIMITED which was originally incorporated on TWENTYNINTH day of SEPTEMBER, One thousand nine hundred NINETYTHREE under the Companies Act, 1956 and under the name UTKAL ALUMINA INTERNATIONAL PRIVATE LIMITED subsequently became a deemed Public Company by deleting the word "PRIVATE" under Section 43(A)(1) of the Companies Act, 1956 on 3rd July, 1995 and having passed necessary resolution on 11th JULY, 2005 in terms of Section 44(2)(b) read with Section 31 of the Companies Act, 1956 and the approval of the Central Government signified in writing having been recorded hereto by the Registrar of Companies, Orissa the status of the said Company is this day, converted to "PUBLIC LIMITED".

Given under my hand at CUTTACK this TWENTYTHIRD day of AUGUST, TWO THOUSAND FIVE.

B. Mohanty
(B. MOHANTY)
REGISTRAR OF COMPANIES, ORISSA.

कम्पनी रजिस्ट्रार
Registrar of Companies
उड़ीसा / Orissa

CERTIFIED TRUE COPY

For Utkal Alumina International Limited

Sunil Narayan
Company Secretary

[Signature]
Divisional Forest Officer
Ra-agada Division



REGISTRAR OF COMPANIES
CUTTACK



भारत शासक
Form. I. R.
विषय: नई प्रमाण-पत्र

Handwritten: Hardly Private
Incl. in 118 43 2003
of the company
Oct. 1956

Handwritten: 11/10/2003
K. I.

CERTIFICATE OF INCORPORATION

नं. 15-03416 बी. सी.
दि. 19.9.54

ये पदद्वारा स्थापित कला है वि. मान

कंपनी अधिनियम 1956 (1956 का सं. 1) के अधीन निम्नलिखित की गई है और वह
कंपनी पंजीकृत है।

I hereby certify that UTKAL ALUMINA INTERNATIONAL
PRIVATE LIMITED

is this day incorporated under the Companies Act, 1956 (No. 1 of 1956)
and that the Company is limited.

मेरे द्वारा यह माना जाता है कि दिया गया।

Given under my hand at Cuttack this twenty ninth
September ninety three
day of One thousand nine hundred and


 (REGISTRAR)
 कम्पनी का रजिस्ट्रार, कलकत्ता
 REPUBLIC OF INDIA
 Deputy Registrar
 Cuttack.

नं. पत्र. सी. 1
I. S. C. 1

CERTIFIED TRUE COPY

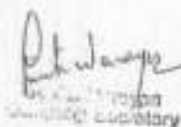


CERTIFIED TRUE COPY

Handwritten: V. SAMPAT

Handwritten: [Signature]
Sd/- M. N. Nayak
Company Secretary

CERTIFIED TRUE COPY


Secretary

COMPANY LIMITED BY SHARES

MEMORANDUM OF ASSOCIATION

OF

UTKAL ALUMINA INTERNATIONAL LIMITED

- I. The name of the Company is - UTKAL ALUMINA INTERNATIONAL LIMITED.
- II. The Registered Office of the Company will be situated in the State of Orissa, India.
- III. THE OBJECTS FOR WHICH THE COMPANY IS ESTABLISHED ARE:
 - (A) The main objects to be pursued by the Company on its incorporation are :-
 1. To make or cause to be made studies, reports and tests to determine the desirability and feasibility of establishing an integrated aluminium business including the desirability and feasibility of establishing plants, factories, mines and other facilities at various locations to serve such an aluminium business.
 2. To carry on in India and elsewhere trades or business of metallurgists and miners including beneficiation of minerals, mineral dressing, concentration, smelting, refining and the extraction, manufacture and fabrication, purchase and sale of and generally dealing in all metals and their products and alloys and in particular to manufacture and / or produce and/or otherwise engage generally in the manufacture or production of or dealing in alumina, aluminium and aluminium products and by-products and the sale, dealing or other disposition of alumina, aluminium and aluminium products and by-products in India and elsewhere.
 3. To mine, quarry, beneficiate dress, smelt, refine, manufacture, process, fabricate, purchase or otherwise acquire, sell or otherwise dispose of or deal in bauxite and other aluminium bearing ores, alumina, aluminium, aluminium alloys and compounds, aluminium goods, wares and products of all kinds, chemicals, chemical compounds and metals, minerals or other materials of every kind needed for or resulting from the mining, production or processing of bauxite or other aluminium bearing ores, alumina, aluminium and aluminium products of every kind.
 - (B) THE OBJECTS INCIDENTAL OR ANCILLARY TO THE ATTAINMENT OF THE MAIN OBJECTS

1. To search for, inspect, prospect, examine, explore, mine, quarry, purchase or otherwise acquire in the union of India or elsewhere in the world bauxite or other aluminium bearing ores, feldspar, fluor spar and all other metals, minerals and mineral substances of every kind which may be of direct or indirect use in the production of alumina, aluminium and aluminium products or which may result as an incident to or by-product of any of the foregoing.
2. To purchase, take on lease or in exchange or under amalgamation, licence or concessions or otherwise acquire mines, minerals, beneficiation, dressing, concentration and refining plants, lands, buildings, work shops, power houses, barges, steamers, ships and all craft, rope-ways, tram, planes and equipments, machinery, sidings, locos, works and any rights and privileges or interest therein and to explore, prospect, work, develop, administer, manage or control and to turn to account the same for the attainment of the main objects, subject to the provisions of the Companies Act, 1956.
3. To acquire by lease, grant, assignment, transfer or otherwise any grants or concession of any mineral fields, mines, mineral and mine contracts, works and premises from any person or persons, corporation, Company, Government or local body in India or elsewhere, and to perform and fulfil the conditions thereof for the attainment of main objects.
4. To construct, execute, carry out, equip, improve, work, purchase or otherwise acquire, hire, lease, develop, administer, manage or control in India or elsewhere works and conveniences of all kinds which expression in this Memorandum includes mines, beneficiation, mineral dressing, concentration, smelting, refining and fabrication plants, workshops and engineering establishments of all kinds, quarries, barrages, dams, sluices, locks, embankments, moles, break-waters, docks, quays, harbours, piers, wharves, canals, tanks, bridges, aqueducts, reservoirs, irrigations, reclamation, improvement, river-works of all kinds, barges, steamers, ships and all kinds of craft capable of being used for transport of all kinds of goods and articles on water, railways, ropeways, tramways, roads, sewage, drainage, sanitary, paving, water, gas, electric, light, telephone, telegraphic, wireless-telegraphic, hydro-electric, power supply works and hotel and warehouse, markets, cinemas, theaters, schools, colleges and all kinds of educational institutions and building, private or public dhows and houses, villages, sheds, dwellings, offices, shops and stores and all other works or conveniences whatsoever, for the attainment of main objects.
5. To sink wells and shafts, lay down pipes, construct, maintain and improve any tramways, roads, sidings, railways, telegraph and telephone lines,

wharves, piers, docks, canals, reservoirs, watercourses, warehouses, sheds and other buildings and works calculated directly or indirectly to advance the interests of the Company and to pay or contribute to the expenses of constructing, maintaining and improving any such works, for the attainment of main objects.

6. To acquire shares, stocks, securities in or of any company carrying on any business which this Company is entitled to carry on or of any other company or undertaking the acquisition of which may seem likely or calculated directly or indirectly to promote or advance the interests of or be advantageous or beneficial to the Company and to sell or dispose of or transfer any such shares, stocks or securities.
7. To apply for tender, purchase or otherwise acquire any contract and concessions for or in relation to the construction, execution, carrying out, equipment, improvement, management, administration or control of works and conveniences and to undertake, execute, carry out, dispose of or otherwise turn to account the same.
8. To enter into contracts with any other company or person as to interchange of traffic, running power, sidings, carriage of goods, wares and merchandise or otherwise which the Company may deem expedient.
9. To acquire, use, develop, or otherwise turn to account any method, system or process of construction by the use of steel, iron, cement, concrete, wood or other material or any combination thereof in connection with the business of the Company.
10. To manufacture, construct, maintain, lay-down, carry out, work, sell, let on hire and deal in all kinds of works, machinery, apparatus, conveniences and things capable of being used in connection with any of the objects of the Company.
11. To purchase, take on lease, licence or tenancy or in exchange, hire, take options, over or otherwise acquire for any estate or interest whatsoever and to hold, develop, work, cultivate, deal with and turn to account, concessions, grants, decrees, licences, privileges, options, claims, leases, property, moveable or immovable or rights or powers of any kind which may appear to be necessary or convenient for any business of the Company.
12. To develop generally the resources of any lands, properties and rights or privileges to be at any time acquired by the Company.
13. To sell, exchange, mortgage, let on lease, royalty or tribute, grant licences, easements, options and other rights over and in any other manner deal

with or dispose of the undertaking, property, assets, rights and effects of the Company or any part thereof for such consideration as may be thought fit and in particular for stocks, shares (whether fully or partly paid up) debentures or securities of any other company.

14. To manage, improve, develop and turn to account or otherwise deal with all or any part of the property and rights of the Company, whether moveable or immovable.
15. To employ, engage, accept experts, consultants, collaborators, Indian and Foreign, in connection with any of the operations of the Company and pay them in any manner in particular by issue of stock, shares, debentures, of the Company.
16. To establish, regulate Branches or Agencies of the Company at any place in India or elsewhere and to discontinue the same.
17. To purchase or by other means acquire and protect, prolong and renew, whether in India or elsewhere any patents, patent rights, brevets d'invention, licences, protections and concessions which may appear likely to be advantageous or useful to the Company and to use and turn to account and manufacture and to spend money in experimenting upon and testing and improving or seeking to improve any patent inventions or rights which the Company may acquire or propose to acquire.
18. To buy, sell, manufacture and deal in goods, ware and merchandise (including all conveniences or necessities of life which may be used or required by workmen or others whether employed by the Company or not) and to open and keep shops and stores.
19. To pay for any lands, business, property, assets or rights acquired by the Company, wholly or partially in shares, debentures or other securities or obligations of the Company, or belongings of the Company, and whether fully or partly paid and as part of the terms of any such purchase or otherwise to grant options upon any unissued shares of the Company.
20. To lend money, either with or without security, and generally to such persons and upon such terms and conditions as may seem expedient and in particular to customers of and persons having dealings with the Company but not to do any banking business.
21. To undertake financial and commercial obligations, transactions and operations of all kinds.
22. To guarantee the performance of the obligation of and the payment of dividends and interest on any stock, shares or securities of any company,

corporation, firm or person in any case in which such guarantee may be considered likely directly or indirectly to further the objects of the Company or the interest of its shareholders.

23. To guarantee the payment of money unsecured or secured by or payable under or in respect of promissory notes, bonds, debenture stock, debentures, contracts, mortgages, charges, obligations, instruments and securities of any company or of any authority, supreme municipal, local or otherwise or any person, firm, or company whatsoever, whether incorporated or not and generally to guarantee or become sureties for the performance of any contracts and obligations.
24. To open an account or accounts with any individual, firm or company or with any bank or bankers and pay into and withdraw money from such account or accounts.
25. To invest any moneys of the Company not for the time being required for any of the purposes of the Company in such investments (other than shares or stocks in the Company) as may be thought proper and to hold, sell or otherwise deal with such investment.
26. To borrow or raise money or to receive money on deposit at interest or otherwise in such manner as the Company may think fit and in particular by the issue of or upon bonds, debentures, bills of exchange, promissory notes or other obligations or securities of the Company or by mortgage, hypothecation, pledge or charge of all or any part of the property of the Company or of its uncalled capital or in such other manner as the Company shall think fit.
27. To draw, make, accept, discount, execute and issue cheques, bills of exchange, promissory notes, bills of lading, warrants, debentures and other negotiable or transferable instruments or securities.
28. To pay all costs, charges and expenses on account of advertisements, printing, stationary, and such other things incurred by the Company in the promotion and establishment of the Company or considered as preliminary by the Company.
29. (a) To establish, maintain and operate general educational institutions, schools and colleges and hostels for the benefit of the children of the employees or ex-employees of the Company, their dependents or connection of such persons and others and to make grant and awards and grant scholarships.
- (b) To establish, maintain and operate technical training institutions, hostel for mining engineers, chemical engineers, drilling engineers, production engineers, power engineers, civil engineers, mechanical engineers, and

other engineers of all types, mineral and other technologists, surveyors, draftsmen, overmen, sirdars, chemists and all other technical staff and artisans and mechanics of all types and kinds, and accountants and others in India or in any part of the world, to make such other arrangements as may be expedient for the training of all categories of officers, workers, storekeepers and other personnel likely to be useful to or to assist in any business which the Company is authorized to carry on.

- (c) To establish, maintain and operate hospitals, dispensaries, first aid centers and other medical institutions, public health installations, markets, shops and stores, clubs, cinemas and entertainment places, motor transport services, housing colonies, hotels and restaurants, guest houses, hostels, dhobykhana, dairies, fire service stations for the benefit of the employees and their families and others.
 - (d) To establish, provide, maintain and conduct or otherwise subsidize research laboratories and experimental workshops for scientific and technical research and experiments to undertake and carry on scientific and technical researches, experiments and tests of all kinds, to promote studies and researches both scientific and technical investigations and inventions by providing, subsidizing, endowing or assisting laboratories, workshops, libraries, lectures, meetings and conferences and by providing or contributing to the remunerations of scientific or technical professors or teachers and by providing or contributing to the award of scholarships, prizes, grants to students or otherwise and generally to encourage, promote and reward studies, researches, investigations, experiments, tests and inventions of any kind that may be considered likely to assist any business which the Company is authorized to carry on.
30. To purchase or otherwise acquire all or any part of the business, property including all assets such as machinery, housing, buildings, workshops etc. and liabilities of any person, corporation, Government or company the business of which is capable of being conducted so as directly or indirectly to benefit this Company.
31. To procure and arrange for registration, incorporation or recognition of the Company in or under the laws of any country, to appoint agencies to the Company and do all acts necessary for carrying on in any foreign country any business of the Company, to petition either single or jointly with others to Legislature, authorities local municipal and other foreign bodies for the purpose of getting enacted acts and laws or for obtaining decrees, interests, orders, rights and privileges that are conducive to the interests of the Company, or to protest against such petitions and transactions as are likely to be prejudicial to the interests of the Company, to give the Company the rights and privileges in any part of the world as are possessed by local Government or partnership of a similar nature.

- 32.(a) To form incorporate or promote any joint company or companies for carrying into effect any of the objects of this Company and to take or otherwise acquire and hold shares in any such company, and generally in any company the business of which is capable of being conducted so as directly or indirectly to benefit this Company and to pay all or any of the costs and expenses incurred in connection with any such promotion or incorporation.
- (b) To promote and undertake the formation of any institution or company for the purpose of acquiring all or any of the property and liabilities of this Company, or for any other purposes which may seem directly or indirectly calculated to benefit the Company or form any subsidiary company or companies.
- (c) To remunerate any person, firm or company for services rendered or to be rendered in obtaining subscriptions for or placing or assisting to place or to obtain subscriptions for or guaranteeing the subscriptions of any bonds, debentures, obligations or securities of the Company or any stock, shares, bonds, debentures, obligations or securities of any other company held or owned by the Company or in which the Company may have an interest or in or about the formation or promotion of the Company or the conduct of its business or in or about the promotion or formation of any other company in which the Company may have any interests.
33. To enter into partnership or into any arrangement for sharing profits or into any union of interests, co-operation, joint adventure, reciprocal concession or amalgamation either in whole or in part with any other company or persons carrying on or engaged in or about to carry on or engage in any business or transaction which the Company is authorized to carry on or engage in or any business or transaction capable of being conducted so as directly or indirectly to benefit this Company and to lend money, to guarantee the contracts of or otherwise assist any such person or company, and to take or otherwise acquire shares and securities of any such company, and to sell, hold, re-issue with or without guarantee or otherwise deal with the same, subject to the provisions of the Companies Act, 1956 and Banking Regulation Act, 1949.
34. To co-ordinate the activities of its subsidiaries, to determine their economic and financial objective/targets and to review, control, guide, and direct their performance with a view to secure optimal utilization of all resources placed at their disposal.
35. To carry on the business of trading in and dealing in any manner whatsoever in all commodities, goods and things, manufactured, produced or dealt with in any manner by any of the subsidiaries of the Company.

36. (a) To obtain order or Act, of Legislature in India or from the authorities of any other country, as may be necessary for enabling the Company to obtain all powers and authorities necessary or expedient and to carry out or extend any of the objects of the Company or for any other purpose which may seem expedient and to oppose any proceedings or applications which may seem calculated directly or indirectly to prejudice the Company's interest.
- (b) To enter into any arrangements with the Government of India or any local or State Government in India or with Government of any other country or with any authorities, local or otherwise, or other persons that may seem conducive to the Company's objects or any of them and to obtain from them any rights, powers and privileges, licences, grants and concessions which the Company may thereon or desirable to obtain and to carry out, exercise and comply with and such arrangements, rights, privileges and concessions.
37. To adopt such means of making known the products of the Company as may seem expedient and in particular by holding or participating in trade fairs, exhibitions etc, and by advertising in the press publication of books and periodicals and granting prizes, awards and donations.
38. To undertake and execute any trusts the undertaking of which may seem to benefit the Company either gratuitously or otherwise.
39. To aid, pecuniarily or otherwise, any association, body or movement having for an object the solution settlement or surmounting of industrial or labour problems or troubles or the promotion of industry or trade.
40. (a) To subscribe or otherwise to assist or to guarantee money for any charitable, benevolent, religious, scientific, national or other institutions or for any exhibition the objects of which shall have any moral or other claim to support or aid by the Company either by reason of locality of operation or public and general utility or otherwise.
- (b) To dedicate, present or otherwise dispose of either voluntarily or for value any property of the Company deemed to be of national, public or local interest to any national trust, public body, museum, corporation or authority or any trustees on behalf of any of the same or of the public.
41. To establish and maintain or procure the establishment and maintenance of any contributory or non-contributory provident and/or pension or superannuation funds for the benefit of, and give or procure the giving of donations, gratuities, pensions, allowances or emoluments to any persons who are or were at any time in the employment or services of the

Company or of any company which is a subsidiary of the Company or is allied to or is associated with the Company, or with any such subsidiary Company or who are or were at any time directors or officers of the company, or of any such other Company as aforesaid, and the wives, widows, families and dependents of any such persons.

42. To promote and establish organizations, advisory boards, trusts and other suitable bodies as may be deemed fit in order to carry out the objects of the Company effectively.
43. To create or to contribute to any depreciation fund, reserve fund, sinking fund, insurance fund, development or any other special fund including funds for payment of subsidies whether for depreciation or for repairing, improving, extending or maintaining any of the property of the Company or for amortization of capital or for any other purpose conducive to the interest of the Company.
44. To act as insurers or underwriters of the property of the Company or otherwise either wholly or partially and either solely or together with another or other person or persons or body or bodies and to insure the whole or any part of the property of the Company either fully or partially, to protect and indemnify the Company from liability or loss in respect thereof, either fully or partially and also to insure and protect and indemnify, either on mutual principle or otherwise, and to accept the whole or any part of the marine risk and liability of the Company as underwriters.
45. In the event of winding up, to distribute among the members in specie or in kind any property of the Company or any proceeds of sale or disposal of any property of the company but so that no distribution amounting to reduction of capital be made except with the sanction (if any) for the time being required by law.
46. To do all or any of the above mentioned things and all such other things as are incidental or may be thought conducive to the attainment of the above mentioned objects or any of them and as principals, agents, contractors, trustees, or otherwise and either alone or in conjunction with others.
47. To take up all or any one or more of the above mentioned objects simultaneously or one after the other or to keep any one or more of the objects in abeyance for any period of time if and when necessary.

(C) OTHER OBJECTS

1. To carry on all or any of the under-mentioned objects:

- (i) general metal founders, casters, spinners, rollers and workers of and in metals and their alloys including aluminium and sodium and their alloys and metallic combination of all kinds.
- (ii) electrical, civil and/or mechanical engineers.
- (iii) metal and mineral merchants.
- (iv) Miners.
- (v) Carriers, merchants and contractors.
- (vi) Colliery and mine proprietors, coke manufacturers, smelters and refiners in all their respective branches.
- (vii) Boiler makers, millwrights, machinists and smiths in all their respective branches.
- (viii) Chemicals, in all their different branches, makers and distillers.
- (ix) Gas makers.
- (x) Manufacturers of machinery, tool-makers, brass founders, metal workers, wood-workers and to buy, sell, manufacture, repair, convert, alter, let on hire, and deal in machinery, implements, rolling stock and hardware of all kinds.
- (xi) Metallurgists and chemists.
- (xii) manufacturing and dealing in all kinds of industrial and other preparations and articles and compounds.
- (xiii) Dye-making, paints including oil paint, pigments and varnishes.
- (xiv) Electrical, chemical, photographic and scientific apparatuses and materials.
- (xv) an Electric Power, Light and Supply Company in all its branches in accordance with the law in force for the time being and in particular to construct, lay down, establish, fix and carry out all necessary power stations, cables, wires, lines, accumulators, lamps and works, and to generate, acquire by purchase in bulk, accumulate, distribute and supply by sale, exchange or otherwise, electricity and to light cities, towns, streets and buildings and places both public and private.

- (xvi) Electricians, mechanical engineers, suppliers of electricity for the purpose of light, heat, motive power or otherwise and manufacturers of and dealers in all kinds of electrical machinery and apparatus and things required for or capable of being used in connection with the generation, distribution, supply, accumulation and employment of electricity, galvanism, magnetism or otherwise.
- (xvii) Quarry masters and stone merchants, and to buy, sell, get, work, shape, hew, carve, polish, crush, and prepare for market or use stone of all kinds.
- (xviii) Road and pavement makers and repairs and manufacturers of and dealers in lime, cement, mortar, concrete and building materials of all kinds, and as builders and constructors for the execution of works and buildings of all kinds in the construction of which stone is required and
- (xix) Printers, lithographers and binders.

- 2. To subscribe for underwrite, purchase, or otherwise acquire, and to hold, dispose of, and deal with the shares, stocks, securities and evidences of indebtedness or the right to participate in profits or other similar documents issued by any Government authority, corporation or body or by any company or body of the persons and any options or rights in respect thereof.
- 3. To promote, organize or carry on the business of consultancy services in any field of activity in which the company is engaged in.
- 4. To purchase, charter, hire, build or otherwise acquire vehicles, and vessels of any or every sort or description for use on or under land or water or in the air and to employ, equip and load the same for the carriage of merchandise of all kinds of passengers and to let out to hire and to trade with any such vehicles, vessels or any part thereof when not required for the Company's business at such rates of freight and on such terms as may be considered advantageous to the Company.

IV. The liability of the members is limited.

v* The Authorised Share Capital of the Company is Rs. 20,00,00,00,000 (Rupees Two Thousand Crores only) divided into 197,00,00,000 (One Hundred and Ninety Seven Crores) Equity Shares of Rs.10 (Rupees Ten Each) and 3,00,00,000 (Three Crores Only) Preference Shares of Rs.10 (Rupees Ten Only) each with power to increase or reduce the capital of the Company and to divide the shares in the capital for the time being into several classes and to attach thereto respectively such preferential, deferred, qualified or

*Amended at Extraordinary General Meeting of the Company held on 22nd March, 2006.

special rights, privileges or conditions as may be determined and to vary, modify or abrogate any such rights, privileges or conditions in such manner as may for the time being is provided by the Articles of Association of the Company.

We, the several persons whose names and address are subscribed below are desirous of being formed into a company in pursuant of this Memorandum of Association and we respectively agree to take the number of shares in the capital of the company set to opposite to our respective names:

Sl.No	Full name, address and description of subscribers	Number of equity shares taken by each subscriber	Signature of subscribers
1.	Abhijit Mukhopadhyay S/o H. D. Mukherjee 12, Ashoka Road, Allipore Calcutta - 700 027, Service	50 (Fifty)	sd/-
2.	Tata Industries Limited Bombay House 24, Homi Mody Street Bombay - 400 001 Investment Company	10 (Ten)	sd/-
3.	Sowmyan Ramakrishnan S/o R. Sowmyan Napean Sea Road Bombay - 400 036 Company Executive	50 (Fifty)	sd/-
4.	Dilip Sudhakar Pendse S/o Sudhakar Trimbak Pendse Flat No.23/24 White Lily, Ash Lane, Dader, Bombay - 400 028 Company Executive	50 (Fifty)	sd/-
5.	Hydro Aluminium A.S. Drammensveien 264 Oslo, Norway Foreign Company	10 (Ten)	sd/-
6.	Shovan Madhukant Thakore S/o Madhukant Thakore 509, Cumbali Crest 42-A Peddar Road	100 (Hundred)	Sd/-

Bombay - 400 026
Advocate

7. Nasal Kishore Choudhary
S/o- Late Vedanand Choudhary
SE/84 E Block, New Alipore
Calcutta, Executive

60 (Sixty)

8d/-

Total

330 (Three hundred and thirty only)

Dated this 6th day of September 1993.

Witness to all the above
signatures

Mr. Asim Kumar Chatterjee
Company Secretary
4D Garia Place (2nd Floor)
Calcutta - 700 001

Sunita Nayen
Company Secretary

ARTICLES OF ASSOCIATION
OF UTKAL ALUMINA INTERNATIONAL LIMITED

1. Preliminary

The regulations contained in Table F in the Schedule 1 to the Companies Act, 2013, except as far as they are specifically embodied herein, shall not apply to this Company, but the regulations for the management of the Company and for the observance of the Members thereof and their representatives shall, subject to any exercise of the statutory powers of the Company in reference to the repeal or alteration of, or addition to, its regulations by Special Resolution, as prescribed by the said Companies Act, 2013, be such as are contained in these Articles.

Table F Not to Apply
Unless Specifically
Indicated

1. In the interpretation of these Articles the following expressions shall have the following meanings, unless repugnant to the subject or context:

Definitions and
Interpretation

(a) "the Act" means the Companies Act, 2013, as amended upto date or other Act or Acts for the time being in force in India containing the provisions of the Legislature in relation to Companies.

(b) "the seal" means the common seal of the company.

(c) "Beneficial Owner" means the Beneficial Owner as defined in Clause (a) of Sub-Section (1) of Section 2 of the Depositories Act, 1996.

(d) "Board" means the collective body of Directors of the Company.

(e) "The Company" or "this Company" means Utkal Alumina International Limited.

(f) "Depositories Act", means the Depositories Act, 1996, and includes where the context so admits, any re-enactment or statutory modification thereof, for the time being in force.

(g) "Depository" means a Depository as defined under Clause (d) of Sub-Section (1) of Section 2 of the Depositories Act.

(h) "Directors" means the Directors for the time being of the Company or, in the case may be, the Directors assembled at a Board Meeting.

(i) "Articles" or "these Regulations" or "these presents" means these Articles of Association as originally framed or as altered from time to time in accordance with the provisions of the Act.

(j) Words importing the masculine gender also includes the feminine gender.

(k) "Month" means a calendar month.

(l) "In writing" means written or printed or partly written and partly printed or lithographed, or type-written or other substitute for writing or any other mode or modes of representing or reproducing words in visible form.

(m) "Members" shall have the meaning as set forth in the Companies Act, 2013.

(n) "The Office" means the Registered Office for the time being of the Company.

(o) "Persons" include corporations (and firms) as well as individuals.

(p) "Proxy" means an instrument whereby any person is authorised to attend the Meeting for a member and to vote in the event of poll and also includes attorney duly constituted under a power of attorney.

(q) "Register" or "Register of Members" means the Register of Members to be kept pursuant to the Act.

(r) "Shares" mean the shares into which the share capital is divided, and includes stock.

(s) Words importing the singular number include, where the context admits or requires, the plural number and vice versa.

(t) Year means a calendar year and financial year shall have the meaning assigned thereto by the Act.

Unless the context otherwise requires, words or expressions contained in these regulations shall bear the same meaning as in the Act and the Rules made thereunder, or any statutory modification thereof in force at the date at which these regulations become binding on the company.

The bold typeface, headings and titles herein are used for convenience of reference only and shall not affect the construction of these Articles.

II. Share Capital

2.

**[a] The Authorised Capital of the Company is Rs. 7500,00,00,000 (Rupees Seven Thousand Five Hundred Crores only) divided into 747,00,00,000 (Seven Hundred Forty Seven Crore) equity shares of Rs.10/- (Rupees Ten only) each and 300,00,000 (Three Crores) Preference Shares of Rs.10/- (Rupees Ten) each issued on terms as fixed by the Board at the time of issue in accordance with the applicable provisions of law.

(b) Subject to the provisions of the Act and these

** Amended by passing special resolution on 5th May, 2015 and 5th June, 2017.

CERTIFIED TRUE COPY

Ujjal Ahuja International Ltd

Sunita Narayan
Company Secretary

Authorised Capital

Under Control of

<p>Articles, the shares in the capital of the company shall be under the control of the Directors who may issue, allot or otherwise dispose of the same or any of them to such persons, in such proportion and on such terms and conditions and either at a premium or at par and at such time as they may from time to time think fit.</p>	<p>Directors</p>
<p>(c) Subject to the provisions of the Act, the Directors may at any time as may be determined by them, but not later than twenty years from the date of issue and allotment of the preference shares, apply the net profits or the moneys of the Company, which may be lawfully applied for the purpose, including any proceeds of a fresh issue of shares made for the purpose of redemption, in redemption of the whole or any part of the preference shares for the time being issued and outstanding at par, together with a sum equal to the arrears of fixed dividend thereon, (whether earned or declared or not) down the date of redemption.</p>	<p>Application of Amounts for Redemption</p>
<p>(d) At the time of redemption, each such holder shall be bound to surrender to the Company the certificate or certificates for his shares to be redeemed, and the Company shall pay to him the amount payable in respect of such redemption and where any such certificate comprises any shares which have not been drawn for redemption the Company shall issue to the holder thereof, a fresh certificate therefor.</p>	<p>Procedure for Redemption</p>
<p>(e) Any of the preference shares not previously redeemed under the foregoing provisions shall be redeemable not later than expiry of twenty years from the date of its issue and allotment at par together with all arrears of the fixed dividend thereon, (whether earned or declared or not) upto the date.</p>	<p>Period of Redemption</p>
<p>(f) The Company shall be at liberty, without prejudice to its other rights, from time to time to create and issue further preference shares, with or without the right of redemption, ranking in all respects pari-passu with the existing preference shares.</p>	<p>Issuance of Preference Shares</p>
<p>3. Subject to the provisions of the Act and all other applicable provisions of law, the Company may issue (i) securities on a preferential allotment basis; and (ii) equity shares with differential rights as to dividend, voting or otherwise.</p>	<p>Issuance of Shares with Differential Rights</p>
<p>4. (a) Every person whose name is entered as a member in the register of members shall be entitled to</p>	<p>Share Certificates</p>

receive within two months after incorporation, in case of subscribers to the memorandum or after allotment or within one month after the application for the registration of transfer or transmission or within such other period as the conditions of issue shall be provided,—

- (i) one certificate for all his shares without payment of any charges; or
 - (ii) several certificates, each for one or more of his shares, upon payment of twenty rupees for each certificate after the first.
- (b) Every certificate shall be under the seal and shall specify the shares to which it relates and the amount paid-up thereon.
- (c) In respect of any share or shares held jointly by several persons, the company shall not be bound to issue more than one certificate, and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all such holders.
- (d) If any share certificate be worn out, defaced, mutilated or torn or if there be no further space on the back for endorsement of transfer, then upon production and surrender thereof to the company, a new certificate may be issued in lieu thereof, and if any certificate is lost or destroyed then upon proof thereof to the satisfaction of the company and on execution of such indemnity as the company deem adequate, a new certificate in lieu thereof shall be given. Every certificate under this Article shall be issued on payment of twenty rupees for each certificate.
- (A) The Company shall not be bound to register more than three persons as the jointholders of any share.

5. Notwithstanding anything contained in these Articles, the Company shall be entitled in accordance with the provisions of the depositories Act, to dematerialise any or all of its shares, debentures and other marketable securities and to offer the same for subscription in a dematerialised form and on the same being done, the Company shall further be entitled to maintain a Register of Members with the details of Members holding shares both in material and dematerialised form in any media as permitted by law including any form of electronic media, either in respect of the existing shares or any future issue.

Dematerialisation

6. The provisions of Articles 4 and 5 shall mutatis

Provisions to Apply to

mutatis mutandis apply to debentures of the company.

Debentures

7. Except as required by law, no person shall be recognised by the company as holding any share upon any trust, and the company shall not be bound by, or be compelled in any way to recognise (even when having notice thereof) any equitable, contingent, future or partial interest in any share, or any interest in any fractional part of a share, or (except only as by these regulations or by law otherwise provided) any other rights in respect of any share except an absolute right to the entirety thereof in the registered holder.

*No Recognition of
Equitable Interest*

8.

- (a) The company may exercise the powers of paying commissions conferred by sub-section (6) of section 40, provided that the rate per cent. or the amount of the commission paid or agreed to be paid shall be disclosed in the manner required by that section and rules made thereunder.
- (b) The rate or amount of the commission shall not exceed the rate or amount prescribed in rules made under sub-section (6) of section 40.
- (c) The commission may be satisfied by the payment of cash or the allotment of fully or partly paid shares or partly in the one way and partly in the other.
- (d) The Company may also on issue of shares, pay reasonable brokerage as may be lawful.

*Commission and
Brokerage*

9.

- (a) If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue of the shares of that class) may, subject to the provisions of section 48, and whether or not the company is being wound up, be varied with the consent in writing of the holders of three-fourths of the issued shares of that class, or with the sanction of a special resolution passed at a separate meeting of the holders of the shares of that class.
- (b) To every such separate meeting, the provisions of these regulations relating to general meetings shall *mutatis mutandis* apply, but so that the necessary quorum shall be at least two persons holding at least one-third of the issued shares of the class in question.

Variation of Class Rights

*Process of Class
Meetings*

10. The rights conferred upon the holders of the shares of any class issued with preferred or other rights shall not, unless otherwise expressly provided by

*Rights not to be Deemed
Vested*

the terms of issue of the shares of that class, be deemed to be varied by the creation or issue of further shares ranking pari passu therewith.

III. Lien

11.

- (a) The company shall have a first and paramount *Lien on Shares*
lien—

- (i) on every share (not being a fully paid share), for all monies (whether presently payable or not) called, or payable at a fixed time, in respect of that share; and
- (ii) on all shares (not being fully paid shares) standing registered in the name of a single person, for all monies presently payable by him or his estate to the company;

Provided that the Board of directors may at any time declare any share to be wholly or in part exempt from the provisions of this clause.

- (b) The company's lien, if any, on a share shall extend *Lien to Extend to*
to all dividends payable and bonuses declared *Dividend and Bonus*
from time to time in respect of such shares.

12. The company may sell, in such manner as the *Sale of Shares on Which*
Board thinks fit, any shares on which the company *Lien Held*
has a lien:

Provided that no sale shall be made—

- (i) unless a sum in respect of which the lien exists is presently payable; or
- (ii) until the expiration of fourteen days after a notice in writing stating and demanding payment of such part of the amount in respect of which the lien exists as is presently payable, has been given to the registered holder for the time being of the share or the person entitled thereto by reason of his death or insolvency.

13.

- (a) To give effect to any such sale, the Board may *Process for Sale of*
authorise some person to transfer the shares sold *Shares on Which Lien*
to the purchaser thereof. *Held*
- (b) The purchaser shall be registered as the holder of the shares comprised in any such transfer.
- (c) The purchaser shall not be bound to see to the application of the purchase money, nor shall his title to the shares be affected by any irregularity or invalidity in the proceedings in reference to the sale.

- (d) The proceeds of the sale shall be received by the company and applied in payment of such part of the amount in respect of which the lien exists as is presently payable.
- (e) The residuum, if any, shall, subject to a like lien for sums not presently payable as existed upon the shares before the sale, be paid to the person entitled to the shares at the date of the sale.

14. *Calls on Shares*

- (a) The Board may, from time to time, make calls upon the members in respect of any monies unpaid on their shares (whether on account of the nominal value of the shares or by way of premium) and not by the conditions of allotment thereof made payable at fixed times:

Provided that no call shall exceed one-fourth of the nominal value of the share or be payable at less than one month from the date fixed for the payment of the last preceding call.

- (b) Each member shall, subject to receiving at least fourteen days' notice specifying the time or times and place of payment, pay to the company, at the time or times and place so specified, the amount called on his shares.
- (c) A call may be revoked or postponed at the discretion of the Board.

15. A call shall be deemed to have been made at the time when the resolution of the Board authorising the call was passed and may be required to be paid by instalments.

16. The joint holders of a share shall be jointly and severally liable to pay all calls in respect thereof.

17.

- (a) If a sum called in respect of a share is not paid before or on the day appointed for payment thereof, the person from whom the sum is due shall pay interest thereon from the day appointed for payment thereof to the time of actual payment at a rate not exceeding 9% per annum or at such lower rate as the Board may determine.
- (b) The Board shall be at liberty to waive payment of any such interest wholly or in part.

18.

- (a) Any sum which by the terms of issue of a share becomes payable on allotment or at any fixed date, whether on account of the nominal value of the

Making of Calls

Timing of Call

Call on Shares Jointly Held

Interest on Default in Payment

Payments Deemed to be Call

share or by way of premium, shall, for the purposes of these regulations, be deemed to be a call duly made and payable on the date on which by the terms of issue such sum becomes payable.

- (b) In case of non-payment of such sum, all the relevant provisions of these regulations as to payment of interest and expenses, forfeiture or otherwise shall apply as if such sum had become payable by virtue of a call duly made and notified.

15. The Board—

- (a) may, if it thinks fit, receive from any member willing to advance the same, all or any part of the monies uncalled and unpaid upon any shares held by him; and *Advances of Uncalled Monies*
- (b) upon all or any of the monies so advanced, may (until the same would, but for such advance, become presently payable) pay interest at such rate not exceeding 12% per annum, or such rate as may be determined by the Board. No voting rights in respect of the moneys so paid in advance shall be exercisable until the moneys shall have become payable. Money so paid in excess of the amount of calls shall not rank for dividend and until appropriated towards satisfaction of any call shall be treated as a loan to the Company and not as a part of its capital and shall be repayable to the member at any time without notice if the Directors so decide.

20. On the trial or hearing of any action or suit brought by the Company against any member or his representative to recover any debt or money claimed to be due to the Company in respect of his shares, it shall be sufficient to prove that the name of the members is, or was, when the claim arose, on the register of members of the Company as a holder or one of the holders of shares in respect of which such claim is made, that the resolution making the call is duly recorded in the minute book and that notice of such call was duly given in pursuance of these presents and it shall not be necessary to prove the appointment of the directors who made such call nor any other matter whatsoever, but the proof of the matters aforesaid shall be conclusive evidence of the debt. *Proof of Claim*

V. *Transfer of Shares*

21.

- (a) The instrument of transfer of any share in the company shall be executed by or on behalf of both the transferor and transferee. *Process of Transfer*

- (b) The transferor shall be deemed to remain a holder of the share until the name of the transferee is entered in the register of members in respect thereof.

22. The Board may, subject to the right of appeal conferred by Section 58, decline to Register or acknowledge any transfer of shares in any case in which the Company has lien upon the shares of any of them or whilst any moneys in respect of the shares desired to be transferred or any of them remain unpaid.

*Transfers of Shares
Subject to Lien*

23. The Board may decline to recognise any instrument of transfer unless—

Instrument of Transfer

- (a) the instrument of transfer is in the form as prescribed in rules made under sub-section (1) of section 56;
- (b) the instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the Board may reasonably require to show the right of the transferor to make the transfer; and
- (c) the instrument of transfer is in respect of only one class of shares.

24. On giving not less than seven days' previous notice in accordance with Section 91 and the rules made thereunder, the Transfer Books and Register of Members may be closed during such time as the Directors think fit not exceeding in the whole forty five days in each year, but not exceeding thirty days at a time.

*Closure of Transfer
Books*

25. No transfer shall be made to a minor or person of unsound mind.

*Transfer to Minor/
Person of Unsound Mind*

26. All instruments of transfer which shall be registered shall be retained by the Company, but any instrument of transfer which the Directors may decline to register shall be returned to the person depositing the same.

*Retention of Instruments
of Transfer*

27. The Company shall incur no liability or responsibility whatever in consequence of its registering or giving effect to any transfer of shares, made or purporting to be made by any apparent legal owner thereof (as shown or appearing in the Register of Members) to the prejudice of persons having or claiming any equitable right, title or interest to or in the same shares.

*Persons Claiming
Equitable Rights*

VI. Transmission of Shares

28. The executors or administrators or the holder of a succession certificate in respect of shares of a

*Recognition of Survivors
and Heirs*

deceased member (not being one of several joint-holders) shall be the only person whom the Company shall recognise as having any title to the shares registered in the name of such member and in case of the death of anyone or more of the joint-holders of any registered shares, the survivors shall be the only persons recognised by the Company as having any title to or interest in such shares, but nothing herein shall be taken to release the estate of a deceased joint-holder from any liability on shares held by him jointly with any other person. Before recognising any executors or administrators or legal heir, the Directors may require him to obtain a grant of probate or letters of administration or succession certificate or other legal representation, as the case may be, from some competent Court; Provided that in any case where the Directors in their absolute discretion think fit, it shall be lawful for the Directors to dispense with the production of probate or letters of administration or a succession certificate or such other legal representation upon such terms as to indemnity, or otherwise as the Directors may consider desirable, provided also that the holder of a succession certificate shall not be entitled to receive any dividends already declared but not paid to the deceased member unless the succession certificate declares that the holder thereof is entitled to receive such dividends; provided also that if the member was a member of a Joint Hindu Family, the Directors on being satisfied to that effect and on being satisfied that the shares standing in his name in fact belonged to the joint family, may recognise survivors thereof as having title to the shares registered in the name of such member, but this proviso shall in no way be deemed to modify or nullify the provisions contained in Article 7 hereof.

29.

- (a) Any person becoming entitled to a share in consequence of the death or insolvency of a member may, upon such evidence being produced as may from time to time properly be required by the Board and subject as hereinafter provided, elect, either—
- (i) to be registered himself as holder of the share; or
 - (ii) to make such transfer of the share as the deceased or insolvent member could have made.
- (b) The Board shall, in either case, have the same

Registration/ Transfer of Transmitted Share

right to decline or suspend registration as it would have had, if the deceased or insolvent member had transferred the share before his death or insolvency.

- (c) If the person so becoming entitled shall elect to be registered as holder of the share himself, he shall deliver or send to the company a notice in writing signed by him stating that he so elects.
- (d) If the person aforesaid shall elect to transfer the share, he shall testify his election by executing a transfer of the share.
- (e) All the limitations, restrictions and provisions of these regulations relating to the right to transfer and the registration of transfers of shares shall be applicable to any such notice or transfer as aforesaid as if the death or insolvency of the member had not occurred and the notice or transfer were a transfer signed by that member.

30. A person becoming entitled to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share, except that he shall not, before being registered as a member in respect of the share, be entitled in respect of it to exercise any right conferred by membership in relation to meetings of the company:

Rights in Respect of Transmitted Share

Provided that the Board may, at any time, give notice requiring any such person to elect either to be registered himself or to transfer the share, and if the notice is not complied with within ninety days, the Board may thereafter withhold payment of all dividends, bonuses or other monies payable in respect of the share, until the requirements of the notice have been complied with.

31. Notwithstanding anything contained in the foregoing Articles on transmission of shares, every holder(s) of shares or holder(s) of debentures of the Company, holding either singly or jointly, may, at any time, nominate a person in the prescribed manner to whom the shares and/or the interest of the member in the shares of the Company or debentures of the Company shall vest in the event of his/her death. Such member may revoke or vary his/her nomination, at any time, by notifying the same to the Company to that effect. Such nomination shall be governed by the provisions of the Act or such other regulations governing the matter from time to time.

Nominations

VII. Forfeiture of Shares

32. If a member fails to pay any call, or instalment of a call, on the day appointed for payment thereof, the Board may, at any time thereafter during such time as any part of the call or instalment remains unpaid, serve a notice on him requiring payment of so much of the call or instalment as is unpaid, together with any interest which may have accrued. The notice aforesaid shall—

*Paid up to Pay Amount
Called*

- (a) name a further day (not being earlier than the expiry of fourteen days from the date of service of the notice) on or before which the payment required by the notice is to be made; and
- (b) state that, in the event of non-payment on or before the day so named, the shares in respect of which the call was made shall be liable to be forfeited.

33. If the requirements of any such notice as aforesaid are not complied with, any share in respect of which the notice has been given may, at any time thereafter, before the payment required by the notice has been made, be forfeited by a resolution of the Board to that effect.

Forfeiture of Shares

34. When any share shall have been so forfeited, notice of the forfeiture shall be given to the member in whose name it stood immediately prior to the forfeiture, and an entry of the forfeiture, with the date thereon shall forthwith be made in the Register, but no forfeiture shall be in any manner invalidated by any omission or neglect to give such notice or to make such entry.

Notice of Forfeiture

35. A forfeited share may be sold or otherwise disposed of on such terms and in such manner as the Board thinks fit. At any time before a sale or disposal as aforesaid, the Board may cancel the forfeiture on such terms as it thinks fit.

*Cancellation of Forfeited
Share*

36.

- (a) A person whose shares have been forfeited shall cease to be a member in respect of the forfeited shares, but shall, notwithstanding the forfeiture, remain liable to pay to the company all monies which, at the date of forfeiture, were presently payable by him to the company in respect of the shares.
- (b) The liability of such person shall cease if and when the company shall have received payment in full of all such monies in respect of the shares.
- (c) The forfeiture of a share shall involve the extinction of all interest in and also of all claims and demands against the Company in respect of

Effect of Forfeiture

the share, and all other rights incidental to the share, except only such of those rights as by these Articles or applicable law are expressly saved.

37.

- (a) A duly verified declaration in writing that the declarant is a director, the manager or the secretary, of the company, and that a share in the company has been duly forfeited on a date stated in the declaration, shall be conclusive evidence of the facts therein stated as against all persons claiming to be entitled to the share;
- (b) The company may receive the consideration, if any, given for the share on any sale or disposal thereof and may execute a transfer of the share in favour of the person to whom the share is sold or disposed of;
- (c) The transferee shall thereupon be registered as the holder of the share; and
- (d) The transferee shall not be bound to see to the application of the purchase money, if any, nor shall his title to the share be affected by any irregularity or invalidity in the proceedings in reference to the forfeiture, sale or disposal of the share.

Transfer of Forfeited Share

38. The provisions of these regulations as to forfeiture shall apply in the case of non-payment of any sum which, by the terms of issue of a share, becomes payable at a fixed time, whether on account of the nominal value of the share or by way of premium, as if the same had been payable by virtue of a call duly made and notified.

*Non-payment of Sums
Due to Attract
Forfeiture*

39. The Directors may at any time subject to the provisions of Act, accept surrender of any share from or by any member desirous of surrendering on such terms as directors may think fit.

Surrender of Shares

VIII. Alteration of Share Capital

40. The company may, from time to time, increase the share capital by such sum, to be divided into shares of such amount, as may be specified in the resolution.

*Increase of Share
Capital*

41. Subject to the provisions of section 61, the company may, by ordinary resolution,—

*Changes to Share
Capital*

- (a) consolidate and divide all or any of its share capital into shares of larger amount than its existing shares;
- (b) convert all or any of its fully paid-up shares into stock, and reconvert that stock into fully paid-up shares of any denomination;

- (c) sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the memorandum;
- (d) cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.

42. Where shares are converted into stock,-

Conversion of Shares to Stock

- (a) the holders of stock may transfer the same or any part thereof in the same manner as, and subject to the same regulations under which, the shares from which the stock arose might before the conversion have been transferred, or as near thereto as circumstances admit:

Provided that the Board may, from time to time, fix the minimum amount of stock transferable, so, however, that such minimum shall not exceed the nominal amount of the shares from which the stock arose.

- (b) the holders of stock shall, according to the amount of stock held by them, have the same rights, privileges and advantages as regards dividends, voting at meetings of the company, and other matters, as if they held the shares from which the stock arose; but no such privilege or advantage (except participation in the dividends and profits of the company and in the assets on winding up) shall be conferred by an amount of stock which would not, if existing in shares, have conferred that privilege or advantage.
- (c) such of the regulations of the company as are applicable to paid-up shares shall apply to stock and the words "share" and "shareholder" in those regulations shall include "stock" and "stockholder" respectively.

43. The company may, by special resolution, reduce in any manner and with, and subject to, any incident authorised and consent required by law,--

Reduction of Share Capital, Reserve and Premium Accounts

- (i) its share capital;
- (ii) any capital redemption reserve account; or
- (iii) any share premium account.

IX. Capitalisation of Profits

44.

- (a) The company in general meeting may, upon the recommendation of the Board, resolve--
 - (i) that it is desirable to capitalise any part of the amount for the time being standing to the

Capitalisation of Profits

credit of any of the company's reserve accounts, or to the credit of the profit and loss account, or otherwise available for distribution; and

- (ii) that such sum be accordingly set free for distribution in the manner specified in clause (b) amongst the members who would have been entitled thereto, if distributed by way of dividend and in the same proportions.
- (b) The sum aforesaid shall not be paid in cash but shall be applied, subject to the provision contained in clause (c), either in or towards—
 - (i) paying up any amounts for the time being unpaid on any shares held by such members respectively;
 - (ii) paying up in full, unissued shares of the company to be allotted and distributed, credited as fully paid-up, to and amongst such members in the proportions aforesaid;
 - (iii) partly in the way specified in sub-clause (i) and partly in that specified in sub-clause (ii).
- (c) A securities premium account and a capital redemption reserve account may, for the purposes of this regulation, be applied in the paying up of unissued shares to be issued to members of the company as fully paid bonus shares.
- (d) The Board shall give effect to the resolution passed by the company in pursuance of this regulation.

45.

- (a) Whenever such a resolution as aforesaid shall have been passed, the Board shall—
 - (i) make all appropriations and applications of the undivided profits resolved to be capitalised thereby, and all allotments and issues of fully paid shares if any; and
 - (ii) generally do all acts and things required to give effect thereto.
- (b) The Board shall have power—
 - (i) to make such provisions, by the issue of fractional certificates or by payment in cash or otherwise as it thinks fit, for the case of shares becoming distributable in fractions; and
 - (ii) to authorise any person to enter, on behalf of all the members entitled thereto, into an agreement with the company providing for the allotment to them respectively, credited as fully paid-up, of any further shares to which they

*Actions Ancillary to
Capitalisation of Profits*

may be entitled upon such capitalisation, or as the case may require, for the payment by the company on their behalf, by the application thereto of their respective proportions of profits resolved to be capitalised, of the amount or any part of the amounts remaining unpaid on their existing shares;

- (c) Any agreement made under such authority shall be effective and binding on such members.

X. Buy-back of Securities

46. Notwithstanding anything contained in these Articles but subject to the provisions of Sections 68 to 70 and any other applicable provision of the Act or any other law for the time being in force, the company may purchase its own shares or other specified securities.

Buy-back of Securities

XI. General Meetings

47. All general meetings other than annual general meeting shall be called extraordinary general meeting. The Board may, whenever it thinks fit, call an extraordinary general meeting.

General Meetings

48.

- (a) Notice of every meeting shall be given to every member of the Company in any manner authorised by sub-sections (1) and (2) of Section 30 of the Act.

Notice of Meeting

- (b) The accidental omission to give notice of any meeting to or the non-receipt of such notice by any of the members shall not invalidate the proceedings at any such meeting.

49.

- (a) No business shall be transacted at any general meeting unless a quorum of members is present at the time when the meeting proceeds to business.

Quorum at General Meetings

- (b) Save as otherwise provided herein, the quorum for the general meetings shall be as provided in section 103.

50.

- (a) The chairperson, if any, of the Board shall preside as Chairperson at every general meeting of the company.

Chairperson at General Meeting

- (b) If there is no such Chairperson, or if he is not present within fifteen minutes after the time appointed for holding the meeting, or is unwilling to act as chairperson of the meeting, the directors present shall elect one of their members to be

Chairperson of the meeting.

- (c) If at any meeting no director is willing to act as Chairperson or if no director is present within fifteen minutes after the time appointed for holding the meeting, the members present shall choose one of their members to be Chairperson of the meeting.

51.

- (a) If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if convened upon a requisition of members under Section 100 of the Act shall be dissolved, but in any other case it shall stand adjourned to the same day in the next week at the same time and place, unless the same shall be a public holiday when the meeting shall stand adjourned to the next day not being a public holiday at the same time and place or to such other day and at such other time and place as the Directors may determine, and if at such adjourned meeting a quorum be not present within half an hour from the time appointed for the meeting, those members who are present, and not being less than two persons, shall be a quorum and may transact the business for which the meeting was called.

Adjournment of General Meeting

- (b) The Chairperson may, with the consent of any meeting at which a quorum is present, and shall, if so directed by the meeting, adjourn the meeting from time to time and from place to place. No business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place.
- (c) When a meeting is adjourned for thirty days or more, notice of the adjourned meeting shall be given as in the case of an original meeting.
- (d) Save as aforesaid, and as provided in section 103 of the Act, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

52. The books containing the minutes of the proceedings of any general meeting of a company or of a resolution passed by postal ballot, shall be kept at the registered office of the company, and be open, during business hours, to the inspection by any member without charge, in each case between 2.00pm and 4.00pm on each business day.

Inspection of Minutes Book of General Meeting

53. Any member shall be entitled to be furnished, within seven working days after he has made a

Copy of Minutes of

request in that behalf to the company, with a copy of any minutes of any general meeting, on payment of fee not exceeding the maximum rate prescribed under Rule 26 of Companies (Management & Administration) Rules 2014 or any amendment thereof for each page or such other reasonable fee as may be prescribed by the Board.	General Meeting
<p>54. Subject to any rights or restrictions for the time being attached to any class or classes of shares,—</p> <p>(a) on a show of hands, every member present in person shall have one vote; and</p> <p>(b) on a poll, the voting rights of members shall be in proportion to his share in the paid-up equity share capital of the company.</p>	Voting Rights
55. A member may exercise his vote at a meeting by electronic means in accordance with section 108 and shall vote only once.	Voting by Electronic Means
56. In the case of joint holders, the vote of the senior who tenders a vote, whether in person or by proxy, shall be accepted to the exclusion of the votes of the other joint holders. For this purpose, seniority shall be determined by the order in which the names stand in the register of members.	Voting in case of Joint Holders
57. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on a show of hands or on a poll or by electronic means, by his legal guardian and any such legal guardian may, on a poll, vote by proxy.	Voting by Members of Unsound Mind
58. Any business other than that upon which a poll has been demanded may be proceeded with, pending the taking of the poll.	Business Pending Poll
59. No member shall be entitled to vote at any general meeting unless all calls or other sums presently payable by him in respect of shares in the company have been paid.	Voting Rights subject to Payment of Calls
<p>60.</p> <p>(a) No objection shall be raised to the qualification of any voter except at the meeting or adjourned meeting at which the vote objected to is given or tendered, and every vote not disallowed at such meeting shall be valid for all purposes.</p> <p>(b) Any such objection made in due time shall be referred to the Chairperson of the meeting, whose decision shall be final and conclusive.</p>	Qualification of Voter
61. In case of an equality of votes, whether on show of hands or on poll the Chairman of meeting at which the show of hands takes place or at which the poll	Counting Vote

is demanded, shall be entitled to a casting vote in addition to his own vote or votes to which he may be entitled as a member.

XII. Proxies and Representatives of Bodies Corporate

62.

- (a) A body corporate (whether a Company within the meaning of the Act or not) may, if it is a member of the Company, by resolution of its Board of Directors or other Governing Body, authorise such person as it thinks fit, to act as its representative at any meeting of the Company or at any meeting of any class of members of the Company. If such body corporate be a creditor (including a holder of debentures) of the Company, it may by resolution of the Board of Directors or other Governing Body, authorise such person as it thinks fit, to act as its representative at any meeting of any creditor of the Company held in pursuance of the Act or any rules made thereunder, or in pursuance of the provisions contained in any Debenture or Trust Deed, as the case may be.
- (b) A person authorised by a resolution as aforesaid, shall be entitled to exercise the same rights and powers (including the right to vote by proxy) on behalf of the body corporate which he represents as that body could exercise if it were a member, creditor or holder of debentures of the Company. He shall be counted for the purpose of ascertaining whether a quorum of members is present.
- (c) The production at the meeting of a copy of such resolution duly signed by one Director of such body corporate the Company or by the Managing Director/Manager or other duly authorised officer thereof and certified by him or them as being a true copy of the resolution may, on production at the meeting, be accepted by the Company as sufficient evidence of the validity of his appointment.

*Authorised
Representative of Bodies
Corporate*

63.

- (a) The instrument appointing a proxy and the power-of-attorney or other authority, if any, under which it is signed or a notarised copy of that power or authority, shall be deposited at the registered office of the company not less than 48 hours before the time for holding the meeting or adjourned meeting at which the person named in the instrument proposes to vote, or, in the case of a poll, not less than 24 hours before the time appointed for the taking of the poll; and in default

Proxy

the instrument of proxy shall not be treated as valid.

- (b) An instrument appointing a proxy shall be in the form as prescribed in the rules made under section 105.
- (c) A vote given in accordance with the terms of an instrument of proxy shall be valid, notwithstanding the previous death or insanity of the principal or the revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the shares in respect of which the proxy is given:

Provided that no intimation in writing of such death, insanity, revocation or transfer shall have been received by the company at its office before the commencement of the meeting or adjourned meeting at which the proxy is used.

XIII. Board of Directors

64. Subject to the provisions of the Act, the number of directors shall not be less than Three and not more than fifteen. *Number of Directors*

65. The first Directors of the Company were: (i) Mr. R.N. Parbat; (ii) Mr. R.R. Bhinga; (iii) Mr. I. Collingrath. *First Directors*

66.

- (a) The Company shall, subject to the provisions of the Act, be entitled to agree with any person, firm, body corporate, corporation that he or it shall have the right to appoint /remove his or its nominee on the Board of directors of the Company upon such terms and conditions as the Company may deem fit. Such nominee and their successors in office appointed under this Article shall be called Nominee Directors of the Company. *Nominee Directors*
- (b) The Nominee Directors so appointed above shall be entitled to hold office until required to retire by rotation or requested to retire by the person, firm, body corporate, corporation who may have appointed him/them. If required to retire by rotation, the Nominee Directors will be entitled to stand for re-election. As and whenever a Nominee Director vacates office whether upon request as aforesaid or by death, resignation or otherwise the person, firm, body corporate, corporation who appointed such Nominee Director may appoint any other Director in his place. The Nominee Director may at any time by notice in writing to the Company resign his office. Subject as aforesaid, a Nominee Director shall be entitled to the same, rights and privileges and be subject to

the same obligation as any other director of the Company.

67. The Directors shall have power at a meeting of the Board at any time and from time to time (including if there is vacancy in the Board) to appoint any person other than a person who has been removed from office of a Director of the Company to be a Director of the Company as an addition to the Board but so that the total number of Directors shall not at any time exceed the maximum number fixed. Any Director so appointed shall hold office only up to the date of the next following Annual General Meeting of Company or the last date on which such annual general meeting should have been held, whichever is earlier.

Additional Directors

68. The Board of Directors may appoint an alternate Director to act for a Director (hereinafter called the 'Original Director') during his absence for a period of not less than three months from India.

Alternate Directors

69.

(a) Subject to the provisions of the Act, the remuneration of the Directors shall be as fixed by the Company in General Meeting and may be by way of fees for meetings attended or monthly payments, or otherwise, as may be fixed by the General Meeting.

Director Remuneration

(b) The fees payable to a Director for attending a Meeting of the Board or Committee thereof or a General Meeting shall be decided by the Board of Directors from time to time within the maximum limits of such fees that may be prescribed by the Act or the Central Government, or if not so prescribed, in such manner as the Directors may decide from time to time in conformity with the provisions of law.

(c) In addition to the remuneration payable to them in pursuance of the Act, the directors may be paid all travelling, hotel and other expenses properly incurred by them, in attending and returning from meetings of the Board of Directors or any committee thereof or general meetings of the company, or in connection with the business of the company.

(d) The Directors shall be paid such further remuneration (if any) either on the basis of percentage on the net profit of the Company or otherwise as the Company in General Meeting may from time to time determine and such further remuneration shall be divided amongst the directors in such proportion and manner as the

Board may from time to time determine.

70. The quorum for a meeting of the Board shall be one-third of its total strength or two directors, whichever is higher, and the participation of the directors by video conferencing or by other audio visual means shall also be counted for the purposes of quorum.

Quorum

71. The continuing Directors may act notwithstanding any vacancy in their body; but, if and so long as their number falls below the minimum quorum fixed, the continuing Directors shall not except for the purpose of filling vacancies to increase the number of directors to that fixed for the quorum or of summoning a General Meeting, act for any other purpose.

Increase of Directors to Quorum

72. Subject to the provisions of the Act, the Directors, including a Managing Director and the Manager, shall not be disqualified by reason of his or their office, as such from contracting with the Company either as vendor, purchaser, lender, agent, broker, lessor or lessee or otherwise, nor shall any such contract or any contract or arrangement entered into by or on behalf of the Company with any Director or the Manager or with any company or partnership of or in which any Director or the Manager shall be a member, or otherwise interested, be avoided nor shall any Director, or the Manager so contracting or being such member or so interested, be liable to account to the Company for any profit realised by such contract or arrangement by reason only of such Director or the Manager holding that office or of the fiduciary relation thereby established, but the nature of the interest must be disclosed by him or them at the meeting of Directors at which the contract or arrangement is determined on, if the interest then exists or in any other case at the first meeting of Directors after the acquisition of the interest; Provided nevertheless that no Director shall vote as a Director in respect of any contract or arrangement in which he is so interested as aforesaid, and if he does so, his vote shall not be counted but he shall be entitled to be present at the meeting during the transaction of the business in relation to which he is precluded from voting although he shall not be counted for the purpose of ascertaining whether there is a quorum of Directors present. This proviso shall not apply to any contract by or on behalf of the Company to give the Directors or any of them any security by way of indemnity against any loss which they or any of them may suffer by becoming or being sureties for

Contracts in which Interested

the Company.

- | | |
|--|--|
| 73. A Director of this Company may be or become a Director of any Company promoted by this Company or in which it may be interested as a vendor, shareholder, or otherwise, and no such Director shall be accountable for any benefits received as a Director or member of such company. | <i>Benefits Received from Companies Promoted</i> |
| 74. A retiring Director shall be eligible for re-election and shall act as a Director throughout the meeting at which he retires. | <i>Rotation of Directors</i> |
| 75. The Board may pay all expenses incurred in getting up and registering the company. | <i>Pre-incorporation Expenses</i> |
| 76. The company may exercise the powers conferred on it by section 88 with regard to the keeping of a foreign register; and the Board may (subject to the provisions of that section) make and vary such regulations as it may think fit respecting the keeping of any such register. | <i>Foreign Register</i> |
| 77. All cheques, promissory notes, drafts, hundis, bills of exchange and other negotiable instruments, and all receipts for monies paid to the company, shall be signed, drawn, accepted, endorsed, or otherwise executed, as the case may be, by such person and in such manner as the Board shall from time to time by resolution determine. | <i>Execution of Negotiable Instruments</i> |
| 78. Every director present at any meeting of the Board or of a committee thereof shall sign his name in a book to be kept for that purpose. | <i>Directors to Sign</i> |
| 79. Subject to the provisions of the Act and these Articles the Board of directors of the Company shall be entitled to exercise all such powers, and to do all such acts and things as the Company is authorised to exercise provided that the Board shall not exercise any power or do any act or thing which is directed or required whether by the Act or by the memorandum or these Articles or otherwise to be decided or done by the Company in General Meeting. Provided Further that in exercising any such power or doing any such act or thing the Board shall be subject to the provisions contained in that behalf in the Act or in the memorandum or in these Articles or in any regulations not inconsistent therewith and duly made thereunder including regulations made by the Company in general meeting. No regulation made by the Company in general meeting shall invalidate any prior act of the Board which would have been valid if that Regulation had not been made. | <i>Power of Board</i> |

(a) The Board of Directors may meet for the conduct of business, adjourn and otherwise regulate its meetings, as it thinks fit. *Convening Board Meeting*

(b) A director may, and the manager or secretary on the requisition of a director shall, at any time, summon a meeting of the Board.

81.

(a) Save as otherwise expressly provided in the Act, questions arising at any meeting of the Board shall be decided by a majority of votes. *Resolutions to be Passed by Majority*

(b) In case of an equality of votes, the Chairperson of the Board, if any, shall have a second or casting vote.

82.

(a) The Board may elect a Chairperson and a Vice-Chairman to preside at its meetings and to exercise the powers and perform the duties ordinarily vested in a Chairman. *Chairperson of Board*

(b) If at any meeting the Chairman is not present within fifteen minutes after the time appointed for holding the meeting, the Vice-Chairman shall take the chair and exercise the power and perform the duties vested in a Chairman. If such Vice-Chairman also be not present at the meeting, the directors present may choose one of their number to be the Chairman of the meeting.

83.

(a) The Board may, subject to the provisions of the Act, delegate any of its powers to committees consisting of such member or members of its body as it thinks fit. *Delegation to Committees*

(b) Any committee so formed shall, in the exercise of the powers so delegated, conform to any regulations that may be imposed on it by the Board.

(c) Articles 70, 80, 81, 82 and 83 shall mutatis mutandis be applicable to meetings of committees.

84. All acts done in any meeting of the Board or of a committee thereof or by any person acting as a director, shall, notwithstanding that it may be afterwards discovered that there was some defect in the appointment of any one or more of such directors or of any person acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such director or such person had been duly appointed and was qualified to be a director. *Defect not to Invalidate Acts*

85. The Board may pass a circular resolution in writing. *Resolution by*

in accordance with the provisions of Section 175 of the Act. Circulation

XIV. Inspection and Copies

86. The Company shall maintain all Registers, Books and Documents as required to be maintained by the Company under the Act from time to time. The said Registers, Books and Documents shall be kept open for inspection by such persons as may be entitled thereto respectively, under the Act during business days during 2.00 p.m. to 4.00 p.m. or as otherwise may be determined by the Company in General Meeting. A company may on payment of fee not exceeding the maximum rate prescribed under Rule 10 of Companies (Management & Administration) Rules 2014 or any amendment thereof for each page or such other reasonable fee as may be prescribed by the Board provide a copy of each of the above documents. *Inspection of Registers*
87. A company shall on payment of fee not exceeding the maximum rate prescribed under Rule 10 of Companies (Management & Administration) Rules 2014 or any amendment thereof for each page or such other reasonable fee as may be prescribed by the Board in compliance with Section 17 of the Act, send a copy of each of the following documents to a member within seven days of the request being made by him- *Copies of Documents*
- (a) the Memorandum of Association of the Company;
 - (b) these Articles;
 - (c) every agreement and every resolution referred to in sub-section (1) of section 117, if and so far as they have not been embodied in the memorandum and these Articles.
88. The register of charges and the instrument of charges kept by the company shall be open for inspection- *Inspection of Registers*
- (i) by any member or creditor of the company without fees;
 - (ii) by any other person on payment of fees not exceeding Rs. fifty rupees for each inspection on a day.
- 89.
- (a) The Board shall from time to time determine whether and to what extent and at what times and places and under what conditions or regulations, the accounts and books of the company, or any of them, shall be open to the inspection of members not being directors. *Accounts*

- (b) No member (not being a director) shall have any right of inspecting any account or book or document of the company except as conferred by law or authorised by the Board or by the company in general meeting.

XV. Managing Director and Whole-time Directors

90. Subject to the provisions of the Act, the Board of Directors may from time to time appoint any one or more of their body including its Chairperson to be the Managing Director or Managing Directors (in which expression shall be included Joint Managing Director/s of the Company for such term not exceeding five years at a time. If the Managing Director is liable to retire by rotation, such term shall be subject to his being reappointed at the General Meeting at which he is required to retire.

Managing Director

91. Subject to the provisions of the Act and of these Articles the Managing Director, may or may not be while he continues to hold that office, be subject to retirement by rotation and he shall be subject to the same provisions as to qualifications, resignation and removal as the other Directors of the Company. The remuneration of the Managing Director shall from time to time be fixed in accordance with the provisions of the Act and may be by way of a fixed salary or commission or participation in profits or by any or all of these modes or in any other form and may be in addition to the remuneration for attendance at Board Meetings as may be provided under the other provisions of these Articles and may provide for minimum remuneration in case of loss, inadequacy or absence of profits.

Terms of Appointment of Managing Director

92. The Board of Directors may from time to time entrust to and confer upon the Managing Director for the time being, such of the powers exercisable under these Articles by the Directors as they think fit, and may confer such powers for such objects and purposes and upon such terms and conditions and with such restrictions as they think expedient, and may from time to time revoke, withdraw, alter or vary all or any of such powers. Unless and until otherwise determined by the Board of Directors, the Managing Director may exercise all powers exercisable by the Directors save such powers as by the Act or by these Articles shall be exercisable by the Directors themselves. The Board of Directors may, whenever there are more than one Managing Director, decide whether they should act jointly or severally, and may if they think fit, delegate powers separately to one or more Managing Directors.

Powers of Managing Director

93. Subject to the provisions of the Act and these Articles, the Directors may from time to time appoint one or more of their body to be the Whole-time Director or Whole-time Directors of the Company, for such term and subject to such contract, as they may think fit.

Whole-time Directors

XVI. Manager, CEO, Company Secretary and CFO

94.

- (a) Subject to the applicable provisions of the Act, the Board of Directors may from time to time after obtaining such sanctions and approvals as may be necessary appoint an individual to be a Manager of the Company for a period not exceeding five years at a time, and upon such terms and conditions as they may deem fit, and may from time to time (subject to the provisions of any contract between him and the Company) remove or displace him from office, and appoint another in his place. A Director may be appointed as the Manager of the Company.
- (b) The remuneration of the Manager, shall from time to time be fixed in accordance with the provisions of the Act and may be by way of fixed salary or commission or participation in profits or by any or all of these modes, and partly in one way and partly in another.
- (c) A Manager so appointed shall exercise the powers and authorities conferred upon him by an agreement entered into between him and the Company and/or by a resolution of the Board or General Meeting, and shall be subject to the obligations and restrictions imposed in that behalf by the Act.

Manager

95.

- (a) Subject to the provisions of the Act,—
- (i) A chief executive officer, company secretary or chief financial officer may be appointed by the Board for such term, at such remuneration and upon such conditions as it may think fit; and any chief executive officer, company secretary or chief financial officer so appointed may be removed by means of a resolution of the Board;
- (ii) A director may be appointed as chief executive officer, company secretary or chief financial officer.
- (b) A provision of the Act or these regulations requiring or authorising a thing to be done by or to a director

CEO, Company Secretary and CFO

and chief executive officer, company secretary or chief financial officer shall not be satisfied by its being done by or to the same person acting both as director and as, or in place of, chief executive officer, company secretary or chief financial officer.

XVII. Seal

96.

- (a) The Board shall provide for the safe custody of the seal and shall have power from time to time to destroy the same and substitute a new seal in lieu thereof. *Seal*
- (b) The seal of the company shall not be affixed to any instrument except by the authority of a resolution of the Board or of a committee of the Board authorised by it to act on its behalf and in the presence of one Director or such other person as the Board may appoint for the purpose and such Director or other person aforesaid shall sign every instrument to which the common seal of the Company is so affixed in his presence.

XVIII. Dividends and Reserves

97. The company in general meeting may declare dividends, but no dividend shall exceed the amount recommended by the Board. *Declaration of Dividend*
98. Subject to the provisions of section 123, the Board may from time to time pay to the members such interim dividends as appear to it to be justified by the profits of the company. *Interim Dividend*
- 99.
- (a) The Board may, before recommending any dividend, set aside out of the profits of the company such sums as it thinks fit as a reserve or reserves which shall, at the discretion of the Board, be applicable for any purpose to which the profits of the company may be properly applied. *Setting Aside of Reserves*
- (b) The Board may also carry forward any profits which it may consider necessary not to divide, without setting them aside as a reserve.
- 100.
- (a) Subject to the rights of persons, if any, entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid or credited as paid on the shares in respect whereof the dividend is paid, but if and so long as nothing is paid upon any of the shares in the company, dividends may be declared and paid according to the amounts of the shares. *Dividend to be Paid in Proportion to Amount Paid-up*

- (b) No amount paid or credited as paid on a share in advance of calls shall be treated for the purposes of this regulation as paid on the share.
- (c) All dividends shall be apportioned and paid proportionately to the amounts paid or credited as paid on the shares during any portion or portions of the period in respect of which the dividend is paid; but if any share is issued on terms providing that it shall rank for dividend as from a particular date such share shall rank for dividend accordingly.
101. The Directors may retain the dividend payable upon shares in respect of which any person is entitled to become a member or which any person under that Article is entitled to transfer until such person shall become a member in respect thereof or shall duly transfer the same. *Retention of Dividend*
102. A transfer of shares shall not pass the right to any dividend declared thereon before the registration of the transfer, and, subject to the provisions of these Articles, no dividend shall be payable to any person whose name does not appear on the register of members except with the authority, special or general, of the Directors. *Dividend to be Paid to Registered Member*
103. The Board may deduct from any dividend payable to any member all sums of money, if any, presently payable by him to the company on account of calls or otherwise in relation to the shares of the company. *Deduction of Monies Owed*
- 104.
- (a) Any dividend, interest or other monies payable in cash in respect of shares may be paid by cheque or warrant sent through the post directed to the registered address of the holder or, in the case of joint holders, to the registered address of that one of the joint holders who is first named on the register of members, or to such person and to such address as the holder or joint holders may in writing direct. *Payment of Dividend*
- (b) Every such cheque or warrant shall be made payable to the order of the person to whom it is sent.
- (c) The Company shall not be liable or responsible for any cheque or warrant lost in transmission or for any dividend lost to the member or person entitled therein, by the forged endorsement of any cheque or warrant or the fraudulent recovery thereof by any other means.
105. Any one of two or more joint holders of a share *Receipts from Joint*

may give effective receipts for any dividends, bonuses or other monies payable in respect of such shares.

Dividends

106. Notice of any dividend that may have been declared shall be given to the persons entitled to share therein in the manner mentioned in the Act.

Notice of Dividend

107. No dividend shall bear interest against the company.

No Interest

XXX. Miscellaneous

108. The Company shall make the requisite annual returns in accordance with Section 92 of the Act.

Annual Return

109. Subject to the provisions of Chapter XX of the Act and rules made thereunder—

Winding-up

(a) If the company shall be wound up, the liquidator may, with the sanction of a special resolution of the company and any other sanction required by the Act, divide amongst the members, in specie or kind, the whole or any part of the assets of the company, whether they shall consist of property of the same kind or not.

(b) For the purposes aforesaid, the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members.

(c) The liquidator may, with the like sanction, vest the whole or any part of such assets in trustees upon such trusts for the benefit of the contributories if he considers necessary, but so that no member shall be compelled to accept any shares or other securities whereon there is any liability.

110. Every officer of the company shall be indemnified out of the assets of the company against any liability incurred by him in defending any proceedings, whether civil or criminal, in which judgment is given in his favour or in which he is acquitted or in which relief is granted to him by the court or the Tribunal.

Indemnity

111. Save as provided in these Articles and the Act no member or other person (not being a Director) shall be entitled to enter the property of the Company or to inspect or examine the Company's premises or properties of the Company without the permission of the Directors or to require discovery of or any information respecting any detail of the Company's trading or any matter which is or may be in the nature of a trade secret, mystery of trade, or secret process or of any matter whatsoever which may relate to the conduct of the business of the

Secrecy

Company and which in the opinion of the Directors
it will be inexpedient in the interest of the
Company to communicate.

We, the several persons whose names and address are subscribed below are desirous of being formed into a company in pursuance of this Memorandum of Association and we respectively agree to take the number of shares in the capital of the company set to opposite to our respective names:

Sl.No	Full name, address and description of subscribers	Number of equity shares taken by each subscriber	Signature of subscribers
1.	Abhaya Indhupallany S/o H. D. Mulderjee 12, Ashoka Road, Allipore Calcutta - 700 027, Service	50 (Fifty)	sd/-
2.	Tata Industries Limited Bombay House 24, Horni Mody Street Bombay - 400 001 Investment Company	10 (Ten)	sd/-
3.	Sowmyan Ramakrishnan S/o R. Sowmyan Napier Sea Road Bombay - 400 036 Company Executive	50 (Fifty)	sd/-
4.	Dilip Suchintar Pendse S/o Suchintar Trimbak Pendse Flat No. 23/24 White Lily, Ash Lane, Dadar, Bombay - 400 028 Company Executive	50 (Fifty)	sd/-
5.	Hydro Aluminium A.S. Drammensveien 264 Oslo, Norway Foreign Company	10 (Ten)	sd/-
6.	Shovon Madhusant Thakore S/o Madhusant Thakore 208, Camball Crest	100 (Hundred)	sd/-

42-A, Pedder Road
Bombay - 400 026
Advocate

7. Murali Kishore Choudhary
5/6- Late Vedant Choudhary
SB/34 II Block, New Alipore
Calcutta, Executive

60 (Sixty)

Sd/-

Total

330 (Three hundred and thirty only)

Dated this 6th day of September 1993.

Witness to all the above
signatures-

Mr. Asim Kumar Chatterjee
Company Secretary
4D Garden Place (2nd Floor)
Calcutta - 700 001



CONSENT ORDER
BAPHLIMALI BAUXITE MINES OF UTKAL ALUMINA INTERNATIONAL LTD.

Annexure - 19

Page 1 of 12

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
Phone-2581809, Fax: 2582822, 2580955

CONSENT ORDER

No. 2834 / IND-I-CON- 5450 Dt. 01.03.17

CONSENT ORDER NO. 2765

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application No. 895606 Dated 25.10.2016 and letter No. UAIL- MINES/ENV/24/2017 Dated 13.02.2017.

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: BAPHLIMALI BAUXITE MINES OF M/S. UTKAL ALUMINA INTERNATIONAL LTD.

Name of the Occupier & Designation: SRI SURYAKANTA MISHRA, DIRECTOR.

Address: VILL: PAIKKUPAKHAL, PO: MAIKANCH, DIST: RAYAGADA

This consent order is valid for the period up to 31.03.2018

This consent order supersedes the earlier consent orders issued vide letter No. 2697 dated 11.02.2016 and No. 1850 dated 08.02.2017.

Details of Products Manufactured

Sl. No	Product	Quantity
01.	Bauxite	5.3 MTPA

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.



CONSENT ORDER
RAPIHIZENI RAU/ITE XINES OF ETNAAL ALU/SHK/INT. ...TD.

Page 2 of 12

A. Discharge permitted through the following outlet subject to the standard

Outlet No.	Description of outlet	Point of discharge	Quantity of discharge KL/hr	Pre-scribed Standard				
				pH	TSS (mg/l)	Oil & Grease (mg/l)	BOD (mg/l)	COD (mg/l)
01.	Mine drainage water/ surface runoffs/ other wastewater.	On land/inland surface water body	20	5.5-9.0	100	10	--	--

B. Emission permitted through the following stack subject to the prescribed standard

Chimney Stack No.	Description of Stack	Stack height (m)	Quantity of emission	Prescribed Standard			
				PM (mg/Nm ³)	SO ₂	NO _x	

C. Disposal of solid waste permitted in the following manner

Sl. No.	Type of Solid waste	Quantity generated (TPD)	Quantity to be reused on site (TPD)	Quantity to be reused off site (TPD)	Quantity disposed off (TPD)	Description of disposal site.
01	Top soil & over burden	As per approved mining plan	--	--	--	As per approved mining plan



CONSENT ORDER
BAPHELMALI BATHING MINES OF UTKAL ALUMINA INTL. LTD.

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D. GENERAL CONDITIONS FOR ALL UNITS

1. The consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be the ground liable for revocation/withdrawal/cancellation of the consent order under section 27 of the Act of Water (Prevention & Control of Pollution) Act, 1974 and section 21 of Air (Prevention & Control of Pollution) Act, 1986 and to make such variations as deemed fit for the purpose of the Acts.
2. The industry would immediately submit revised application for consent to operate to this Board in the event of any change in the quantity and quality of raw material / and products / manufacturing process or quantity / quality of the effluent / rate of emission / air pollution control equipment / system etc.
3. The applicant shall not change or alter either the quality or quantity or the rate of discharge or temperature or the route of discharge without the previous written permission of the Board.
4. The application shall comply with and carry out the directives/orders issued by the Board in this consent order and at all subsequent times without any negligence on his part. In case of non-compliance of any directives/orders issued at any time and/or violation of the terms and conditions of this consent order, the applicant shall be liable for legal action as per the provisions of the Law/Act.
5. The applicant shall make an application for grant of fresh consent at least 90 days before the date of expiry of this consent order.
6. The issuance of this consent does not convey any property right in either real or personal property or any exclusive privileges nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Central, State laws or regulations.
7. This consent does not authorize or approve the construction of any physical structure or facilities or the undertaking of any work in any natural water course.
8. The applicant shall display this consent granted to him in a prominent place for perusal of the public and inspecting officers of this Board.
9. An inspection book shall be opened and made available to Board's Officers during the visit to the factory.
10. The applicant shall furnish to the visiting officer of the Board any information regarding the construction, installation or operation of the plant or of effluent treatment system / air pollution control system / stack monitoring system or any other particulars as may be pertinent to preventing and controlling pollution of Water / Air.
11. Meters must be affixed at the entrance of the water supply connection so that such meters are easily accessible for inspection and maintenance and for other purposes of the Act provided that the place where it is affixed shall in no case be at a point before which water has been used by the consumer for utilization for any purposes whatsoever.
12. Separate meters with necessary pipe-line for assessing the quantity of water used for each of the purposes mentioned below:
 - a) Industrial cooling, spraying in mine pits or boiler feed,
 - b) Domestic purpose
 - c) Process
13. The applicant shall display suitable caution board at the lock where the effluent is entering into any water-body or any other place to be indicated by the Board, indicating therein that the area into which the effluents are being discharged is not fit for the domestic use/bathing.
14. Storm water shall not be allowed to mix with the trade and/or domestic effluent on the downstream of the terminal manholes where the flow measuring devices will be installed.
15. The applicant shall maintain good house-keeping both within the factory and the premises. All pipes, valves, sewers and drains shall be leak-proof. Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
16. The applicant shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by him to achieve with the terms and conditions of the consent.
17. Care should be taken to keep the anaerobic lagoons, if any, biologically active and not allowed to have stagnation ponds. The anaerobic lagoons should be fed with the required nutrients for effective digestion. Lagoons should be constructed with sides and bottom made impervious.
18. The utilization of treated effluent on factory's own land, if any, should be completed and there should be no possibility of the effluent gaining access into any drainage channel or other water courses either directly or by overflow.
19. The effluent disposal on land, if any, should be done without creating any nuisance to the surroundings or inundation of the lands at any time.
20. If at any time the disposal of treated effluent on land becomes incomplete or unsatisfactory or causes any problem or becomes a matter of dispute, the industry must adopt alternate satisfactory treatment and disposal measures.
21. The sludge from treatment units shall be dried in sludge drying beds and the dried liquid shall be taken to equalization tank.
22. The effluent treatment units and disposal measures shall become operative at the time of commencement of production.
23. The applicant shall provide port holes for sampling the emissions and access platform for carrying out stack sampling and provide electrical outlet points and other arrangements for chimneys/stacks and other sources of emissions so as to collect samples of emission by the Board or the applicant at any time in accordance with the provision of the Act or Rules made thereon.
24. The applicant shall provide all facilities and render required assistance to the Board staff for collection of samples / stack monitoring / inspection.
25. The applicant shall not change or alter either the quality or quantity or rate of emission. It shall install, replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in any change in quality and/or quantity of emissions, without the previous written permission of the Board.
26. No control equipments or chimney shall be altered or replaced or as the case may be erected or re-erected except with the previous approval of the Board.



CONSENT ORDER KARNATAKA RAILWAYS MINES OF UTKAL ALUMINA INT. LTD.

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27. The liquid effluent arising out of the operation of the air pollution control equipment shall be treated in the manner and to all standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 (as amended).
28. The stack monitoring system employed by the applicant shall be opened for inspection to the Board at any time.
29. There shall not be any fugitive or accidental discharge from the premises.
30. In case of such accidental discharge/emissions the industry shall take immediate action to bring down the emission within the limits prescribed by the Board in conditions/stop the operation of the plant. Report of such accidental discharge/emission shall be brought to the notice of the Board within 24 hours of occurrence.
31. The applicant shall keep the premises of the industrial plant and air pollution control equipments clean and make all hoods, pipes, valves, stacks/chimneys leak proof. The air pollution control equipments, hood, inspection chambers, sampling port holes shall be made easily accessible at all times.
32. Any upset condition in any of the plant/units of the factory which is likely to result in increased/effluent discharge/emission of air pollutants and / or result in violation of the standards mentioned above shall be reported to the Headquarters and Regional Office of the Board by fax / speed post within 24 hours of its occurrence.
33. The industry has to ensure that minimum three varieties of trees are planted at the density of not less than 1000 trees per acre. The trees may be planted along boundaries of the industries or industrial premises. This plantation is stipulated over and above the bulk plantation of trees in that area.
34. The solid waste such as sweeping, wastage packages, empty containers residues, sludge including that from air pollution control equipments collected within the premises of the industrial plants shall be disposed off scientifically to the satisfaction of the Board, so as not to cause fugitive emission, dust problems through leaching etc., of any kind.
35. All solid wastes arising in the premises shall be properly classified and disposed off to the satisfaction of the Board by:
 - i) Land fill in case of inert material, care being taken to ensure that the material does not give rise to leachate which may percolate into ground water or carried away with storm run-off.
 - ii) Controlled incineration, wherever possible in case of combustible organic material.
 - iii) Composting, in case of bio-degradable material.
36. Any toxic material shall be decontaminated if possible, otherwise be sealed in steel drums and buried in protected areas after obtaining approval of this Board in writing. The decontamination or sealing and burying shall be carried out in the presence of Board's authorized persons only. Letter of authorization shall be obtained for handling and disposal of hazardous wastes.
37. If due to any technological improvement or otherwise the Board is of opinion that all or any of the conditions referred to above require variation (including the change of any control equipment either in whole or in part) this Board shall after giving the applicant an opportunity of being heard, vary all or any of such condition and thereupon the applicant shall be bound to comply with the conditions as varied.
38. The applicant, its/her legal representatives or assignees shall have no claim whatsoever to the condition or renewal of this consent after the expiry period of this consent.
39. The Board reserves the right to review, impose additional conditions or condition, revoke change or alter the terms and conditions of this consent.
40. Notwithstanding anything contained in this conditional letter of consent, the Board reserves its right and power under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 to review any and/or all the conditions imposed herein above and to make such variations as deemed fit for the purpose of the Act by the Board.
41. The conditions imposed as above shall continue to be in force until revoked under section 27(2) of the Water (Prevention & Control of Pollution) Act, 1974 and section 21 A of Air (Prevention & Control of Pollution) Act, 1987.
42. In case the consent fee is revised upward during this period, the industry shall pay the differential fees to the Board (for the remaining years) to keep the consent order in force. If they fail to pay the amount within the period stipulated by the Board the consent order will be revoked without prior notice.
43. The Board reserves the right to revoke/revoke consent to operate at any time during period for which consent is granted in case any violation is observed and to modify/stipulate additional conditions as deemed appropriate.

GENERAL CONDITIONS FOR UNITS WITH INVESTMENT OF MORE THAN Rs 50 CRORES, AND 17 CATEGORIES OF HIGHLY POLLUTING INDUSTRIES (RED A).

1. The applicant shall analyze the emissions every month for the parameters indicated in Table B & C as mentioned in this order and shall furnish the report thereof to the Board by the 10th of the succeeding month.
2. The applicant shall provide and maintain at his own cost three ambient air quality monitoring stations for monitoring Suspended Particulate Matter, Sulphur Dioxide, Oxides of Nitrogen, Hydro-Carbon, Carbon Monoxide and monitor the same once in a day/week/day/night/month. The data collected shall be maintained in a register and a monthly extract be furnished to the Board.
3. The applicant shall provide and maintain at his own cost a meteorological station to collect the data on wind velocity, direction, temperature, humidity, rainfall, etc. and the daily reading shall be recorded and the extract sent to the Board once in a month.
4. The applicant shall forward the following information to the Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar regularly.
 - a. Report of analysis of stack monitoring, ambient air quality monitoring meteorological data as required every month.
 - b. Progress on planting of trees quarterly.
5. The applicant shall install mechanical composite sampling equipment and continuous flow measuring / recording devices on the effluent stream of waste as well as domestic effluent. A record of daily discharge shall be maintained.



CONSENT ORDER
BAFILLIMALI BAUSITE MINES OF UTKAL ALUMINA INT. LTD.

Page 5 of 12

6. The following information shall be forwarded to the Member Secretary on or before 10th of every month.

- a. Performance / progress of the treatment plant.
- b. Monthly statement of daily discharge of domestic and/or trade effluent.

7. **Non-compliance with effluent limitations**

- a) If for any reason the applicant does not comply with or is unable to comply with any effluent limitations specified in this consent, the applicant shall immediately notify the consent issuing authority by telephone and provide the consent issuing authority with the following information in writing within 3 days of such notification.

- i) Cause of non-compliance
- ii) A description of the non-compliance discharge including its impact on the receiving waters.
- iii) Anticipated time of continuance of non-compliance if expected to continue or if such condition has been corrected the duration or period of non-compliance.
- iv) Steps taken by the applicant to reduce and eliminate the non-complying discharge and
- v) Steps to be taken by the applicant too prevent the condition of non-compliance.

- b) The applicant shall take all reasonable steps to minimize any adverse impact to natural waters resulting from non-compliance with any effluent limitation specified in this consent including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

- c) Nothing in this consent shall be construed to release the applicant from civil or criminal penalties for non-compliance whether or not such non-compliance is due to factors beyond his control, such as break-down, or civic failure, accident or natural disaster.

8. The applicant shall at his own cost get the effluent samples collected both before and after treatment and get them analysed at an approved laboratory every month for the parameters indicated in Part D and shall submit in duplicate the report thereof to the Board.

9. The addition of various treatment chemicals should be done only with mechanical dosers and proper equipment for regulation of correct dosages determined daily and for proper uniform feeding. Crude practices such as dumping of chemicals in drains or sumps or sticking of acids or alkalis arbitrarily and utilizing pipes for stirring etc. should not be resorted to.

10. In the disposal of treated effluent on land for irrigation, the industry shall keep in view of the following:

- Rotation of crops
- Change of point of application of effluent on land
- A portion of land kept fallow.

11. The adoption of these would avoid soil becoming sick or stale, the industry may ensure this in consultation with the Agriculture Department.

12. It is the sole responsibility of the industry to ensure that there are no complaints at any time from the residents in the surrounding areas as a result of discharge of sewage or trade effluent if any.

13. Proper housekeeping shall be maintained by a dedicated team.

14. The industry must constitute a team of responsible and technically qualified personnel who will ensure continuous operation of all pollution control devices round the clock (including night hours) and should be in a position to explain the status of operation of the pollution control measures to the inspecting officers of the Board at any point of time. The name of these persons with their contact telephone numbers shall be intimated to the concerned Regional Officer and Head Office of the Board and in case of any change in the team it shall be intimated to the Board immediately.



E. SPECIAL CONDITIONS:

- 1) A copy of the annual return (annual return submitted to IBNL, Govt. of India/ Directorate of Mines, Govt. of Odisha) shall be submitted every year.
 - 2) The environmental statement report shall be submitted to the Board in proper format every year.
 - 3) Drills shall either be operated with dust extractors or equipped with water injection system to minimize dust generation in the work environment.
 - 4) Controlled blasting shall be practiced to minimize generation of dust and fly rocks. No blasting shall be carried out after the sunset.
 - 5) Regular water sprinkling shall be carried out at different sources of generation of fugitive dust. Water sprinkling shall be carried out on haul roads at desired interval and should always be in wet condition. Haulage roads shall be devoid of ruts and potholes and shall be maintained to avoid generation of dust during movement of vehicles.
 - 6) Mineral handling plant (crusher & screening plant) shall be provided with adequate number of high efficiency dust extraction system or dust suppression system preferably dry fog system. Loading the unloading areas including all the transfer points shall also have efficient dust suppression arrangements. These shall be maintained and operated.
 - 7) Fixed type water sprinklers shall be provided at ore stockpile areas.
 - 8) Action shall be taken to transport the ore from the mine pit to the Refinery unit through closed conveyer system instead of transportation through roads.
 - 9) At least three Ambient Air Quality Monitoring Stations (CAACMS) shall be established along with data transfer facility to SPCB Server by September-20 7. The location of the stations shall be decided based on the metrological data, topographical features and environmentally and ecologically sensitive targets in consultation with the Regional Officer, State Pollution Control Board. Till installation of CAAQM's, manual ambient air quality monitoring shall be carried out six places as stipulated earlier.
 - 10) Ambient air quality of the mine shall meet the standards prescribed for industrial area.
 - 11) Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work zone.
 - 12) The Mine drainage water if any shall be adequately treated before disposal to outside environment. No untreated wastewater generated from the mine shall be discharged to outside under any circumstances.
 - 13) Top soil and OB shall be stacked properly with adequate measures at earmarked sites. The top soil and OB should be used for reclamation and rehabilitation of the mined out areas.
 - 14) Check dams and check weirs shall be constructed at appropriate places of the mine lease area to prevent direct flow of runoff to nearby water bodies. The surface run off water from existing runoff management systems shall meet the prescribed standards.
-



CONSENT ORDER
BAJENDRA BHASKAR MINERAL INDUSTRIES LTD.

Page 7 of 12

- 15) Retention wall shall be constructed at the toe of temporary topsoil dump and OB dump. Garland drain shall be constructed around topsoil dumps & over burden dumps terminating at settling pit to prevent runoff of water and flow of sediments directly into nearby water bodies. No untreated surface runoff shall be released to nearby water body. Garland drain and sedimentation pit shall be desilted after monsoon or as and when required.
 - 16) Action shall be taken for implementation of recommendations suggested by NIT, Rourkela in the report on runoff management of mine by July-2017. The details of the action taken shall be submitted before July-2017.
 - 17) Appropriate mitigative measures shall be taken to prevent pollution of the nearby water bodies.
 - 18) Regular monitoring of water quality of upstream and downstream of the nearby water bodies if any shall be carried out and record of monitored data shall be maintained and submitted to the State Pollution Control Board once in every year.
 - 19) Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells. The monitoring should be done four times a year in pre-monsoon (April/May), monsoon (August), post-monsoon (November) and winter (January) seasons. Data thus collected should be submitted to the Board quarterly.
 - 20) The reclamation programme for the mined out area through concurrent backfilling shall be done followed by plantation. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining.
 - 21) Plantation of trees shall be undertaken in the colony/ township, over top soil dumps, OB dumps, back filled areas, along the side of haul road and in other areas of the mines not being utilized for mining activities. The mine shall take up avenue plantation and plantation in nearby village areas in consultation with DFO/Horticulture Department. The density of the plantation shall be around 2500 plants per hectare. Nursery shall also be developed for plantation activities within the ML area and free distribution of seedlings to nearby villagers. The annual statements pertaining to the number of trees planted areas where plantation has been done, survival percentage and area in Ha, covered under plantation shall be submitted to the Board, every year in prescribed format.
 - 22) Domestic effluents of the colony shall be treated adequately in sewage treatment plant.
 - 23) Oil and grease trap with sedimentation pit (ETP) shall be provided for treatment of workshop effluent.
 - 24) Monitoring data (ambient air quality and wastewater quality) of the mine shall be displayed electronically at the entry point of the mine or at suitable place of the mine lease hold area.
 - 25) Mining operation is subject to availability of all other statutory clearances required under relevant Acts/Rules.
-



CONSENT ORDER
BAPHLIMALI BAUXITE MINES OF UTKAL ALUMINA INT. LTD.

Page 8 of 12

- 26) The mine shall submit a declaration by 30th of April every year that all pollution control systems are in good condition, operated and ambient air quality as well as wastewater quality conforms to the prescribed standards.

MEMBER SECRETARY
STATE POLLUTION CONTROL BOARD, ODISHA

To,

SRI SURYAKANTA MISHRA, DIRECTOR
BAPHLIMALI BAUXITE MINES OF
M/S. UTKAL ALUMINA INTERNATIONAL LIMITED,
AT: DORAGUDA, PO: KUCHEIPADAR,
DIST: RAYAGADA, PIN-765 015

Memo No. _____ /Dated _____

Copy forwarded to

- i) Regional Officer, State Pollution Control Board, Rayagada,
- ii) District Collector, Rayagada,
- iii) Director of Mines, Govt. of Odisha, Bhubaneswar,
- iv) Director, Environment -cum-Special Secretary, F & E, Deptt. Govt. of Odisha, Bhubaneswar,
- v) D.F.O Rayagada,
- vi) Deputy Director of Mines, Koraput
- vii) Sr. Env. Engineer-L-I (C) (Hazardous waste cell)
- viii) Sr. Env. Scientist -L-I (L), Central Lab. SPCB, Bhubaneswar
- ix) Cass Section (Head Office)
- x) Consent Register

SR. ENV. SC ENTIST (MINES)
STATE POLLUTION CONTROL BOARD, ODISHA



CONSENT ORDER
BAPILMALI BAUKITE MINES OF UTKAL ALUMINA PVT. LTD.

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**GENERAL STANDARDS FOR DISCHARGE OF
ENVIRONMENTAL POLLUTANTS**



CONSENT ORDER
BAPHLIMAJI BALUITE MINES OF LUKAL ALUMINA INT. LTD.

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GENERAL STANDARDS FOR DISCHARGE OF
ENVIRONMENTAL POLLUTANTS PART -A : EFFLUENTS

Sl.No.	Parameters	Standards			
		Inland surface	Public sewers	Land for irrigation	Marine Coastal Areas
		(a)	(b)	(c)	(d)
1.	Colour & odour	Colourless/Odourless as far as practicable	—	See 6 of Annex-1	See 6 of Annex-1
2.	Suspended Solids (mg/l)	100	600	200	For process wastewater – 100 b. For cooling water effluent 10% above total suspended matter of influent.
3.	Particular size of SS	Shall pass 850	—	—	
5.	pH value	5.5 to 9.0	5.5 to 9.0	5.5 to 10.0	5.5 to 9.0
6.	Temperature	Shall not exceed 5°C above the receiving water temperature	—	—	Shall not exceed 5°C above the receiving water temperature
7.	Oil & Grease mg/l max.	10	20	10	20
8.	Total residual chlorine	1.0	—	—	1.0
9.	Ammonical nitrogen (as N) mg/l max.	50	50	—	50
10.	Total Kjeldahl nitrogen (as NH ₃) mg/l max.	100	—	—	100
11.	Free ammonia (as NH ₃) mg/l max.	5.0	—	—	5.0
12.	Biochemical Oxygen Demand (5 days at 20°C) mg/l max.	30	350	100	100
13.	Chemical Oxygen Demand, mg/l max.	250	—	—	250
14.	Arsenic (as As) mg/l max.	0.2	0.2	0.2	0.2
15.	Mercury (as Hg) mg/l max.	0.01	0.01	—	0.001
16.	Lead (as Pb) mg/l max.	01.	1.0	—	2.0



CONSENT ORDER
NAPHELMALI BAUNITE MINES OF UTKAL ALUMINA INC., LTD.

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17.	Cadmium (as Cd) mg/l max.	2.0	1.0	-----	2.0
18.	Hexavalent Chromium (as Cr + 6) mg/l max.	0.1	2.0	-----	1.0
19.	Total Chromium (as Cr) mg/l max.	2.0	2.0	-----	2.0
20.	Copper (as Cu) mg/l max.	3.0	3.0	-----	3.0
21.	Zinc (as Zn) mg/l max.	5.0	15	-----	15
22.	Selenium (as Se) mg/l max.	0.05	0.05	-----	0.05
23.	Nickel (as Ni) mg/l max.	3.0	3.0	-----	5.0
24.	Cyanide (as CN) mg/l max.	0.2	2.0	0.2	0.02
25.	Fluoride (as F) mg/l max.	2.0	15	-----	15
26.	Dissolved Phosphates (as P) mg/l max.	5.0	-----	-----	-----
27.	Sulphide (as S) mg/l max.	2.0	-----	-----	5.0
28.	Phenolic compounds as (C ₆ H ₅ OH) mg/l max.	1.0	5.0	-----	5.0
29.	Radioactive materials a. Alpha emitter micro curie/ml. b. Beta emitter micro curie/ml.	10 ⁷ 10 ⁸	10 ⁷ 10 ⁸	10 ⁸ 10 ⁷	10 ⁷ 10 ⁸
30.	Bio-assay test	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent	90% survival of fish after 96 hours in 100% effluent
31.	Manganese (as Mn)	2 mg/l	2 mg/l	-----	2 mg/l
32.	Iron (Fe)	3 mg/l	3 mg/l	-----	3 mg/l
33.	Vanadium (as V)	0.2 mg/l	0.2 mg/l	-----	0.2 mg/l
34.	Nitrate Nitrogen	10 mg/l	-----	-----	20 mg/l



CONSENT ORDER
KARNATAKA BAKSITE MINES OF UTKAL ALUMINA INT. LTD.

Page 12 of 12

NATIONAL AMBIENT AIR QUALITY STANDARDS

Sl. No.	Pollutants	Time Weighed Average	Concentration of Ambient Air		
			Industrial Residential, Rural and other Area	Ecologically Sensitive Area (notified by Central Government)	Methods of Measurement
(1)	(2)	(3)	(4)	(5)	(6)
1.	Sulphur Dioxide (SO ₂), $\mu\text{g}/\text{m}^3$	Annual * 24 Hours **	50 80	20 80	-Improved wet and Gaseous - Ultraviolet fluorescence
2.	Nitrogen Dioxide (NO ₂), $\mu\text{g}/\text{m}^3$	Annual * 24 Hours **	40 80	30 80	- Modified Jacob & Hochheiser (Na-Arsenite) - Chemiluminescence
3.	Particulate Matter (size less than 10 μm) or PM ₁₀ , $\mu\text{g}/\text{m}^3$	Annual * 24 Hours **	60 100	60 100	-Gravimetric - TOEM - Beta Attenuation
4.	Particulate Matter (size less than 2.5 μm) or PM _{2.5} , $\mu\text{g}/\text{m}^3$	Annual * 24 Hours **	40 60	40 60	-Gravimetric - TOEM - Beta Attenuation
5.	Ozone (O ₃), $\mu\text{g}/\text{m}^3$	8 Hours ** 1 Hours **	100 180	100 180	- UV Photometric - Chemiluminescence - Chemical Method
6.	Lead (Pb), $\mu\text{g}/\text{m}^3$	Annual * 24 Hours **	0.50 1.0	0.50 1.0	-AAS/ICP method after sampling on EMP 2000 or equivalent filter paper - ED-XRF using Teflon filter
7.	Carbon Monoxide (CO), mg/m^3	8 Hours ** 1 Hours **	02 04	02 04	- Non Dispersive Infra Red (NDIR) Spectroscopy
8.	Ammonia (NH ₃), $\mu\text{g}/\text{m}^3$	Annual* 24 Hours**	100 400	100 400	-Chemiluminescence - Indophenol Blue Method
9.	Benzene (C ₆ H ₆), $\mu\text{g}/\text{m}^3$	Annual *	05	05	-Gas Chromatography based continuous analyzer - Adsorption and Desorption followed by GC analysis
10.	Benzo (a) Pyrene (BaP)-Particulate phase only, ng/m^3	Annual*	01	01	-Solvent extraction followed by HPLC/GC analysis
11.	Arsenic (As), ng/m^3	Annual*	06	06	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper
12.	Nickel (Ni), ng/m^3	Annual*	20	20	-AAS/ICP method after sampling on EPM 2000 or equivalent filter paper

** Annual arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

** 24 hourly or 08 hourly or 01 hourly monitored values, as applicable, shall be complied with 98% of the time in a year, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

Divisional Forest Officer
Rayagada Division

ADITYA BIRLA



UTKAL ALUMINA

Annexure - 20

By: Email

Letter No.UAIL/BBM/DFO/85/2017

Dated: 12/08/2017

To,

Divisional Forest Officer
Rayagada Division,
Rayagada.

Sub: Diversion of 233.343 ha of DLC Forest Land including safety zone of 10.283 ha in village Paik-Kupakhal, Dhuturapas and Karanj-Kupakhal under Kashipur Tehsil of Rayagada District within total mining area of 1388.74 ha for Bauxite mining in their Bapthimali Bauxite Mines in Kalahandi & Rayagada districts by M/s Utkal Alumina International Ltd.

Ref: Point No: 7 of Memo No.14848/dated 15.07.17 Forest & Environment Department, Govt.of Odisha.

Sir,

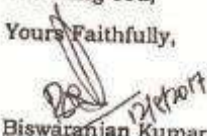
With reference to above memo, Govt.of Odisha has asked us to submit "Land Schedule of DLC forest land applied for diversion duly authenticated by Tehasildar, Kashipur and DFO, Rayagada shall be furnished."

We are submitting herewith the Authenticated Land Schedule in original by Tahasildar, Kashipur of DLC forest land over an area of 233.343 ha in villages Paika-Kupakhal, Dhuturapas, and Karanja-Kupakhal under kashipur tehsil of Rayagada district within the total mining lease area of 1388.74 ha for Bauxite Mining in Bapthimali Mines located in Rayagada & Kalahandi District for which Stage-I approval for diversion of the same under FC Act has been recommended by Govt. of India in their letter No F No.8-18/2016-FC.dated 29.06.2017 and Letter.NO.10F(Con) 2/2017-14843/F&E, dated 15.07.2017 of Govt. of Odisha, Forest & Environment Department. Subsequently the said Land Schedule has been endorsed by the User Agency.

Herewith we request your good self to authenticate the same at your end for necessary record please.

Thanking You,

Yours Faithfully,


Biswaranjan Kumar Padhi
Vice President-Mines

Encl: Authenticated Land Schedule in original with forwarding letter from Tehsildar-Kashipur.

UTKAL ALUMINA INTERNATIONAL LIMITED

Plant & Off.: Doraguda, Po. Kuchipadar, Dist.: Rayagada- 755015, Odisha, India
Regd. Office: J-6, Jaydev Vihar, Dhubaneswar - 751013, Odisha, India

CIN No.: U13203OR1993PLC003416

Ph.: 06865287040

Fax: 06865287100

Ph.: 0674 2360581/540 Fax: 0674 2360321

Website: www.hindalco.com

Email: utkal.alumina@adityabirla.com

OFFICE OF THE TAHASILDAR, KASHIPUR

No. 1184 /2017

Date : 10-08-2017

To

Vice President- Mines
Utkal Alumina International Ltd.,
Doraguda.

Sub : Diversion of 233.343 Ha (576.60 acre) of DLC Forest Land including safety zone of 10.283 Ha in village Paikakupakhal, Dhuturapas and Karajakupakhal under Kashipur Tahasil of Rayagada district within total mining area of 1388.74 Ha for Bauxite mining in their Baphalimali Bauxite Mines in Kalahandi & Rayagada districts my M/s. Utkal Alumina International Ltd.,

Ref : Your letter No. UAIL/BBM/Tahasildar/83/2007 dated 09.08.2017.

Sir,

With reference to the letter on the subject cited above, I am to submit herewith the land schedule of DLC forest land applied for diversion of 233.343 Ha. (i.e. 576.60 acre) as per Stage I approval letter from Forest & Environment Deptt vide memo No. 10F (Con)2/2017-14843 dated 15.07.2017 and MoEF & CC (FC Division), New Delhi F. No. 8-18/2016-FC dated 29.06.2017.

This is for favour of information and necessary action.

Encl. :

1. Land Schedule.

Yours faithfully,

Mall
TAHASILDAR, KASHIPUR

LAND SCHEDULE OF DLC AREA OF BAPHLIMALI BAUXITE MINING LEASE OF WS UTKAL ALUMINA INTERNATIONAL LTD							
VILLAGE	Khata no.	PLOT No.	Kisam	(Acre)	(Hect)	Part Or Full	Remarks
PAIK-KUPAKHAL	76	1	DLC Forest	33.25	13.456	Full	As per Lease deed
		2		30.00	12.141	Full	
		3		38.50	15.580	Full	
		4		51.80	20.963	Full	
		5		41.80	16.916	Full	
		16		36.85	14.913	Part	
		552		46.00	18.616	Part	
		553		25.69	10.396	Part	
		Sub Total (A)				303.89	
DHUTURAPAS	32	1	DLC Forest	5.52	2.234	Part	
		2		18.25	7.386	Full	
		3		33.13	13.407	Part	
		4		23.84	9.648	Part	
		330		11.08	4.484	Part	
		331		27.78	11.242	Part	
		Sub Total (B)				119.60	
KARANJ-KUPAKHAL	64	1	DLC Forest	16.62	6.726	Full	
		2		18.20	7.365	Part	
		3		4.97	2.011	Part	
		80		0.95	0.384	Part	
		81		5.00	2.023	Part	
		82		21.12	8.547	Part	
		83		31.50	12.748	Full	
		84		24.75	10.016	Part	
		85		30.00	12.141	Full	
		Sub Total (C)				153.11	
Grand Total (A+B+C)				576.60	233.343		

meel
10.08.2017
Tahasildar, Isashipur
Dist. Rayagada

M. S. S. S.
Divisional Forest Officer
Rayagada Division

For Utkal Alumina International Ltd.
R. S. S. S.
Authorised Signatory

Annexure - 23


CHECK LIST SERIAL NUMBER - 23

"LAND SUITABILITY CERTIFICATE BY DIVISIONAL FOREST OFFICER, RAYAGADA
DIVISION"

This is to certify that 233.50 hectares of non-forest land in village Adajore, AdaTakiri, JodaAmba & GumaMurka under Kashiwar Tahsil in Rayagada district identified for Compensatory Afforestation is suitable for plantation from management point of view and is free from all sorts of encumbrances and encroachment.

Place:

Date: Rayagada


Divisional Forest Officer,
Rayagada Division

1/11/16
20/11/16
17/11/16
20/11/16

No. 2010

Date :

To

Asst. Vice President-Mines
Baphimali Bauxite Mines
Utkal Alumina International Ltd.



Sub: Preparation of the Compensatory Afforestation Scheme in respect of Proposed Diversion 233.34 hectares of DLC Forest Land in Baphimali Bauxite Mining Lease of M/s Utkal Alumina International Ltd. under F.C. Act 1980.

Ref: Your Office Letter No. UAIL-Mines/Tehsil-dan38/2016, Date : 11.03.2016

Sr,

With reference to your letter on the subject cited above, this is to certify that the following Compensatory Afforestation land identified and jointly verified by forest and revenue authorities in Village Adajore (1 patch = 25.50 ha), AdaTakeri (3 patches = 63.86 ha) Joda Amba (2 patches = 57.08 ha) & GumatMurha (2 patches = 87.23 ha) Total 233.50 Ha under Keshipur Tahsil of Rayagada District is free from any encroachment & encumbrance. That the identified land has not been allotted to anybody/organisation previously for any purpose. That the status of the land as on 25.10.1980 is non-forest Govt. land. That the non-forest Govt. land is identified and earmarked to Compensatory Afforestation in lieu of Forest land 233.34ha) proposed to be diverted under F.C. Act 1980 for Baphimali Bauxite Mining of M/s UAIL in Rayagada Dist. Odisha.

Encl : Land Schedule

Yours faithfully

Tahasildar, Keshipur,
Dist. Rayagada

Memo No. 643

Date : 28.04.16

Copy submitted to Divisional Forest Officer, Rayagada for favour of his kind information and necessary action.

Tahasildar, Keshipur,
Dist. Rayagada
Date :

Memo No.

Copy submitted to the Collector, Rayagada for favour of his kind information and necessary action with reference to District Officer Letter No. 2711/XXXV-4/15 dt.17.08.2015 and 65/XXXV-10/15 dt. 08.01.2016

Tahasildar, Keshipur,
Dist. Rayagada

ADAYAKUR-KASHIR

LAND SCHEDULE OF IDENTIFIED NON-FOREST GOVT. LAND FOR RAISING COMPENSATORY AFFORESTATION APPROVED BY FOREST & REVENUE DEPARTMENT RELATED TO FOREST DIVERSION OF DLO FOREST LAND INVOLVED IN BAPILMALI BALXITE MINE OF M/s UTKAL ALUMINA INTERNATIONAL LIMITED IN KAYASADA DISTRICT

M/V TIRUPATI ALUMINA INSURANCIAL LIMITED IN KAYASADA DISTRICT										
Sl No	Village/ H/Circle/ Tahsil/District	Photo No.	Plot No.	Plot Area	Kilometre Sq.	Planted Area	Net Area in Hk.	Net Balance after aff. plantation in Hk.	Remarks	
1	Adajora/Adotaxeri/ Banskpur/Bayaguda	163	895	Parbat	11.75	6.78		5.97	As per map online	
2			982	Parbat	12.05	7.35		4.70		
3			985	Parbat	7.14	0.05		0.09		
4			997	Parbat	10.00	4.05		5.95		
5			989	Parbat	15.00	6.07		8.93		
6			989	Parbat	13.50	5.85		7.65		
7			1009	Parbat	12.78	8.13		4.65		
8			1027	Parbat	11.05	4.45		6.60		
Adajora Sub Total						52.30		38.85		
9	Adotaxeri/Adotaxeri/ Banskpur/Bayaguda	55	PATCH I		109	Parbat	50.35	4.15	46.20	As per map online
10			182	Parbat	9.30	1.68		7.62		
11			183	Parbat	9.45	3.02		6.43		
12			171	Parbat	11.30	4.45		6.85		
13			182	Parbat	20.75	4.30		16.45		
14			Total		50.41	20.23		30.18		
15			PATCH II		268	Parbat	14.55	5.22	9.33	
16			470	Parbat	5.40	2.02		3.38		
17			234	Parbat	6.20	2.03		4.17		
18			235	Parbat	9.20	2.44		6.76		
19			975	Parbat	13.25	5.35		7.90		
20			976	Parbat	9.55	2.74		6.81		
21			977	Parbat	10.55	4.33		6.22		
22			978	Parbat	10.05	4.05		6.00		
23			980	Parbat	15.05	5.23		9.82		
24			981	Parbat	14.25	8.51		5.74		
25			Total		104.88	42.44		62.44		
26			PATCH III		534	Parbat	6.15	0.88	5.27	
27			535	Parbat	15.50	6.57		8.93		
28			538	Parbat	4.80	1.04		3.76		
29	543	Parbat	7.64	0.88		6.76				
30	544	Parbat	8.81	3.95		4.86				
31	Total		34.04	13.73		20.31				
Adotaxeri Sub Total										
32	JodaAmha/Adotaxeri/ Banskpur/Bayaguda	76	PATCH I		83	Parbat	19.75	5.15	14.60	As per map online
33			84	Parbat	10.05	4.15		5.90		
34			95	Parbat	12.50	5.05		7.45		
35			271	Parbat	14.50	5.97		8.53		
36			Total		45.75	20.54		25.21		
37			PATCH II		220	Parbat	7.80	3.15	4.65	
38			221	Parbat	18.01	6.17		11.84		
39			224	Parbat	12.00	5.10		6.90		
40			563	Parbat	19.75	7.17		12.58		
41			564	Parbat	19.00	8.78		10.22		
42	565	Parbat	44.25	17.51		26.74				
43	Total		110.66	46.81		63.85				
JodaAmha Sub Total										
								87.09		

Asst. Conservator of Forests
JC Kashiur Range

Revenue Inspector
ADAYAKUR

KASHIR
KASHIR
KASHIR

Sl. No	Village/ III Circle/ Taluk/District	Khata No.	Part	Plot No	Khasam	Full Area in Acres	Full Area in Sq. Ft.	Net Usable area for plantation in Ha.	Remarks
42	Gumma Marka/Dongyal/ Kashipur/Rayagada	114	BUDAYA	308	Parbata	21.63	9.38	7.00	As per map enclosed
43				229	Parbata	22.88	9.66	9.66	
44				400	Parbata	30.00	12.14	9.00	
				Total:	74.51	31.38	25.66		
45			BUDAYA	411	Parbata	34.63	14.01	14.01	
46				412	Parbata	38.13	12.60	10.00	
47				413	Parbata	25.45	9.49	5.33	
48				414	Parbata	10.00	4.05	4.05	
49				512	Parbata	35.00	8.09	8.09	
50				513	Parbata	25.00	10.32	10.32	
51				514	Parbata	35.00	13.56	9.57	
52				Total:	177.56	72.02	61.57		
	Gumma Marka/Taluk/District/Parbata/Total Usable Area							67.23	
	Grand Total of Usable Area in Ha.							231.70	

Forest Range Officer
Taluk Range

Forest Range Officer
Taluk Range

Forest Range Officer
Taluk Range

Divisional Forest Officer
Rayagada Division