

BALCO/ENV/A-02(A)/2018/ 148

Dated: May 21, 2018

22

To,

Shri Kanwarjit Singh, APCCF (C)  
Ministry of Environment, Forest and Climate Change,  
Regional Office(WCZ), Ground Floor  
East Wing, New Secretariat Building,  
Civil Lines,  
Nagpur-440001.

Dear Sir,

**Sub: Half Yearly Compliance Status Report (October- 2017 to March – 2018)  
for Bodai Daldali Bauxite Mines (Kawardha Mines).**

This is in reference to the general condition no. xiii mentioned under the Environmental Clearance No. J - 11015/37/2010-IA II (M), dated 09 April 2010, please find enclosed herewith the Half Yearly compliance report of our Bodai Daldali Bauxite Mines.

We hope that the above is in line with the requirements under the referred Environmental Clearance. In case you would require any further information or clarification, we would be glad to furnish the same.

Thanking you,

Yours truly,  
For Bharat Aluminium Company Limited,

  
Rajesh Mishra  
Head – Mines

Encl: a/a

Copy to: Regional Officer, CECB, Bhilai, Durg (CG).

**Compliance Status for Environmental Clearance No.J-11015/37/2010-IA.II (M)**

**Dated: 9 April 2010**

**Bodai Daldali Bauxite Mines, District Kawardha, Chhattisgarh.**

**(0.3 MTPA to 1.25 MTPA)**

**Oct - 2017 to March - 2018**

**A. Specific Conditions:**

<b>S.No.</b>	<b>Condition</b>	<b>Compliance status</b>
i	The Company shall pay compensation for acquisition of private land and rehabilitation of displaced families at rates not less than those prescribed in the applicable Central Government/State Government norms. The Resettlement of all the affected families should be completed as per their commitment, i.e. early 2010.	Affected families are compensated at the rate more than govt. norms and R&R plan. They have been paid @ Rs.100,000/- per acre in place of passed award rate of Rs.17,000/- (average) per acre as per provisions of Land Acquisition Act, 1894. In addition to above, they are also paid @ Rs.30,000/- & provided 10 decimal land @ each PAF for resettlement. Beside above help of amounting Rs 20,000/- has been given in kind of transport, building materials etc. Specific funds have been earmarked for socio-economic measures and community development schemes for the displaced people. Displaced families have been resettled at fully developed rehabilitation villages, where 10-10 decimal land has been provided to each family, and all common facilities like Electricity, drinking water, Primary health center, Primary school etc facilities have been provided by company.
ii	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.	Topsoil is stacked properly with adequate measures at earmarked sites and is used for spreading over the reclaimed surface and thereafter rehabilitated. All excavated top soil are used for top spreading of back filled area.
iii	The Company shall collect baseline data through field survey of the existing prevalent occupational diseases in the locality and facilities shall be provided for preventive and curative measures for the same.	A study has been carried out for the existing prevailing occupational diseases by IVPSS, New Delhi. The study reveals that no occupational disease is prevailing in the Mines area. Copy of the study report has already been submitted vide letter No. BALCO/ENV/A-02(A)/11/160 dated May 27, 2011.
iv	Need based assessment for the nearby villages shall be conducted to study economic measures with action plan which can help in upliftment of poor section of society. Income generating projects consistent with the traditional skills of the people besides development of fodder farm, fruit bearing orchards, vocational training etc. can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs	A Socio - economic study on R&R plan and CSR interventions of BALCO has been conducted through M/s ORG Pvt. Ltd copy of the report has already been submitted to the MoEF. Based on the recommendations of the report CSR activities area being carried out which includes vocational training, watershed programme, up-gradation of schools, PHC, setting up seed godowns, community hall etc. Separate budget has been allocated for the CSR activities. During year 2017-18, Rs 1.15 cror incurred on various CSR and welfare activities.



v	The mining operations shall be restricted to above ground water table and it should not intersect the 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.	The mining operation at Kawardha Mines is shallow mining and is restricted to less than 10 m bgl and does not intersect the ground water table.
vi	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 first order streams, if any, emanating from the mine lease, during the course of mining operation.	The mining operation at Kawardha Mines is shallow mining. No natural water course found within the mine lease area and thus no water resources are obstructed during course of mining operation.
vii	The project proponent shall take adequate environmental safeguard measures for control of rolling down of silt and sediments and protection of the catchment area of Katai River during the course of mining operation.	Adequate measures have been taken to control the silt by construction of settling pits, garland drains, check dams etc which restricts the silts from entering the Katai River. 40 check dams, garland drain have been made so far.
viii	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 Katai 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 Katai 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.	Complied.  Settling pits, garland drains, check dams have been constructed to prevent runoff water during rainy season, directly into Katai River. The pits are regularly de-silted. 40 nos. of check dams have been constructed till date.
ix	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 rainfall data.	Being shallow mine working, the concurrent backfilling system has been adopted which results to minimal time exposure of open pit/dump. Such backfilled area is afforested every year in this way land degradation is minimized in our mines as on date there is no temporary dump.
x	The void left unfilled shall be converted into the water body. The higher benches of the excavated void/mine pit shall be terraced and plantation done to stabilize 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.	Total 5.33 Ha area has been converted into the water reservoir / water recharge area.



xi	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.	Regular water sprinkling is being carried out in fugitive prone areas. Fixed structure for water sprinkling over permanent dust source like crusher, screen plant, material transfer point, loading point shall be made of adequate capacity. Ambient air quality monitored on fortnightly basis found to be well within the norms.
xii	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.	A hydro-geological study has been already carried out and their recommendations are being implemented. As per plan 5.33 hect. have been developed as a water reservoir/ water recharge area and during the life period, 10.46 hect. more area will be developed as water reservoir / water recharge area. As per plan 15.79 hect. Mined out area will be developed as pond for rain water harvesting/ water recharge area.
xiii	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers in and around the project area during the beneficiation process. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office at Bhopal, 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.	Regular monitoring of ground water is being carried out as per the guidelines and the reports are submitted to the Board. Three Piezometric wells have been established. Please refer to <b>Annexure – I</b> for ground water level and ground water quality reports for pre-monsoon, monsoon & post-monsoon.
xiv	Appropriate mitigative measures shall be taken to prevent pollution of the Katai River in consultation with the State Pollution Control Board.	No discharge from the mines except surface run off in rainy season. Adequate measures have been taken to control the silt by construction of settling pits, garland drains, check dams etc which restricts the silts from entering the Katai River.
xv	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.	Complied with. Permission for surface water withdrawal & Ground water withdrawal has been obtained, copy attached as <b>Annexure – II</b>
xvi	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	A hydro-geological study has been already carried out and their recommendations for rain water harvesting are being implemented in consultation Regional Director, CGWB. 5.53 hect. of the mined out area is being developed as a water reservoir / water recharge area.



xvii	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.	Vehicular emissions are being monitored for the vehicles entering the mines, by verification of P.U.C.C. Covering of trucks transporting mineral is being ensured and no overloading is allowed.
xviii	Drills shall either be operated with dust extractors or equipped with water injection system.	Wet drilling system has been adopted.
xix	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.	Adequate measures have been taken to control the fugitives in the dust prone areas like adoption of wet drilling, regular water spraying. Fixed structure for water sprinkling over permanent dust source like material transfer point, loading point shall be made of adequate capacity.
xx	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.	STP has been commissioned to treat domestic water. No waste water is generated from mining operation
xxi	Occupational Health Cell shall be created at the company under the charge of an officer of adequate seniority who is a qualified person in occupational health.	Complied with. First Aid Centre have been created , also Medical officer, (MBBS) has been appointed at Mines, however full-fledged Occupational Health Centre established at Korba for PME of our employees.
xxii	Particle analysis of the dust shall be carried and measures shall be undertaken to prevent impacts on the health of the workers. Personnel exposure monitoring for dust shall be carried out for the workers.	Complied with. Personal Exposure monitoring have been carried out for persons working in mining activity.
xxiii	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.	Complied with. In the year 2017-18 131 persons have undergone Periodical Medical Examination.
xxiv	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora and fauna spotted in the study area.	No forest land has been acquired thus no obstruction to the flora & fauna, a comprehensive wildlife conservation plan has been drawn by CCF of Rs 81.4 Lakhs for the period 2008-11 for Kawardha Forest Division and same has been implemented through State Forest Department after deposition of fund by BALCO.

xxv	Data on ambient air quality (PM10, SO2, NOx) shall be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months. The critical parameters such as PM10, SO2, NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, pH) and total Suspended solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the company in public domain. The circular no.J-20012/1/2006-IA.II (M) dated 2.5.2009 issued by the Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	Ambient Air quality is fortnightly monitored and data is submitted to the SPCB and Ministry's Regional office located at Nagpur. Please refer to <b>Annexure – III</b> for monitoring reports from OCT - 2017 to MARCH – 2018  No effluent is discharged from the mines  Also, the monitored data is being uploaded to the company's website in compliance to the circular No. J-20012/1/2006-IA.II (M) dated 2.5.2009 issued by the Ministry of Environment and Forests.
xxvi	Green belt development shall be done and selection of plant species shall be as per CPCB guidelines. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Ministry within six months.	Green Belt development is carried out every year in the mined out area as well as nearby areas. Detail of the same being submitted to your good office with half yearly compliance reports. Please refer to <b>Annexure – IV</b> for year wise plantation details.
xxvii	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.	Progressive Mine closure Plan duly approved by IBM has already been submitted to the MoEF. Further, as per provisions of MMDR (amendment) Act 2015, the Mine lease period is deemed to be extended, and we are making study for using the low grade bauxite, which is available in good quantity in our mine, thus mine life will be extended, hence final mine closure plan will be submitted two year before to closure of mines.
xxviii	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.	Labours engaged in mine working are from nearby villages, safe drinking water, medical care facilities etc have been provided on site. Free transport facilities are being provided for displaced families from their place of resettlement for coming to mines for their jobs.

**B. General Conditions:**

S.No.	Condition	Compliance
i.	No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.	Complied with. No change.
ii.	No change in the calendar plan including excavation, quantum of bauxite and waste shall be made.	Done as per mine plan, except closure of mine during Dec:12 to July13 because of temporary suspension of our alumina refinery.
iii.	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided	Water spraying is done on regular basis on the dust prone areas and haul roads.

S.No.	Condition	Compliance
iv.	and properly maintained. Ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for PM10, SO2, NOx 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.	Ambient Air quality monitoring stations have been established for PM10, SO2, NOx monitoring based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with State Pollution Control Board.
v.	Measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. shall be provided with ear plugs / muffs.	Proper maintenance of equipments is regularly carried for keeping the noise within permissible limit. Operator cabins have been provided. Controlled blasting and other measures are taken for control of noise levels below 85 dBA in the work environment. DG Sets of inbuilt enclosure has been purchased. The workers engaged in noise prone area have been provided with ear plugs and ear muffs.
vi.	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 31 <sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	No industrial waste water generated from the mines as we have not installed any beneficiation plant.
vii.	Personnel working in dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.	Personnel working in dusty areas have been provided with protective respiratory devices like dust masks and they are being imparted adequate training and information on safety and health aspects.
viii.	Provision shall be made for the housing of the labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Labours engaged in mine working are from nearby villages, safe drinking water, medical care facilities, crèche etc have been provided on site. Mobile bio toilet and mobile rest shelter also available at the mining area
ix.	A separate Environmental Management Cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Environmental Management Cell is in place headed by Senior Executive, directly reporting to the CEO. The environment management cell is enabled by trained professionals in respective fields of environment, safety and occupational health. The team is also assisted by environmental laboratory having trained manpower for carrying out monitoring and analysis of various samples collected in and around project sites.
x.	The project authorities shall inform to the Regional Office of the Ministry located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	The date of start of land development work is 01.10.2010.
xi.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and	Complied with.

S.No.	Condition	Compliance
	its Regional Office located at Bhopal.	In the year 2017-18 total expenditure on environment protection measures was Rs. 1.995 Crore
xii	The Regional Office of the Ministry located at Bhopal shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	We are extending full cooperation to the officers of the Regional Office by furnishing the requisite data / information / monitoring reports.
xiii	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bhopal, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same bye-mail to the Regional Office, Ministry of Environment and Forests, Bhopal.	Complied with.
xiv.	The project proponent shall advertise in at least two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality, / office of Municipal Corporation/Gram Panchayat concerned and on the company's web site within seven days from the date of this clearance letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the State Pollution Control Board/Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> .	Complied with. Advertised in two local newspaper. Please refer to <b>Annexure V</b>
xv.	A copy of clearance letter will be marked to concerned Panchayat /local NGO, if any, from whom suggestion / representation has been received while processing the proposal. The clearance letter shall also be put on the website of the company.	Noted
xvi.	State Pollution Control Board shall display a copy of the clearance letter at the Regional office, District Industries Centre and Collector's office / Tehsildar's Office for 30 days.	Not Applicable to us
xvii	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and shall also be put on the website of the company along with the status of compliance of environmental clearance conditions. The same shall also be sent to the Regional Office of Ministry by e-mail.	Environment Statoment submitted in Form V for every year ending March, before 30th Sept of the present year. For year ending March 2017 Environment statement submitted on BALCO /ENVT/A-01(A)/17/371 Dated 27 September 2017
6.	The Ministry of Environment and Forests reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry. MOEF may impose additional environmental conditions or modify the existing ones, if necessary.	Agreed.



S.No.	Condition	Compliance
7.	In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.	Agreed.
8.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Agreed.
9.	Any appeal against this extension of validity of 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.	Noted
10.	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.	Noted

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-WATER-1/OCT-17

DATE -16/10/2017

**Water Analysis Report of Kawardha Bauxite Mines.**  
Sampling Date : 06/10/2017

S.N.	Parameters	Units	Bore Hole	Dug Well (Big)	Dug Well (Small)	Kanai Nallah	Daldali Nallah
			Near office Samsatta	Near Keshmarda	Near Keshmarda	Near Daldali Village	Near Daldali Village
			W 1	W 2	W 3	W-4	W-5
1	pH		7.1	6.9	6.8	7.0	7.2
2	Turbidity	NTU	3.3	15.0	12.0	33.0	42.0
3	Conductivity	$\mu\text{S/cm}$	146.7	58.9	65.7	43.9	44.6
4	Solid (Total)	mg/l	88	75	69	80	92
5	Solid (Dissolved)	mg/l	71	56	51	54	64
6	Solid (Suspended)	mg/l	17	19	18	26	28
7	Chloride as Cl	mg/l	9.2	9.7	9.5	9.2	9.5
8	Fluoride as F	mg/l	0.25	0.24	0.22	0.23	0.24
9	Total Hardness as $\text{CaCO}_3$	mg/l	66	57	56	60	62
10	Calcium Hardness as $\text{CaCO}_3$	mg/l	44	38	37	39	41
11	Magnesium Hardness as $\text{CaCO}_3$	mg/l	22	19	19	21	21
12	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL
13	B.O.D.	mg/l	BDL	BDL	BDL	BDL	BDL
14	C.O.D	mg/l	4	3	2	3	3
15	Sodium as Na	mg/l	0.68	0.76	0.71	0.68	0.70
16	Potassium as K	mg/l	0.32	0.34	0.30	0.28	0.29
17	Iron as Fe	mg/l	0.27	0.30	0.28	0.26	0.30
18	Silica as Si	mg/l	0.91	0.88	0.79	0.95	0.97
19	Zinc as Zn	mg/l	0.004	0.003	0.004	0.003	0.003
20	Manganese as Mn	mg/l	0.003	0.004	0.004	0.005	0.004
21	Nickel as Ni	mg/l	0.004	0.004	0.005	0.004	0.003
22	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL
23	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL

Copy to :-  
GM (HSE)

Analysed by

Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-WATER-1/NOV-17

DATE -17/11/2017

**Water Analysis Report of Kawardha Bauxite Mines.**  
Sampling Date : 04/11/2017

S.N.	Parameters	Units	Bore Hole	Dug Well (Big)	Dug Well (Small)	Kanai Nallah	Daldali Nallah
			Near office Samsatta	Near Keshmarda	Near Keshmarda	Near Daldali Village	Near Daldali Village
			W-1	W-2	W-3	W-4	W-5
1	pH		7.0	6.8	6.7	6.8	6.9
2	Turbidity	NTU	1.9	8.6	6.0	11.6	13.9
3	Conductivity	µS/cm	160.1	47.6	41.5	34.4	36.3
4	Solid (Total)	mg/l	114	56	53	63	67
5	Solid (Dissolved)	mg/l	109	43	41	47	49
6	Solid (Suspended)	mg/l	5	13	12	16	18
7	Chloride as Cl	mg/l	7.8	7.1	7.8	8.2	8.5
8	Fluoride as F	mg/l	0.18	0.20	0.16	0.17	0.18
9	Total Hardness as CaCO <sub>3</sub>	mg/l	83	42	39	40	43
10	Calcium Hardness as CaCO <sub>3</sub>	mg/l	53	27	26	27	28
11	Magnesium Hardness as CaCO <sub>3</sub>	mg/l	30	15	13	13	15
12	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL
13	B.O.D.	mg/l	BDL	BDL	BDL	BDL	BDL
14	C.O.D	mg/l	4	3	4	3	3
15	Sodium as Na	mg/l	0.73	0.68	0.66	0.70	0.72
16	Potassium as K	mg/l	0.32	0.29	0.30	0.31	0.32
17	Iron as Fe	mg/l	0.25	0.26	0.24	0.36	0.38
18	Silica as Si	mg/l	1.24	0.98	1.01	1.05	1.16
19	Zinc as Zn	mg/l	0.004	0.003	0.004	0.003	0.005
20	Manganese as Mn	mg/l	0.003	0.004	0.004	0.003	0.004
21	Nickel as Ni	mg/l	0.004	0.004	0.003	0.004	0.004
22	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL
23	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL

Copy to :-  
GM (HSE)

*[Signature]*  
Analysed by

*[Signature]*  
Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-WATER-1/DEC-17

DATE -16/12/2017

**Water Analysis Report of Kawardha Bauxite Mines.**  
Sampling Date : 08/12/2017

S.N.	Parameters	Units	Bore Hole	Dug Well (Big)	Dug Well (Small)	Kanai Nallah	Daldali Nallah
			Near office Samsatta	Near Keshmarda	Near Keshmarda	Near Daldali Village	Near Daldali Village
			W-1	W-2	W-3	W-4	W-5
1	pH		6.8	7.1	7.1	7.0	7.1
2	Turbidity	NTU	3.1	10.5	9.6	13.4	16.7
3	Conductivity	µS/cm	128.1	51.2	43.5	39.2	36.9
4	Solid (Total)	mg/l	114	51	49	63	64
5	Solid (Dissolved)	mg/l	105	40	38	45	46
6	Solid (Suspended)	mg/l	9	11	11	18	18
7	Chloride as Cl	mg/l	9.2	9.7	9.5	9.2	9.5
8	Fluoride as F	mg/l	0.25	0.24	0.22	0.23	0.24
9	Total Hardness as CaCO <sub>3</sub>	mg/l	66	57	56	60	62
10	Calcium Hardness as CaCO <sub>3</sub>	mg/l	44	38	37	39	41
11	Magnesium Hardness as CaCO <sub>3</sub>	mg/l	22	19	19	21	21
12	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL
13	B.O.D.	mg/l	BDL	BDL	BDL	BDL	BDL
14	C.O.D	mg/l	3	5	4	4	5
15	Sodium as Na	mg/l	0.78	0.82	0.79	0.80	0.79
16	Potassium as K	mg/l	0.35	0.37	0.36	0.38	0.35
17	Iron as Fe	mg/l	0.31	0.33	0.32	0.34	0.33
18	Silica as Si	mg/l	0.96	0.99	0.96	1.06	1.04
19	Zinc as Zn	mg/l	0.003	0.005	0.004	0.004	0.005
20	Manganese as Mn	mg/l	0.004	0.005	0.005	0.006	0.005
21	Nickel as Ni	mg/l	0.004	0.006	0.005	0.005	0.004
22	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL
23	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL

Copy to :-  
GM (HSE)

Analysed by

Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section


REF : BALCO/QAP1/POLL/IMS 05/Filc-08A/KWD-WATER-1/JAN-18

DATE -17/01/2018

**Water Analysis Report of Kawardha Bauxite Mines.**  
Sampling Date : 06/01/2018

S.N.	Parameters	Units	Bore Hole	Dug Well (Big)	Dug Well (Small)	Kanai Nallah	Daldali Nallah
			Near office Samsatta	Near Keshmarda	Near Keshmarda	Near Daldali Village	Near Daldali Village
			W-1	W-2	W 3	W 4	W 5
1	pH		6.9	6.8	7.0	7.0	6.9
2	Turbidity	NTU	2.5	8.5	7.9	13.1	13.5
3	Conductivity	µS/cm	145.3	51.5	43.4	37.5	39.2
4	Solid (Total)	mg/l	111	54	52	64	71
5	Solid (Dissolved)	mg/l	105	40	41	49	52
6	Solid (Suspended)	mg/l	6	14	11	15	19
7	Chloride as Cl	mg/l	8.5	8.5	7.8	8.5	9.2
8	Fluoride as F	mg/l	0.21	0.25	0.22	0.23	0.19
9	Total Hardness as CaCO <sub>3</sub>	mg/l	68	55	49	56	57
10	Calcium Hardness as CaCO <sub>3</sub>	mg/l	45	36	33	37	35
11	Magnesium Hardness as CaCO <sub>3</sub>	mg/l	23	19	16	19	22
12	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL
13	B.O.D.	mg/l	BDL	BDL	BDL	BDL	BDL
14	C.O.D	mg/l	3	4	4	3	3
15	Sodium as Na	mg/l	0.77	0.78	0.76	0.79	0.75
16	Potassium as K	mg/l	0.36	0.34	0.35	0.37	0.35
17	Iron as Fe	mg/l	0.27	0.29	0.31	0.35	0.32
18	Silica as Si	mg/l	0.97	1.05	0.95	1.07	1.04
19	Zinc as Zn	mg/l	0.003	0.003	0.004	0.004	0.003
20	Manganese as Mn	mg/l	0.004	0.003	0.005	0.004	0.003
21	Nickel as Ni	mg/l	0.004	0.004	0.005	0.003	0.004
22	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL
23	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL

Copy to :-  
GM (HSE)

  
Analysed by

  
Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section

REF : BALCO/QAP 1/POLL/IMS 05/File-08A/KWD-WATER-1/FEB-18

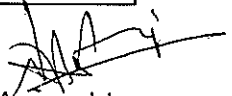
DATE -17/02/2018

**Water Analysis Report of Kawardha Bauxite Mines.**  
Sampling Date : 08/02/2018

S.N.	Parameters	Units	Bore Hole	Dug Well (Big)	Dug Well (Small)	Kanai Nallah	Daldali Nallah
			Near office Samsatta	Near Keshmarda	Near Keshmarda	Near Daldali Village	Near Daldali Village
			W 1	W-2	W-3	W 4	W 5
1	pH		7.0	6.8	6.9	7.1	7.1
2	Turbidity	NTU	2.6	8.4	8.0	13.4	14.0
3	Conductivity	µS/cm	146.5	53.1	46.1	38.4	39.5
4	Solid (Total)	mg/l	115	56	55	63	69
5	Solid (Dissolved)	mg/l	109	42	43	48	54
6	Solid (Suspended)	mg/l	6	14	12	15	15
7	Chloride as Cl	mg/l	9.2	9.9	7.8	8.7	8.5
8	Fluoride as F	mg/l	0.24	0.26	0.23	0.25	0.21
9	Total Hardness as CaCO <sub>3</sub>	mg/l	67	57	52	53	55
10	Calcium Hardness as CaCO <sub>3</sub>	mg/l	46	38	35	36	34
11	Magnesium Hardness as CaCO <sub>3</sub>	mg/l	21	19	17	17	21
12	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL
13	B.O.D.	mg/l	BDL	BDL	BDL	BDL	BDL
14	C.O.D	mg/l	3	5	4	3	5
15	Sodium as Na	mg/l	0.78	0.75	0.78	0.83	0.79
16	Potassium as K	mg/l	0.39	0.35	0.36	0.34	0.35
17	Iron as Fe	mg/l	0.28	0.29	0.30	0.32	0.31
18	Silica as Si	mg/l	1.01	1.02	0.97	1.02	1.09
19	Zinc as Zn	mg/l	0.003	0.003	0.002	0.002	0.003
20	Manganese as Mn	mg/l	0.003	0.004	0.004	0.002	0.004
21	Nickel as Ni	mg/l	0.003	0.004	0.003	0.004	0.003
22	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL
23	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL

Copy to :-  
GM (HSE)

Analysed by  


  
Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-WATER-1/MARCH-18

DATE -17/03/2018

Water Analysis Report of Kawardha Bauxite Mines.  
Sampling Date : 09/03/2018

S.N.	Parameters	Units	Bore Hole	Dug Well (Big)	Dug Well (Small)	Kanai Nallah	Daldali Nallah
			Near office Samsatta W-1	Near Keshmarda W-2	Near Keshmarda W-3	Near Daldali Village W-4	Near Daldali Village W-5
1	pH		7.0	6.7	6.8	7.2	7.1
2	Turbidity	NTU	2.4	7.3	6.4	12.7	13.6
3	Conductivity	µS/cm	153.4	52.7	47.2	39.5	39.7
4	Solid (Total)	mg/l	121	59	56	69	67
5	Solid (Dissolved)	mg/l	112	47	45	51	48
6	Solid (Suspended)	mg/l	9	12	11	18	19
7	Chloride as Cl	mg/l	7.1	7.8	6.4	8.5	7.8
8	Fluoride as F	mg/l	0.17	0.14	0.13	0.15	0.12
9	Total Hardness as CaCO <sub>3</sub>	mg/l	97	51	45	43	44
10	Calcium Hardness as CaCO <sub>3</sub>	mg/l	64	31	28	27	27
11	Magnesium Hardness as CaCO <sub>3</sub>	mg/l	33	20	17	16	17
12	Oil & Grease	mg/l	BDL	BDL	BDL	BDL	BDL
13	B.O.D.	mg/l	BDL	BDL	BDL	BDL	BDL
14	C.O.D	mg/l	4	3	4	3	3
15	Sodium as Na	mg/l	0.76	0.79	0.74	0.79	0.84
16	Potassium as K	mg/l	0.38	0.34	0.38	0.39	0.33
17	Iron as Fe	mg/l	0.34	0.32	0.28	0.36	0.35
18	Silica as Si	mg/l	1.14	1.09	1.17	1.16	1.18
19	Zinc as Zn	mg/l	0.003	0.003	0.004	0.002	0.003
20	Manganese as Mn	mg/l	0.003	0.002	0.002	0.004	0.002
21	Nickel as Ni	mg/l	0.002	0.003	0.003	0.002	0.002
22	Chromium as Cr	mg/l	BDL	BDL	BDL	BDL	BDL
23	Lead as Pb	mg/l	BDL	BDL	BDL	BDL	BDL

Copy to :-  
GM (HSE)

Analysed by

Approved by  
Manager (QA)

No. 1512/1726/2011/K-2071, 25/12/2011

Annexure - II

## Central Ground Water Authority

Ministry of Water Resources

Government of India

No. 21-4(120)/NCCR/CGWA/2011-1823

Dated-

4 DEC 2011

To,  
M/s Bharat Aluminium Corporation Ltd.  
Mines Department, Engineering Building,  
Plant - 1, BALCO  
Korba 495684, Chhattisgarh.

**Sub: Request for Ground Water clearance in respect of M/s Bharat Aluminium Corporation Ltd., for the proposed expansion of Bauxite mining at village Bodai- Daldah, Block & Tehsil Bodla, District Kawardha, Chhattisgarh -reg.**

Sir,

The area where the project falls comes under safe category as per the ground water assessment carried out by Central Ground Water Board. Since the total requirement of ground water is 90 m<sup>3</sup>/day, NOC is not required for ground water withdrawal from Central Ground Water Authority. However, to neutralize the adverse impact of ground water withdrawal that may arise on a long term basis, the industry/ project is advised to undertake the following measures:

1. Ground Water withdrawal shall not exceed the proposed quantity of 90 m<sup>3</sup>/day.
2. All abstraction structures should be fitted with water meter by the industry and monitoring of ground water abstraction to be undertaken accordingly on regular basis, at least once in a month. The data may be submitted on a yearly basis to the Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, Raipur for perusal and records.
3. The industry should adopt and implement artificial recharge measures/rain water harvesting measures for augmenting the ground water resources of the area as per the hydrogeological investigation.
4. The industry shall ensure proper conservation measures. recycling and reuse of waste water after adequate treatment.
5. The industry shall monitor the ambient ground water regime of the area through piezometers and submit the data on a yearly basis to the Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, Raipur for perusal and records.

Yours faithfully.

  
Regional Director

**Copy for information to the:**

1. Member Secretary, Chhattisgarh Environment Conservation Board, 1-Tilak Nagar, Shiv Mandir Chowk, Main Road, Awanti Vihar, Raipur-492006, Chhattisgarh, with a request to ensure that Rain Water Harvesting and Artificial Recharge methods are being implemented by the firm and quantity of withdrawal is not exceeding 90 m<sup>3</sup>/day.
2. Regional Director, Central Ground Water Board, North Central Chhattisgarh Region, Reena Apartments, 2<sup>nd</sup> Floor, Panchpedi Naka, Raipur 492001, Chhattisgarh. This has reference to your letter No. 35-1/NCCR/Vol-VII-1468 dated 25.11.2011.
3. TS to Chairman, Central Ground Water Board, NH-IV, Faridabad

/  
Regional Director



**R. & C. LABORATORY (BALCO, KORBA)**  
**Environment Monitoring Section**

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-AIR-1/OCT-17

Date 16/10/2017

**Ambient Air Quality Report of Kawardha Bauxite mines**  
**3 to 6 October- 2017**

SN	Parameters	Unit	Norms	Mines office	Weigh bridge	Daldali	Darai
				Samsatta	Keshmarda	Vill.- Daldali	Vill.- Darai
				03/10/2017	04/10/2017	05/10/2017	06/10/2017
1	PM 2.5	µg/m <sup>3</sup>	60 (24 hrs)	27	33	24	22
2	PM10	µg/m <sup>3</sup>	100(24 hrs)	52	58	45	43
3	SO <sub>2</sub>	µg/m <sup>3</sup>	80(24 hrs)	14	16	13	14
4	NO <sub>x</sub>	µg/m <sup>3</sup>	80(24 hrs)	17	18	15	13
5	Sound level (Day)	dB	75	45.3	54.8	43.9	44.1
6	Sound level (Night)	dB	70	44.6	46.2	43.2	43.6

Norms-National Ambient Air Quality Standards (18 November 2009)

Copy to  
GM (HSE)

Analysed by



Approved by  
Manager (QA)



**R. & C. LABORATORY (BALCO, KORBA)**  
**Environment Monitoring Section**

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-AIR-1/NOV-17

Date- 17/11/2017

**Ambient Air Quality Report of Kawardha Bauxite mines**  
**03 to 06 November- 2017**

SN	Parameters	Unit	Norms	Mines office	Welgh bridge	Daldall	Darai
				Samsatta	Keshmarda	Vill.- Daldali	Vill.- Darai
				03/11/2017	04/11/2017	05/11/2017	06/11/2017
1	PM 2.5	µg/m <sup>3</sup>	60 (24 hrs)	36	39	28	27
2	PM10	µg/m <sup>3</sup>	100(24 hrs)	58	61	51	49
3	SO <sub>2</sub>	µg/m <sup>3</sup>	80(24 hrs)	17	18	16	15
4	NO <sub>x</sub>	µg/m <sup>3</sup>	80(24 hrs)	15	16	14	14
5	Sound level (Day)	dB	75	42.5	54.7	41.0	40.5
6	Sound level (Night)	dB	70	39.0	39.5	38.4	38.0

Norms-National Ambient Air Quality Standards (18 November 2009)

Copy to  
GM (HSE)

  
Analysed by

  
Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**

**Environment Monitoring Section**

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-AIR-1/DEC-17

Date- 16/12/2017

**Ambient Air Quality Report of Kawardha Bauxite mines**

**04 to 07 December- 2017**

SN	Parameters	Unit	Norms	Mines office	Weigh bridge	Daldali	Darai
				Samsatta	Keshmarda	Vill.- Daldali	Vill.- Darai
				04/12/2017	06/12/2017	05/12/2017	07/12/2017
1	PM 2.5	µg/m <sup>3</sup>	60 (24 hrs)	36	39	32	31
2	PM10	µg/m <sup>3</sup>	100(24 hrs)	57	59	55	53
3	SO <sub>2</sub>	µg/m <sup>3</sup>	80(24 hrs)	17	16	16	15
4	NO <sub>x</sub>	µg/m <sup>3</sup>	80(24 hrs)	15	14	15	15
5	Sound level (Day)	dB	75	44.4	54.8	41.7	41.2
6	Sound level (Night)	dB	70	41.3	41.0	39.6	39.0

Norms-National Ambient Air Quality Standards (18 November 2009)

Copy to

GM (HSE)

Analyse<sup>d</sup> by

Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
Environment Monitoring Section

REF : BAL CO/QAP1/POLL/IMS 05/File-08A/KWD-AIR-1/JAN-18


Date- 17/01/2018

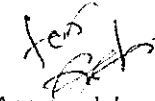
**Ambient Air Quality Report of Kawardha Bauxite mines**  
03 to 06 January- 2018

SN	Parameters	Unit	Norms	Mines office	Weigh bridge	Daldali	Darai
				Samsatta	Keshmarda	Vill.- Daldali	Vill.- Darai
				04/01/2018	03/01/2018	06/01/2018	05/01/2018
1	PM 2.5	µg/m <sup>3</sup>	60 (24 hrs)	37	41	36	32
2	PM10	µg/m <sup>3</sup>	100(24 hrs)	57	60	57	52
3	SO <sub>2</sub>	µg/m <sup>3</sup>	80(24 hrs)	17	16	17	15
4	NO <sub>x</sub>	µg/m <sup>3</sup>	80(24 hrs)	16	15	14	16
5	Sound level (Day)	dB	75	44.9	55.9	42.1	42.3
6	Sound level (Night)	dB	70	41.8	42.1	40.5	39.9

Norms-National Ambient Air Quality Standards (18 November 2009)

Copy to  
GM (HSE)

  
Analysed by

  
Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**  
**Environment Monitoring Section**

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-AIR-1/FEB-18

Date- 17/02/2018

**Ambient Air Quality Report of Kawardha Bauxite mines**  
**05 to 08 Feb- 2018**

SN	Parameters	Unit	Norms	Mines office	Weigh bridge	Daldali	Darai
				Samsatta	Keshmarda	Vill.- Daldali	Vill.- Darai
				05/02/2018	06/02/2018	07/02/2018	08/02/2018
1	PM 2.5	µg/m <sup>3</sup>	60 (24 hrs)	40	40	39	33
2	PM10	µg/m <sup>3</sup>	100(24 hrs)	56	62	57	54
3	SO <sub>2</sub>	µg/m <sup>3</sup>	80(24 hrs)	19	18	18	17
4	NO <sub>x</sub>	µg/m <sup>3</sup>	80(24 hrs)	16	19	16	16
5	Sound level (Day)	dB	75	42.3	53.2	45.2	42.1
6	Sound level (Night)	dB	70	40.2	43.1	40.8	39.8

Norms-National Ambient Air Quality Standards (18 November 2009)

Copy to  
GM (HSE)

  
Analysed by

  
Approved by  
Manager (QA)

**R. & C. LABORATORY (BALCO, KORBA)**

**Environment Monitoring Section**

REF : BALCO/QAP1/POLL/IMS 05/File-08A/KWD-AIR-1/MARCH-18

Date-16/03/2018

**Ambient Air Quality Report of Kawardha Bauxite mines  
07 to 10 MARCH- 2018**

SN	Parameters	Unit	Norms	Mines office	Weigh bridge	Daldali	Darai
				Samsatta	Keshmarda	Vill.- Daldali	Vill.- Darai
				07/03/2018	08/03/2018	09/03/2018	10/03/2018
1	PM 2.5	µg/m <sup>3</sup>	60 (24 hrs)	34	31	31	29
2	PM10	µg/m <sup>3</sup>	100(24 hrs)	52	45	41	46
3	SO <sub>2</sub>	µg/m <sup>3</sup>	80(24 hrs)	14	13	15	16
4	NO <sub>x</sub>	µg/m <sup>3</sup>	80(24 hrs)	12	11	10	13
5	Sound level (Day)	dB	75	43.6	52.3	45.6	44.3
6	Sound level (Night)	dB	70	40.9	44.8	41.3	39.5

Norms-National Ambient Air Quality Standards (18 November 2009)

Copy to  
GM (HSE)

Analysed by

Approved by  
Manager (QA)

**ANNEXURE-IV****PLANTATION DETAILS****KAWARDHA MINES**

<b>Year</b>	<b>No. of saplings planted</b>
<b>2006-07</b>	<b>50,000</b>
<b>2007-08</b>	<b>10,000</b>
<b>2008-09</b>	<b>50,000</b>
<b>2009-10</b>	<b>50,000</b>
<b>2010-11</b>	<b>150,000</b>
<b>2011-12</b>	<b>21,000</b>
<b>2012-13</b>	<b>1,75,000</b>
<b>2013-14</b>	<b>1,00,000</b>
<b>2014-15</b>	<b>73,000</b>
<b>2015-16</b>	<b>37,500</b>
<b>2016 - 17</b>	<b>12000</b>
<b>2017 - 18</b>	<b>70000</b>
<b>Total</b>	<b>7,98500</b>

**Tender/Notice/Appointment**

**Bharat Aluminium Co. Ltd.  
Korba, Chhattisgarh.**

**PUBLIC NOTICE**

This is to inform the general public that Ministry of Environment and Forests ( MOEF) Govt. of India has accorded Environmental Clearance for Bodal-Daldali Bauxite Mine of Bharat Aluminium Company Limited (BALCO) for expansion of Bauxite Production Capacity from 0.3 MTPA to 1.25 MTPA. A copy of the clearance letter no. J-11015/37/2010 IA.II (M) dt. April 9, 2010 is available with Chhattisgarh Environment Conservation Board and also at website of MOEF <http://envfor.nic.in>.

**For Bharat Aluminium Co. Ltd.  
Korba, Chhattisgarh.**

**Central Chronicle : Apr 13, 2010**

**भारत एल्युमिनियम  
कम्पनी लिमिटेड  
कोरबा, छत्तीसगढ़**

सर्वसाधारण को यह सूचित किया जाता है कि पर्यावरण एवं वन मंत्रालय, भारत सरकार द्वारा भारत एल्युमिनियम कम्पनी लिमिटेड (बालको) को बोदई दलदली बॉक्साइट खदान की उत्खनन क्षमता 0.3 मिलियन टन प्रति वर्ष से बढ़ाकर 1.25 मिलियन टन प्रति वर्ष करने की अनुमति प्रदान की गई है। अनुमति पत्र क्रमांक जे-11015/37/2010-आई ए II (एम) दिनांक अप्रैल 9, 2010 की प्रति छत्तीसगढ़ पर्यावरण संरक्षण मंडल और पर्यावरण एवं वन मंत्रालय की वेबसाइट <http://envfor.nic.in> में उपलब्ध है।

**कने  
भारत एल्युमिनियम  
कम्पनी लिमिटेड  
कोरबा, छत्तीसगढ़**

**Deshbandhu Apr 13, 2010**