

FORM-1

FOR
EXPANSION OF CHOTIA-II COAL MINE
AT HASDEO ARAND COALFIELD,
KORBA DISTRICT, CHHATTISGARH

Submitted to:

**MINISTRY OF ENVIRONMENT, FOREST
AND CLIMATE CHANGE**

Submitted by:

**BHARAT ALUMINIUM COMPANY LIMITED AT ALUMINIUM BHAVAN,
P.O. BALCO NAGAR, KORBA DISTRICT, CHHATTISGARH**

Environmental Consultant:

Vimta 

Driven by Quality. Inspired by Science.

Vimta Labs Ltd.

142, IDA, Phase-II, Cherlapally
Hyderabad-500 051, Telangana State
env@vimta.com, www.vimta.com
*(QCI/NABL Accredited and ISO 17025 Certified Laboratory,
Recognized by MoEF, New Delhi)*

September, 2015

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FORM-1**(I) BASIC INFORMATION**

Sr. No.	Item	Details																				
1	Name of the project/s:	Expansion from 0.25 MTPA to 1.0 MTPA of Chotia II Coal Mine Bharat Aluminium Company Limited, at Salaigot village, Tehsil Podiuprodha, Korba District, Chhattisgarh																				
2	S. No. in the schedule	Activity 1(a), Category 'A'																				
3	Proposed capacity/ area/ length/ tonnage to be handled/ command area/ lease area/ number of wells to be drilled	Existing Area: 316.826 ha																				
4	New/Expansion/Modernization	Expansion of Chotia-II coal mine																				
5	Existing Capacity/ Area etc.	Existing Area: 316.826 ha																				
6	Category of Project i.e. 'A' or 'B'	Category 'A'																				
7	Does it attract the general condition? If yes, please specify.	No																				
8	Does it attract the specific condition? If yes, please specify.	No																				
9	Location:	<p>Chotia II Coal Mine, Bharat Aluminium Company Limited, at Salaigot village, Tehsil Podiuprodha, Korba District, Chhattisgarh.</p> <table border="1"> <thead> <tr> <th>S.No</th> <th>Latitude</th> <th>Longitude</th> <th>Boundary</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>22° 50' 40.6" N</td> <td>82° 33' 1.2" E</td> <td>Easten</td> </tr> <tr> <td>B</td> <td>22° 51' 58.6" N</td> <td>82° 31' 57.9" E</td> <td>Northen</td> </tr> <tr> <td>C</td> <td>22° 51' 33.4" N</td> <td>82° 31' 26.9" E</td> <td>Western</td> </tr> <tr> <td>D</td> <td>22° 51' 1.3" N</td> <td>82° 31' 47.7" E</td> <td>Southern</td> </tr> </tbody> </table> <p>Details of the Coordinates of the Chotia II Coal Mine is enclosed as Annexure-I.</p> <p>Topo sheet No.- 64J/09</p> <p>The index map and location map is enclosed as Annexure-II.</p> <p>Revised Mining Plan/SOM submitted to Ministry of Coal dated 17th July 2015 (Annexure-III)</p>	S.No	Latitude	Longitude	Boundary	A	22° 50' 40.6" N	82° 33' 1.2" E	Easten	B	22° 51' 58.6" N	82° 31' 57.9" E	Northen	C	22° 51' 33.4" N	82° 31' 26.9" E	Western	D	22° 51' 1.3" N	82° 31' 47.7" E	Southern
S.No	Latitude	Longitude	Boundary																			
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C	22° 51' 33.4" N	82° 31' 26.9" E	Western																			
D	22° 51' 1.3" N	82° 31' 47.7" E	Southern																			
	Plot/ Survey/Khasra No.	Forest Compartment No.1604(P),1605(P),1606(P) and 1607(P)																				
	Village	Salaigot																				
	Tehsil/Mandal	Podiuprodha																				
	District	Korba																				
	State	Chhattisgarh																				
10	Nearest railway station/ airport along with distance in kms	Railway Station: Korba 58.5 km (Arial Distance), SSE Airport: Raipur 200 Km, SSW																				
11	Nearest town, city, district headquarters along with distance	Nearest town/ District headquarters – Korba 56.0 km, SSE																				

Sr. No.	Item	Details
	and direction in kms	
12	Village panchayats, Zillaparishad, Municipal corporation, local body (complete postal addresses with telephone nos. to be given)	Village:Salaigot Panchayats: Ghunchapur Zilla parishad: Korba
13	Name of the applicant	Bharat Aluminium Company Limited
14	Registered Address	Aluminium Sadan, 2 nd Floor, Core-6, Scope Complex, 7 Lodhi Road, New Delhi-110003
15	Address for correspondence	
	Name	Mr. Afroz
	Designation (Owner/Partner/CEO)	Associate Vice President
	Address	Bharat Aluminium Company Limited, 540 MW Power Plant, Balco, Korba, C.G
	Pin Code	495684
	E-mail	Afroz.ali@vedanta.co.in
	Telephone No.	8349201165
	Fax No.	+918649-257428
16	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet.	No alternative site considered as expansion within the existing project area.
17	Interlinked Projects	Not envisaged
18	Whether separate application of interlined project has been submitted	Not envisaged
19	If yes, date of submission	Not envisaged
20	If no, reason	Not envisaged
21	Whether the proposal involves approval/clearance under: (a) The Forest (Conservation) Act, 1980 (b) The Wildlife (Protection) Act, 1972 (c) The C.R.Z Notification, 1991	Approval under the Forest (Conservation) Act, 1980 already granted by MoEF&CC vide letter F.No.08-64/2005-FC dated 18.05.2015 enclosed as Annexure-IV .
22	Whether there is any Government Order/Policy relevant/relating to the site	Not envisaged
23	Forest land involved (hectares)	316.826 ha Forest clearance obtained vide letter no. F.No.08-64/2005-FC dated 18.05.2015.
24	Whether there is any litigation pending against the project and/ or land in which the project is propose to be set up (a) Name of the Court (b) Case No. (c) Orders/ directions of the Court,	No

Sr. No.	Item	Details
	if any and its relevance with the proposed project	

(II) ACTIVITY

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

Sr. No.	Information/Checklist Confirmation	Yes /No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	Yes	The land use has already been converted for mining purposes. (Surface/Geological/Conceptual Plan of ML attached as Annexure-V (a), (b) & (c))
1.2	Clearance of existing land, vegetation and building?	No	
1.3	Creation of new land uses?	No	
1.4	Pre-construction investigations e.g., bore holes, soil testing?	No	No construction is envisaged in the mining lease area. 43 boreholes are drilled in the ML area.
1.5	Construction works ?	No	Not envisaged
1.6	Demolition Works ?	No	Not envisaged
1.7	Temporary sites used for construction works or housing of construction workers?	No	
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	No	Not envisaged
1.9	Underground works including mining or tunneling?	Yes	Opencast and Underground Mining.
1.10	Reclamation works?	Yes	Phase wise reclamation will be carried out as per Mining Plan approved by Ministry of Coal.
1.11	Dredging?	No	Not Required
1.12	Offshore structures?	No	Not Applicable
1.13	Production and manufacturing Process?	Yes	1 MTPA, Opencast with shovel dumper combination and semi mechanized Underground mining.
1.14	Facilities for storage of goods or materials?	Yes	A store will be set up for starting the opencast mining operations. During the construction stage of the underground, another store will be set up. Existing diesel pump facility will be used for the proposed expansion project

Sr. No.	Information/Checklist Confirmation	Yes /No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Internal dumping and reclamation
1.16	Facilities for long term housing of operational workers?	Yes	A complex with project office and residential quarters already exists. Power from rural supply feeder of CSEB is available for existing setup.
1.17	New road, rail or sea traffic during construction of operation?	No	Not envisaged
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc.?	No	Not envisaged
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	Not envisaged
1.20	New or diverted transmission lines or pipelines?	No	Not envisaged
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Nil
1.22	Stream crossings?	No	Not envisaged
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	Drinking water supply is by bore wells drilled in the project area, which will be continued. Mine water will be used for dust suppression and watering of plantation.
1.24	Changes in water bodies or the land surface affecting drainage or run-off	No	Not envisaged
1.25	Transport of personnel or materials for construction, operation or decommissioning?	No	Not envisaged
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not envisaged
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not envisaged
1.28	Influx of people to the area (either temporarily or permanently?)	Yes	Influx of people has taken place due to direct or indirect employment opportunities

Sr. No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
1.29	Introduction of alien species?	No	Not envisaged
1.30	Loss of native species or genetic diversity?	No	Not envisaged
1.31	Any other actions?	No	Not envisaged

2. Use of Natural resources for construction or operation of Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply).

Sr. No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
2.1	Land specially undeveloped or agricultural land (ha)	Yes	There is no agricultural land. The present land use is already converted to mining purpose.
2.2	Water (expected source & competing users) unit KLD	Yes	About 250 KLD of treated mine discharge water will be utilized to meet the industrial water demand such as dust suppression and plantation. The balance 350 KLD will be met from two tube wells proposed within the project area for drinking and domestic purpose.
2.3	Minerals (MT)	Yes	The peak production of Chotia II coal mine is aimed at 1 MTPA.
2.4	Construction material – stone, aggregates, and/soil (expected source - MT)	No	Not envisaged
2.5	Forests and timber (source-MT)	No	Not envisaged
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Power will be drawn from the nearest CSEB source and three substations will be built to supply power to opencast mine and underground mine.
2.7	Any other natural resources (use appropriate standard units)	No	Not envisaged

3.0 Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health

Sr. No.	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
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Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	Yes	Explosive for proposed mine expansion and production activities will be stored in existing magazine.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Not reported
3.3	Affect the welfare of people, e.g., by changing living conditions?	No	The project will generate direct and indirect employment to the people and will improve the living standards.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	No
3.5	Any other causes	No	Nil

4.0 Production of solid wastes during construction or operation or decommissioning (MT/month)

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	Yes	Top soil- 0.02 Mcum OB- 0.36 Mcum
4.2	Municipal waste (domestic and or commercial wastes)	No	No municipal waste or commercial waste is likely to be produced in the Mining lease.
4.3	Hazardous wastes (as per hazardous waste management rules)	Yes	Used engine oil, oil filters, batteries and grease will be sold to authorized recyclers. The hazardous waste generated shall be disposed as per Hazardous Waste Management Rules through e-auction to CECB authorized parties.
4.4	Other industrial process wastes	No	No other industrial wastes are envisaged to be produced.
4.5	Surplus product	No	Not envisaged
4.6	Sewage sludge or other sludge from effluent treatment	No	Not envisaged
4.7	Construction or demolition wastes	No	Not envisaged
4.8	Redundant machinery or equipment	Yes	Only at mine closure stage
4.9	Contaminated soils or other materials	No	Not envisaged

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
4.10	Agricultural wastes	No	Not envisaged
4.11	Other solid wastes	No	Not envisaged

5.0 Release of pollutants or any hazardous, toxic or noxious substances to air (kg/hr)

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Diesel operated HEMMs shall be operated. Emission due to operation of diesel driven HEMM, DG Sets etc. will be monitored kept with permissible limits through and with proper maintenance.
5.2	Emission from production processes	Yes	Limited Fugitive dust could be generated during mining operation for which adequate mitigation measures will be taken.
5.3	Emissions from material handling including storage or transport	Yes	Dust emissions during loading and unloading, storage and transportation of coal can be expected. Adequate mitigation measures will be taken to control this dust.
5.4	Emissions from construction activities including plant and equipment	No	No major construction activities are envisaged. Hence, no emissions also expected.
5.5	Dust or odors from handling of materials including construction materials, sewage and waste	Yes	Dust will be generated during handling of material & waste. Adequate mitigation measures will be taken to keep it is permissible limit.
5.6	Emissions from incineration of waste	No	No incineration is envisaged
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	Not applicable
5.8	Emissions from any other sources	No	Not Applicable

6.0 Generation of Noise and Vibration, and emissions of Light and Heat

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	Limited Noise will be generated from shovels, dumpers, drills, dozers and blasting activities. The noise level inside operator cabins will be maintained below 75 to 85 db (A). Required noise control equipment's like mufflers, acoustic enclosures to equipment's etc. will be installed. 7.5 meter safety barrier has already been developed and fenced all along

Sr. No.	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
			the active mine. Further the proposed Green belt will act as noise barrier. Regular maintenance of the mining machinery will help in reducing these noise levels.
6.2	From industrial or similar processes	Yes	The main source of noise generation from the mine area would be from drilling, blasting and mining machinery i.e. diesel operated HEMM.
6.3	From construction or demolition	NO	NO
6.4	From blasting or piling	Yes	Noise will be generated during blasting operations, which will be restricted and controlled by scientific methods. Precautions will be taken to minimize the noise and vibration by blasting.
6.5	From construction or operational traffic	Yes	During Operation noise will be generated due to movement of trucks and other vehicles used during mine operation. Machines would be maintained properly to keep noise within limits. Use of horns near human habitat and other sensitive receptors shall be restricted.
6.6	From lighting or cooling systems	No	Not envisaged
6.7	From any other sources	No	Not envisaged

7.0 Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea

Sr. No	Information/Checklist Confirmation	Yes/No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	No storages of hazardous materials envisaged and hence, no risk of contamination of land or water is envisaged.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	Nil
7.3	By deposition of pollutants emitted to air into the land or into water	Yes	Fugitive dust could be generated, for which regular water sprinkling & wet drilling system will be adopted as preventive measures to control dust.
7.4	From any other sources	No	Not envisaged
7.5	Is there a risk of long term buildup of pollutants in the environment from these sources?	No	Not envisaged

8.0 Risk of accidents during construction or operation of the project, which could affect human health or the environment

Sr. No	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc. from storage, handling, use or production of hazardous substances	Yes	<p>Risk of accidents will be minimized by better Mine management. Explosive are stored in existing secured magazines for which all required approvals/permits are in place.</p> <p>All safety rules and regulations will be followed while use storage and transporting the explosives.</p> <p>No other risk of accidents is envisaged as there will be no other major storage of hazardous substances.</p>
8.2	From any other causes	No	Not envisaged
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloud burst etc)?	No	<p>There is no record of occurrence of flood, landslides, cloud bursts etc.</p> <p>The proposed site comes under seismic Zone-III as per IS 1893 (part-I): 2002</p>

9.0 Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

Sr. No	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g	Yes	The project aids the overall socio and economic development of the region. Direct and indirect employment avenues will be created due to project, which would improve the living conditions of the people and also through various socio-economic measures taken up by proponent. All these will have positive impact over the area.
	<ul style="list-style-type: none"> • Housing development 	No	Existing facilities will be utilized
	<ul style="list-style-type: none"> • Extractive industries 	No	Not envisaged
	<ul style="list-style-type: none"> • Supply industries 	No	Not envisaged
	<ul style="list-style-type: none"> • Others 	No	Not envisaged

Sr. No	Information/Checklist Confirmation	Yes/ No	Details thereof (with approximate quantities/ rates, wherever possible) with source of information data
9.2	Lead to after use of the site, which could have an impact on the environment	No	Mine will be systematically and scientifically closed as per Mine Closure plan. Massive afforestation planned will improve the green cover. No major impacts are envisaged.
9.3	Set a precedent for later developments	No	At the end of the mine life, the infrastructure like housing colony, building, roads etc. developed for the project will be made available for the benefit of local community.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not envisaged

(III) ENVIRONMENTAL SENSITIVITY

Sr. No	Areas	Name/ Identity	Aerial distance (with 15km) project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	NIL	NIL
2	Areas which are important or sensitive of ecological reasons – wetlands, water courses or other water bodies, coastal zone, biospheres, mountains, forests	(i) <u>Forest</u> Lad P.F Dhajag Kapanawapara P.F Parla P.F Ladgarh P.F Kalna P.F Lampahar P.F Pidia R.F Sirmina R.F Baniya R.F (ii) <u>Waterbody</u> Hasdo River Gej Nadi Atem Nadi	Within mine lease area 5.7 km, SSE 7.0 km, S 9.8 km, SW 12.0 km, S 12.2 km, NNE 13.4 km, SSE 1.1 km, E 2.8 km, NW 10.1 km, SW Adj., E 12.9 km, NNE 13.1 km, NNE
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	Such areas are not identified/marked in the area.	
4	Inland, coastal, marine or underground waters	Nil	Nil
5	State, national boundaries	District Boundary Surguja	0.7 km, E


Sr. No	Areas	Name/ Identity	Aerial distance (with 15km) project location boundary
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	NH-111	8.8 km, SSW
7	Defense installations	Nil	Nil
8	Densely populated or built-up area	NO	NIL
9	Areas occupied by sensitive man made land uses (<i>hospitals, schools, places of worship, community facilities</i>)	Primary school, middle school and high school	In surrounding village
10	Areas containing important, high quality or scarce resources (<i>ground water resource, surface resources, forestry, agriculture, fisheries, tourism, minerals</i>)	i) <u>Waterbody</u> Hasdo River Gej Nadi Atem Nadi	Adj., E 12.9 km, NNE 13.1 km, NNE
11	Areas already subjected to pollution or environmental damage. (<i>those where existing legal environmental standards are exceeded</i>)	Nil	Nil in 15 km radius
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (<i>earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions</i>)	Nil	The area not known for these natural hazards. Seismically, this area is categorized under zone-III as per IS 1893 (part-I): 2002

(IV) PROPOSED TERMS OF REFERENCE FOR EIA STUDIES

In order to assess the environmental impacts due to the proposed project on the surrounding environment, Bharat Aluminium Company Limited proposes to carry out EIA studies covering various environmental attributes and to suggest an effective Environment Management Plan. Proposed Terms of Reference for EIA studies are given in **Annexure-VI**.

I hereby give an undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project be rejected and clearance given, if any, to the project will be revoked at our risk and cost:

Date: 24th September, 2015
Place: BALCO


Afroz



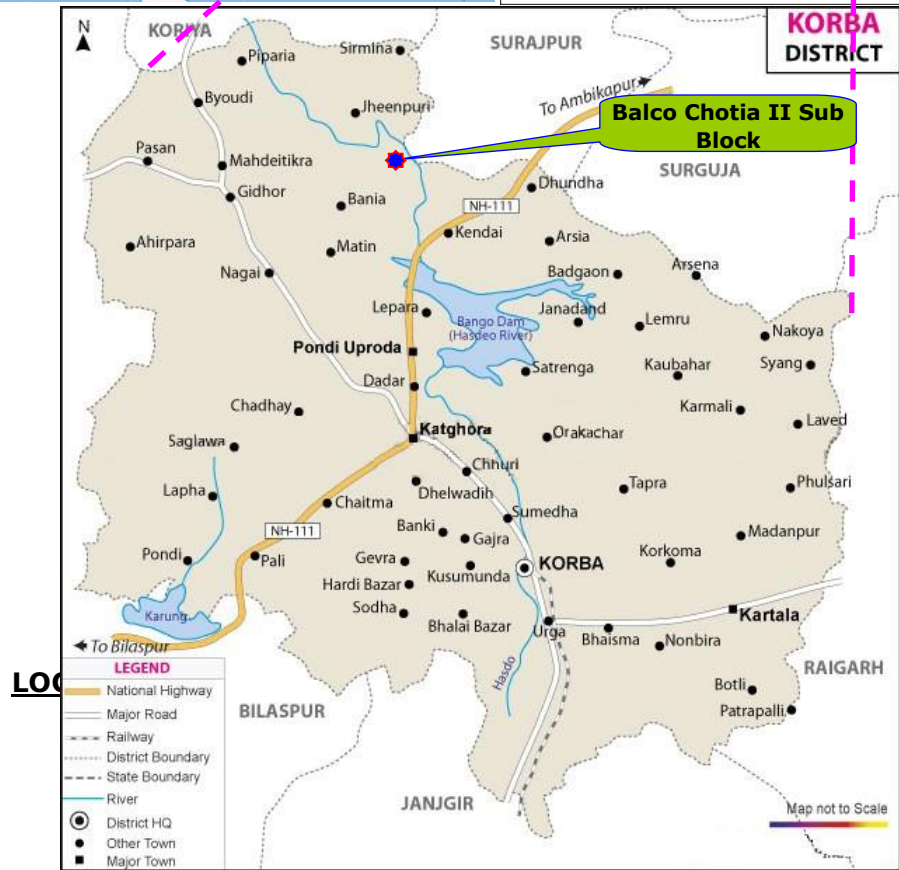
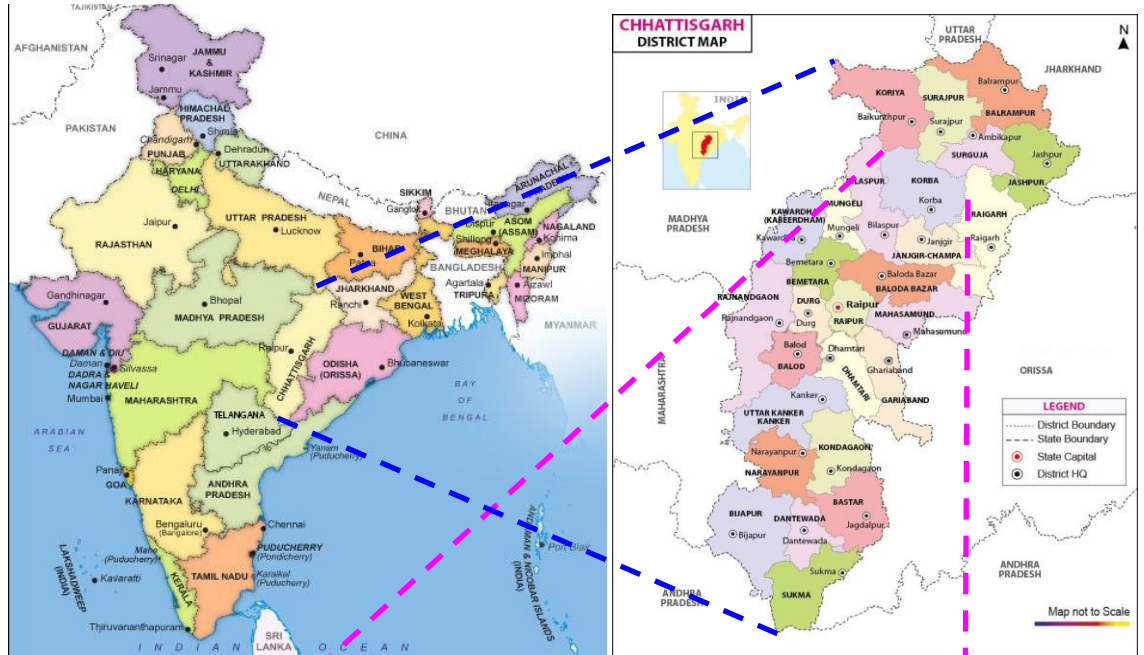
AVP, Cosmos Building,
540 MW Power Plant, Balco, Korba C.G.

Signature of the applicant
With name and full address
(Project Proponent/Authorised Signatory)

Annexure-I
Chotia II Coal Mine Lease Boundary Co ordinates

CHOTIA-II Co ordinates				CHOTIA-II Co ordinates			
S.No	NAME	NORTHING	EASTING	S.No	NAME	NORTHING	EASTING
1	BP-1	22° 50' 32.2" N	82° 32' 51.6" E	9	BP-3	22° 51' 58.6" N	82° 31' 57.9" E
2	BP-2	22° 50' 40.6" N	82° 33' 01.2" E	10	BP-4	22° 51' 57.2" N	82° 31' 41.2" E
3	BP-2A	22° 51' 02.5" N	82° 32' 41.6" E	11	BP-4D	22° 51' 36.8" N	82° 31' 24.7" E
4	BP-2B	22° 51' 06.2" N	82° 32' 45.1" E	12	BP-5	22° 51' 33.4" N	82° 31' 26.9" E
5	BP-2L	22° 51' 37.0" N	82° 32' 17.4" E	13	BP-6	22° 51' 01.3" N	82° 31' 47.7" E
6	BP-18	22° 51' 33.7" N	82° 32' 06.1" E	14	BP-7	22° 51' 07.1" N	82° 31' 53.7" E
7	BP-19	22° 51' 42.4" N	82° 32' 00.7" E	15	BP-8	22° 50' 59.1" N	82° 32' 05.7" E
8	BP-20	22° 51' 53.2" N	82° 32' 02.8" E	16	BP-9	22° 50' 41.7" N	82° 32' 16.5" E

ANNEXURE-II INDEX MAP OF CHOTIA II COAL MINE



82° 30'

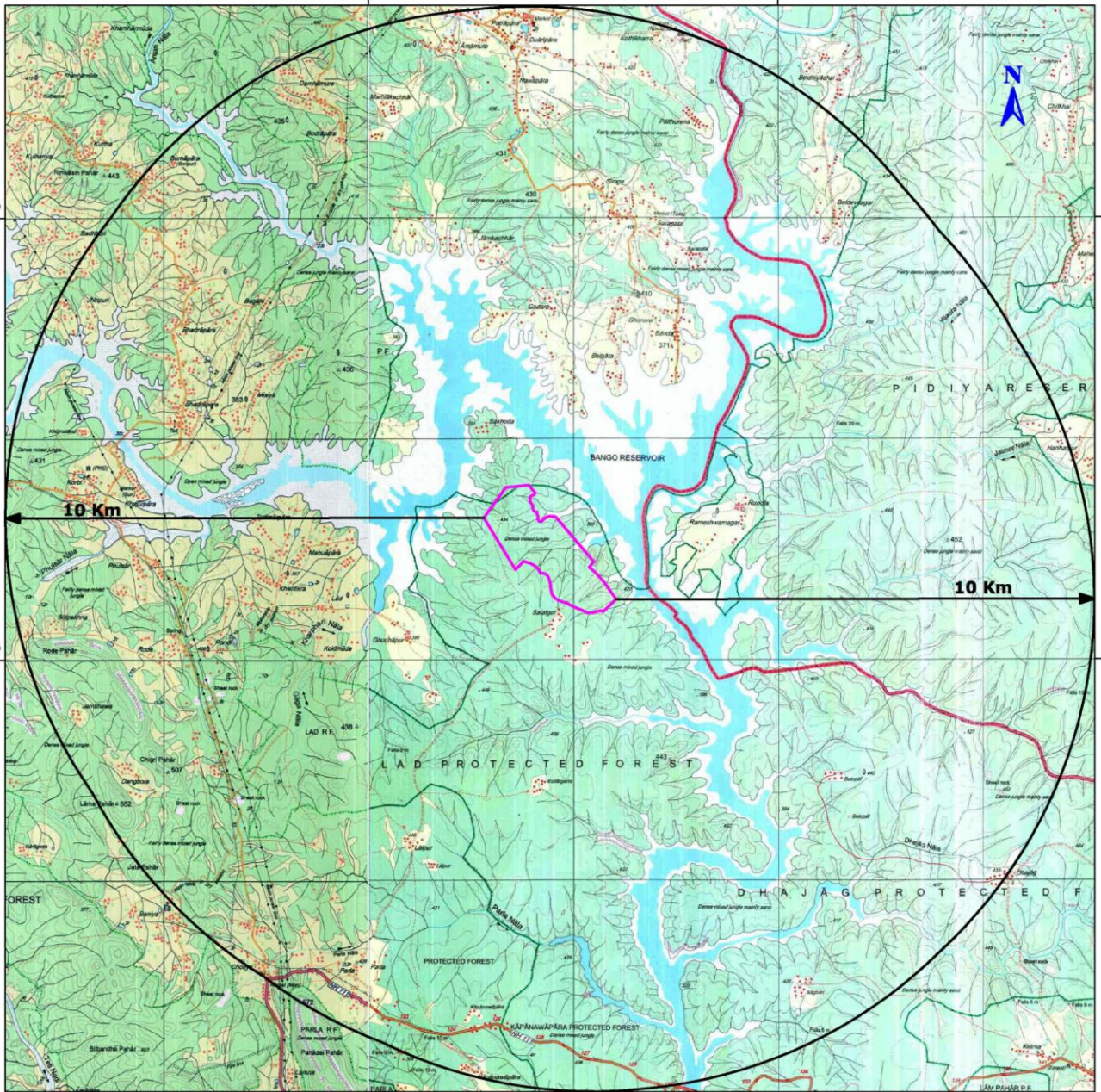
82° 35'

22° 55'

22° 55'

22° 50'

22° 50'



SCALE



Topo Sheet Nos. F44K5 & F44K9
(64 J/5 & J/9)

Legend

 Chotia Coal Mine Lease Area-II

ANNEXURE-III
REVISED MINING PLAN SUBMISSION LETTER TO MINISTRY OF COAL



BALCO/COAL MINE/MINE PLAN/JULY/2015/001

Date: 17th July, 2015

To,
The Under Secretary (CPAM)
Ministry of Coal,
Government of India
Shaastri Bhawan
New Delhi

*Received today 17/7/2015 at 5 P.M.
without CRPDI certificate rigorously
Geological Coordinates. Refer M/s
website copy of order Enclosed. Kindly comply.*

Sub: Submission of Revised Mining Plan (III Revision) for Chotta Coal Mine allocated to M/s. Bharat Aluminium Company Limited

Dear Sir,

Pursuant to Coal Mine Auction conducted by the Nominated Authority, Govt of India, Chotta coal mine was vested with Balco vice vesting order No 104/11/2013/MA dated March 23, 2015.

We hereby submit Revised Mining Plan (III Revision) in respect of Chotta Coal Mine, Hasdeo Arand Coalfield, District - Korba, Chhattisgarh in four sets with necessary annexures and drawings.

Submitted for kind approval.

Thanking You,

Yours Sincerely,

Rajiv Kumar
Associate General Manager
Bharat Aluminium Company Limited

Enclosure: As above

Bharat Aluminium Company Limited

Registered Office: 20, Mahatma Square, Con-4, Sector Office Complex, Trestle Road, New Delhi-110044
Toll-free number: 1-800-200-0100, www.balcoindia.com
Workshop: Gurgaon, Korba, Chhattisgarh, 492 014
CIN: IN500007BALCO000008

ANNEXURE-IV
FOREST CLEARANCE APPROVAL LETTER

F. No. 8-64/2005 - FC
Government of India
Ministry of Environment, Forests and Climate Change
(Forest Conservation Division)

Indira Paryavaran Bhawan,
Aliganj, Jor Bag Road,
New Delhi - 110003.
Dated: 18th May, 2015

To
The Principal Secretary (Forests),
Government of Chhattisgarh,
Raipur.

Sub: Transfer of lease in respect of diversion of 960.286 ha of forest land (Out of which 726.349 ha accorded approval on 7.11.2011 for open cast mining while 188.326 ha accorded on 29.03.2006 for underground mining) for underground/open cast mining in Chotia Coal Block in Korba District in the State of Chhattisgarh from the original user i.e. M/s Prakash Industries Limited to new user agency i.e. M/s Bharat Aluminium Company Limited in whose favour the coal block was auctioned/re-allotted by the Ministry of Coal – regarding.

Sir,

I am directed to refer to the Ministry of Coal's letter no. 13016/38/2015-CA-II dated 16.04.2015 on the above subject requesting this Ministry's to transfer its approval granted under the Forest (Conservation) Act, 1980 for diversion of forest land for coal mining at Chotia Coal Block in Korba District in the State of Chhattisgarh from the original user i.e. M/s Prakash Industries Limited, in whose favour the forest land was diverted, to new user agency i.e. M/s Bharat Aluminium Company Limited in whose favour the coal block was auctioned/re-allotted by the Ministry of Coal, in accordance with para 2.8 of the Guidelines issued under the Forest (Conservation) Act, 1980 read with the Guidelines dated 3.05.2010, 3.05.2013 and latest Guidelines dated 31.03.2015.


In this connection, I am directed to say that after careful examination of the proposal for transfer of forest clearance and on the basis of recommendations of the Ministry of Coal, the Central Government hereby conveys its approval for transfer of approval granted for diversion of 960.286 ha of forest land involving of Stage-I and Stage-II approvals granted by the Ministry vide its letters of even number dated 4.01.2011 and 7.06.2011, respectively in respect of diversion of 726.349 ha of forest land for open cast coal mining and Stage-I and Stage-II approval dated 10.11.2005 and 29.03.2006, respectively in respect of diversion of 188.326 ha of forest land for underground coal mining at Chotia Coal Block in Korba District in the State of Chhattisgarh from the original user i.e. M/s Prakash Industries Limited, in whose favour the forest land was diverted, to new user agency i.e. M/s Bharat Aluminium Company Limited, in whose favour the coal block was auctioned/re-allotted by the Ministry of Coal, subject to the conditions as given below:

- (i) Lease transfer charges @ 10% of the NPV or Rs. 1,00,000/- (1 Lakh) whichever is less will be realized from the new user agency and will be deposited in the account of Ad-hoc CAMPA before execution of lease in favour of the new user agency.

sd/ of


- (ii) Reimbursement of amount paid by the original user agency shall be dealt with in the manner, as provided in the Coal Mines (Special Provisions) Second Ordinance, 2014 and Rules framed thereunder.
- (iii) The new user agency shall pay the NPV as per the approval granted under FC Act if not paid earlier. The new user agency shall also furnish an undertaking to pay the additional NPV, if so determined by the Hon'ble Supreme Court of India.
- (iv) The new user agency shall abide by all the conditions on which the forest land was leased to the original user agency.
- (v) The new user agency shall abide by any other condition that may be stipulated by the Central Government/Regional Offices/State Government in future in the interest of conservation, protection and development of forests & wildlife.

Yours faithfully,

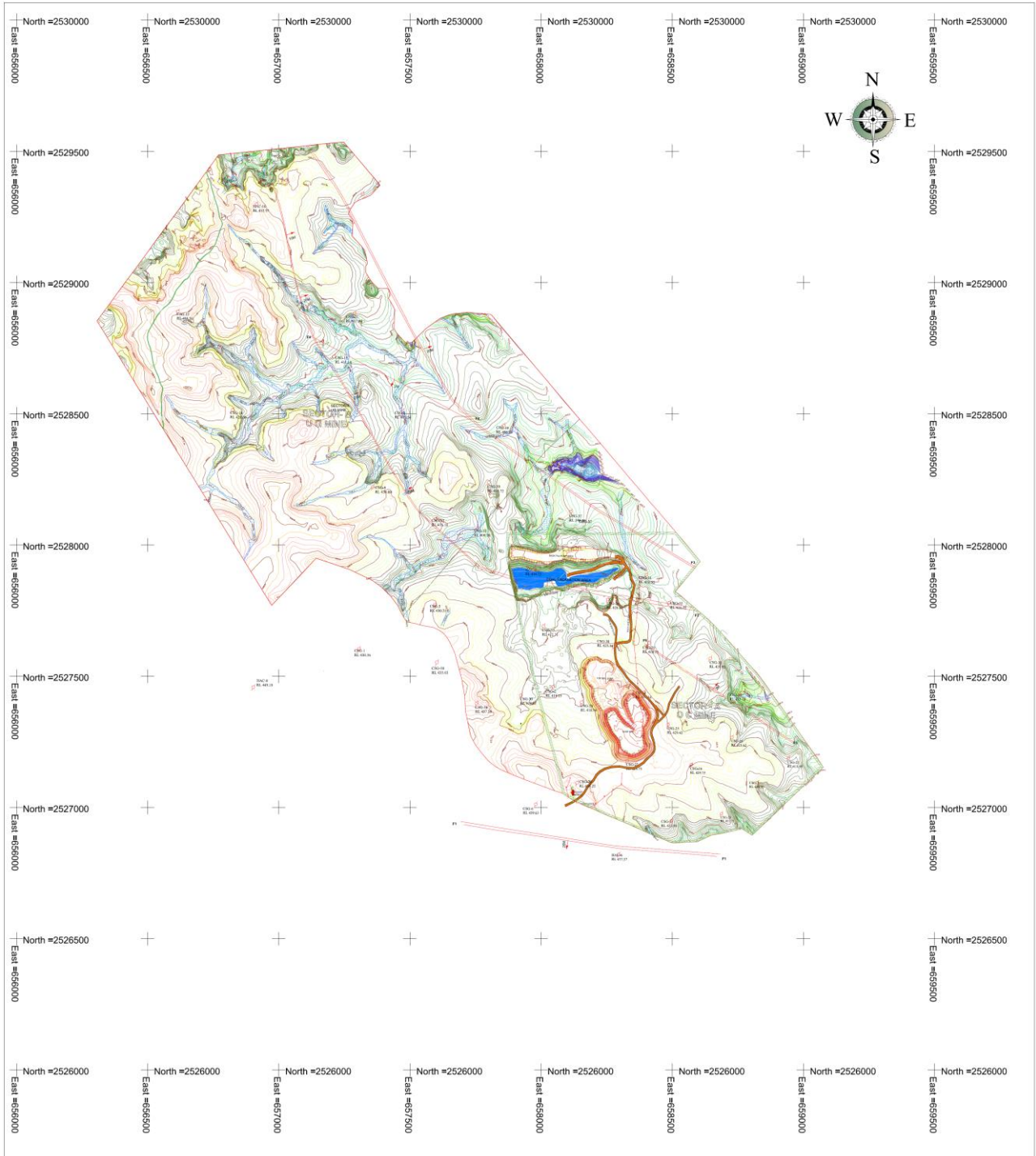

(B. K. Singh)
Director (FC)

Copy to:

1. Secretary, Ministry of Coal, Shastri Bhawan, New Delhi.
2. Principal Chief Conservation of Forests, Government of Chhattisgarh, Raipur.
3. Addl. PCCF (Central), Regional Office, Nagpur.
4. Nodal Officer, O/o the PCCF, Government of Government of Jharkhand, Ranchi.
5. User Agencies:
 - a) M/s Prakash Industries Limited
 - b) M/s Bharat Aluminium Company Limited
6. Monitoring Cell, FC Division, MoEF&CC, New Delhi
7. Guard File.

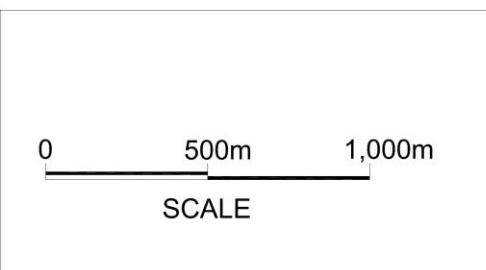

(B. K. Singh)
Director (FC)



ANNEXURE-V(A) SURFACE PLAN OF CHOTIA II COAL MINE



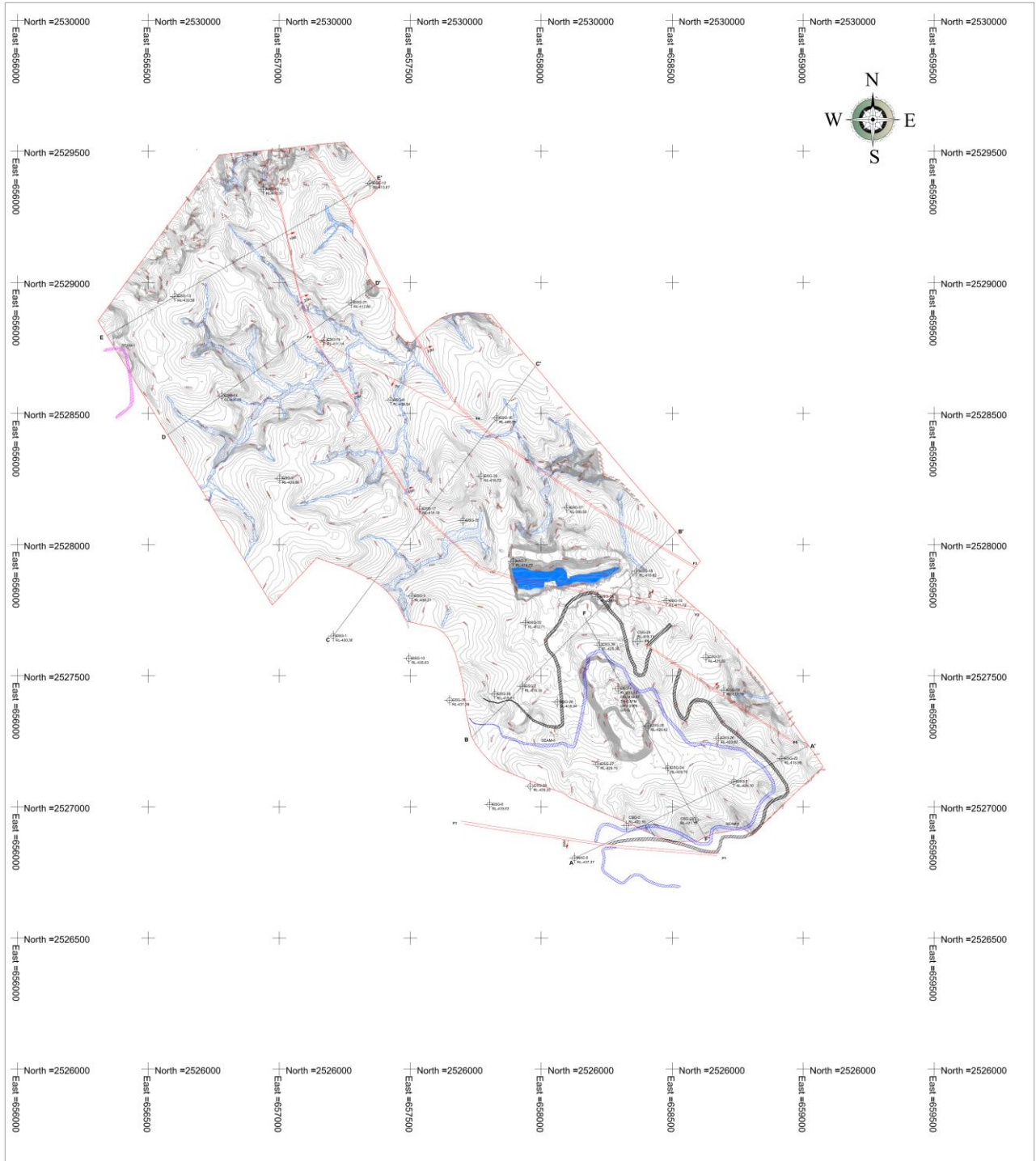
INDEX

BUILDING & OTHER SURFACE STRUCTURE	[Symbol]
WALL AND FENCE	[Symbol]
WATER BODY	[Symbol]
ROAD METAL ROAD	[Symbol]
MINERAL LEASE BOUNDARY	[Symbol]
HT TOWER	[Symbol]
SESION WALL	[Symbol]
TRUCK DRIVER	[Symbol]
WATER LOGGED	[Symbol]
TEMPLE	[Symbol]
LAMP POST	[Symbol]
WELL	[Symbol]
TV TOWER	[Symbol]
LT LINE	[Symbol]
HEALTH CENTER	[Symbol]
WATER TOWER	[Symbol]
MINERAL	[Symbol]
CONTOUR	[Symbol]
BOUNDARY	[Symbol]
BOUNDARY	[Symbol]



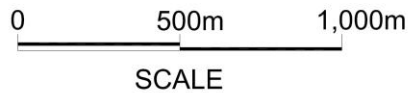
 Chotia Coal Mine (Chotia II) Bharat Aluminium Co. Ltd. (BALCO)	
Plate	DMT/Balco/Chotia Coal Mine/ IV B
Title	SURFACE PLAN OF CHOTIA II
Scale	1: 5,000 RF
RQP	Pankaj Kumar Sinha <div style="float: right; text-align: right;">  DMT Consulting (P) Limited <small>List No-203, 2nd Floor, Block-3B, Leospace Business Park, Premises no-11P/11, Sector Area II, New Town, Rajarhat, Kolkata - 700136 India.</small> </div>

ANNEXURE-V(B) GEOLOGICAL PLAN OF CHOTIA II COAL MINE



INDEX

MINING LEASE BOUNDARY	
ROAD	
KACHCHA ROAD	
INCROP OF SEAM 1	
INCROP OF SEAM 2	
INCROP OF SEAM 3	
FAULT WITH THROW	
BORE HOLE	
SURFACE CONTOURS	
NALLA	

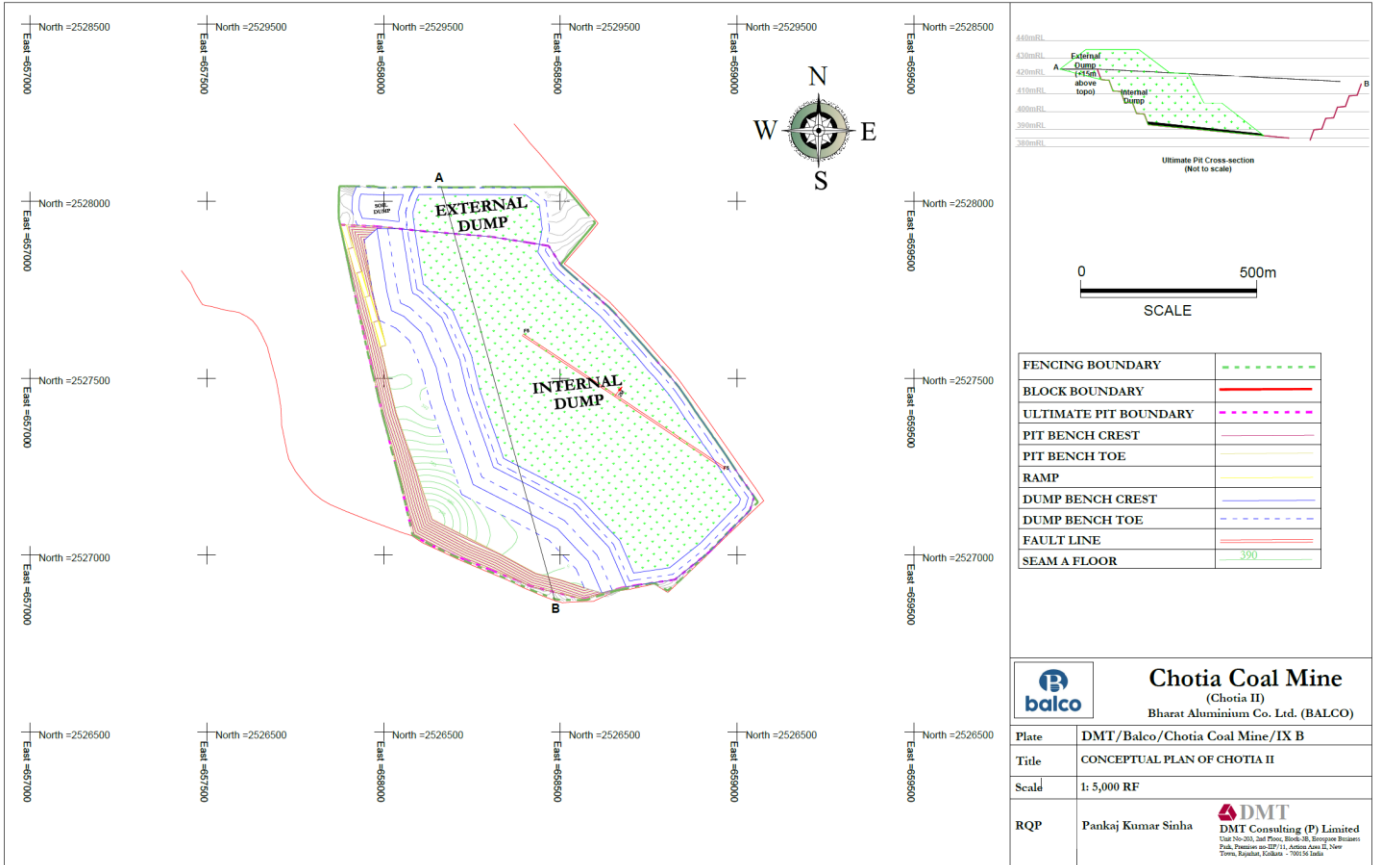


Chotia Coal Mine
(Chotia II)
Bharat Aluminium Co. Ltd. (BALCO)

Plate	DMT/Balco/Chotia Coal Mine/ III B
Title	GEOLOGICAL PLAN OF CHOTIA II AS ON JULY 2015
Scale	1: 5,000 RF

RQP Pankaj Kumar Sinha **DMT**
DMT Consulting (P) Limited
Unit No-203, 2nd Floor, Block-3B, EcoSpace Business
Park, Premises no-117/11, Action Area II, New
Town, Rajarhat, Kolkata - 700056 India

ANNEXURE-V(C) CONCEPTUAL PLAN OF CHOTIA II COAL MINE



ANNEXURE-VI **PROPOSED TERMS OF REFERENCE FOR EIA**

Standard Terms of reference for EIA/EMP report issued under EIA notification, 2006 by MoEF&CC will be followed.

The EIA study includes determination of baseline conditions, assessment of the Impacts on the environment due to operation of the proposed expansion project and making recommendations on the preventive measures to be taken, to minimize the impact on the environment to acceptable levels. A suitable post-study monitoring programme will also be outlined. Preparation of Environment Management Plan will also be done.

• Data Generation

Land Use

The existing land use pattern in the study area of 10 km radius around the project will be established through the literature review of published Census records and latest available satellite imagery. Based on this review, the land use pattern is categorized into the following five categories:

1. Forest;
2. Irrigated and agricultural Land;
3. Un-irrigated agricultural land;
4. Cultivable wasteland;
5. Land not available for cultivation, which includes built-up areas.

Demography and Socio-Economic Aspects

The existing status of demography and socio-economic factors will be established for the zone covered in 10 km radial distance around the project site based on the literature review and secondary sources such as the District Census Statistics. The demographic and socio-economic characteristics such as distribution and density of population, age-sex structure, sex ratio, social structure, literacy rates and occupational structure of people etc. will be established.

Soil Characteristics

The soil samples will be collected in the project study area upto a depth of 0-90 cm from the ground. The locations will be selected to represent various land use conditions including proposed project site.

Water Quality

For assessing the water quality in the study area, the water samples will be collected once during the study period. The sample locations will be selected based on the reconnaissance survey of the area.

Meteorology

Meteorological data collected from the nearest observatory of India Meteorological Department (IMD) will be analyzed for probable wind directions, wind speeds, temperature, humidity, rainfall etc. Accordingly, the wind roses will be prepared. An automatic weather monitoring station will be installed in the project area.

Ambient Air Quality Monitoring (AAQ)

Ambient air quality monitoring will be carried out within the study area to know the existing baseline status.

The frequency of AAQ monitoring shall be maintained twice a week for 13 weeks during the study period. Samples will be collected for PM10, PM2.5, NO_x, and SO₂ for 24 hours. Carbon monoxide will be monitored for every eight hours continuously for 24 hour AAQ monitoring.

Terrestrial and Aquatic Ecology

a) Terrestrial Ecology

Field surveys will be conducted at appropriate locations covering important vegetative areas for which vegetation analysis will be carried out. The vegetation density, diversity, frequency, relative abundance, cover etc. will be studied. In addition, wildlife including avifauna of the study area will also be determined.

A checklist of flora, wild animals and avifauna will be prepared. Abundance of wild animals and birds will be estimated.

b) Aquatic Ecology

Reconnaissance survey of the study area will concentrate on identification of water bodies like rivers/nallas/ponds etc. The existing status of major water bodies will be thoroughly investigated for the flora and fauna including phytoplankton, zooplankton, fish and macrophytes.

The water bodies will be studied during field studies for phytoplankton and zooplankton density and diversity. Based on the primary and secondary surveys, a list of flora and fauna will be prepared.

Noise Levels

Noise level monitoring will be conducted at locations covering various categories such as industrial, residential, commercial and sensitive mentioned in the Environment Protection Rules and as per the specifications of the SEIAA/CPCB. The survey will be carried out once during EIA study period. Readings will be taken over 24-hour period at each location depending on the level of activity. The equivalent continuous noise levels (Leq) will be monitored using an integrating sound level meter manufactured by Hi-Tech Instruments Limited.

• Identification of Sources of Pollution

This includes the following:

- Identifying the sources of pollution of air, water, land, noise and solid wastes;
- Quantifying the emissions from the pollution generating sources; and
- Quantification of solid wastes and proposing suitable disposal methods.

Sources of Pollution in the Project Area

- The likely sources of air and water pollution will be identified and quantified;

- The proposed pollution control measures envisaged in project area for fugitive dust, noise pollution and other environmental effects of each project activities will be assessed for their adequacy;
- The present and proposed changes in land use pattern will be identified; and
- Suitable Green Belt Development Plan will be prepared.

Based on various project activities, the likely impact on the environment attributes in project area will be identified by:

- Estimating the air pollution levels for PM, SO₂ and NO_x in the study area during construction and operational activities;
- Estimating the source emissions for each project specific pollutants;
- Monitoring the source noise levels for all the noise generating sources;
- Predicting the impact of wastewater discharges;
- Determining the impact of mining activities
- Studying the short-term and long-term effects on sensitive targets like endangered species, crops and historically/archaeologically important sites (if any).

- ***Environmental Impact Assessment***

The proposed project may have minimal impacts on the environment. The parameters likely to be affected are land quality, air quality, water quality, soil quality, noise levels, etc. on account of gaseous emissions, liquid effluent discharges, resultant particulates, generation of solid wastes, etc.

The baseline data generated from the above mentioned studies will be analyzed and compared with applicable standards prescribed by the CPCB. By this means, the impact, whether positive or negative will be assessed and the environmental attributes requiring special attention for mitigating the negative impact, if any, will be identified. Also the areas, which fulfill the prescribed environmental norms and not requiring further improvements, will be specified. Both short-term and long term impacts particularly on sensitive targets such as habitat of endangered species of wildlife or mines, crops, historically/culturally important sites/monuments, centers with concentrated population in the study area will be established.

The baseline data generated will be analyzed and compared with applicable standards for each environmental attribute so that the critical environmental areas and also attributes of concern are identified.

A qualitative and quantitative assessment of pollution aspect of the proposed project (air and dust, wastewater, noise pollution etc.) will be done to identify the adequacy of the proposed control measures as well as the likely impact on existing critical areas. Mitigation measures to reduce adverse impacts will be suggested.

- ***Environment Management Plan***

An EIA Report and Environment Management Plan based on three months field data generation will be prepared for the purpose of getting clearance from MoEF. EIA/EMP will be prepared based on one season data.

Green Belt Development Plan

A Green Belt Development Plan for the project site will be included in the EIA report.

Disaster Management Plan and Occupational Safety

Risk Assessment and action plan dealing with emergency situation arising due to floods, fire, explosion, leakages of hazardous substances, etc. in the project will be done. The plans include storage, handling, transportation etc. for the hazardous materials to be used in the proposed project.

Post Study Monitoring Plan

The Post Project Monitoring (PPM) plan will be prepared considering the following:

- The proposed pollution control measures for air, wastewater and solid waste (hazardous/non-hazardous) disposal;
- Waste minimization, wastewater management, waste reuse and resource recovery, waste segregation to make the treatment and disposal cost-effective;
- The monitoring requirements for ensuring that the statutory as well as process data is collected; and
- The organizational set-up required meeting the above