

BALCO/ENV/A-02(A)/2023/307

29<sup>th</sup> November 2023

To,  
The Regional Officer (IRO)  
Ministry of Environment and Forest, Climate Change  
Integrated Regional Office, Aranya Bhawan  
North Block, Sector-19,  
Nava Raipur, Atal Nagar (CG) 492002.

**Sub:** Half yearly compliance status (April 2023 to September 2023) for Chotia - II Captive Coal Mine.

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Dear Sir,

On behalf of Bharat Aluminium Company Limited (hereinafter referred as "BALCO"), Please find enclosed herewith the half yearly compliance report for the period April 2023 to September 2023 for the Environmental Clearance No. J-11015/96/2004-IA-II(M) dated 18<sup>th</sup> July 2018 for Chotia-II Captive Coal Mine.

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,

  
**Amit Kumar Duley**  
Head -Mines



Copy to:  
Regional Officer, CECB, -Korba

**Compliance -Status on Environmental Clearance**  
**BALCO CHOTIA COAL MINES, KORBA (C.G.)**  
**Duration: April- 2023 to September - 2023**

1. MoEF Letter No: J – 11015/96/2004-IA.II (M), dated 18.07.2018
2. MoEF Letter No: J – 11015/96/2004-IA.II (M), dated 06.05.2019
3. MoEF Letter No: J- 11015/96/2004-IA.II (M), dated 13.09.2023

**A. SPECIFIC CONDITIONS:**

S.No	GENERAL CONDITION	COMPLIANCE STATUS
(i)	The capacity of the project shall be 1 MTPA (opencast) for first 5 Years and 0.30 MTPA (underground) from 6th year till life of the mine.	Agreed.
(ii)	The Environmental Clearance for the capacity of 1 MTPA (opencast) shall be valid for a period up to one year. Meanwhile, the project proponent shall comply with the observations of the EAC for single EC against the combined mining lease and mining plan, to consider continuance of the project thereafter.	The validity of the Environmental Clearance has been extended for 30 years or life of the mines as per Letter No. J-11015/96/2004-IA.II(M) dated 06.05.2019. As per amendment of EC vide Letter No. J-11015/96/2004-IA.II(M) dated 13/09/23 single EC is not required .
(iii)	To control the dust production at source, crusher and in-pit belt conveyors shall be provided with mist type sprinklers.	There is no in-pit belt conveyors at Chotia Mines. Sprinklers are installed in portable crusher.
(iv)	Mitigative measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions as presented before the Committee, which would include mechanized sweeping, water sprinklers/mist spraying on haul roads and loading sites, long range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at railway siding, etc.	Complied with. Water sprinklers for suppressing dust in haul roads, face, loading sites have been provided.
(v)	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	Complied with. Skill development training has been provided to villagers at Skill school operated by BALCO at Korba.
(vi)	To ensure health and welfare of nearby villages, regular medical camps shall be organized at least once in six months.	Complied with. Health camps are being organized in and around villages of Chotia.

(vii)	Thick green belt of adequate width in the down wind direction of the project site shall be developed to mitigate/check the dust pollution. Plantation plan shall be prepared in consultation with the State Forest Department.	Complied with. Green belt has been developed inside the safety zone of the mine. Plantation program has been undertaken in consultation with Forest department.
(viii)	Mine water shall be disposed of after treatment.	Being complied
(ix)	The project proponent shall upgrade the road (black topping) connecting Chotia - II Coal Mine to the nearest State Highway ( Chotia- Chirimiri)	Complied with. The road connecting Chotia - II Coal Mine to the nearest State Highway (Chotia-Chirimiri) is black topped.
<b>4.1</b>	<b>The grant of EC is further subject to compliance of the generic conditions for OC as under :</b>	
<b>(a)</b>	<b>Mining</b>	
(i)	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.	Agreed.
(ii)	No Change in mining method i.e. OC to UG, calendar program and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forest and Climate Change (MoEFCC)	Agreed.
(iii)	Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS)	Agreed.
(iv)	No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.	Complied with. The entire lease area of Chotia-II Mine is forest land and Forest Clearance has been transferred by MoEF&CC vide letter no F. No 8-64/2005 dated 18th May 2015. <b>Annexure-I</b>
<b>(b)</b>	<b>Land reclamation and water conservation</b>	
(i)	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale shall be submitted to Ministry of Environment, Forest and Climate Change/ Regional Office (RO)	Digital survey of entire lease area by using Satellite Remote Sensing has been done- and report submitted in July 2021.

(ii)	<p>The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc., shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GOI authority. The construction of the embankment to prevent any danger of inrush of surface water into the mines should be as per the approved Mining Plan and as per the permission of DGMS.</p>	Complied and agreed with.
(iii)	<p>The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post - mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective state government as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August , 2009 and subsequent amendments.</p>	Agreed.
(iv)	<p>The entire excavated area, backfilling, external OB dumping (including topsoil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land use pattern, which is an integral part of the approved Mining Plan and EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the Ministry of Environment, Forest and Climate Change/ regional Office on six monthly basis.</p>	Agreed.

(v)	<p>The top soil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized for long. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilized with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated area shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office on six monthly basis.</p>	<p>Complied with.</p> <p>The topsoil is being stored at earmarked sites which will be further used for reclamation and plantation purposes. Simultaneous backfilling has been adopted in excavated area.</p>
<b>(c)</b>	<b>Emissions, effluents and waste disposal</b>	
(i)	<p>Transportation of Coal, to the extent permitted by road shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc. shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM2.5) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.</p>	<p>Complied with.</p> <p>The transportation of coal is carried out by tarpaulin covered trucks. Mist type water sprinkling arrangement has been provided for control of dust pollution in Haul roads, loading/unloading, etc.,</p>
(ii)	<p>Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner. The green belt comprising a mix of native species shall be developed all along the major approach/coal transportation roads.</p>	<p>Plantation in 7.5m safety belt zone has been completed and the same is being protected by double layer concertina fencing.</p>
(iii)	<p>The transportation of coal shall be carried out as per the provisions and route proposed in the approved Mining Plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.</p>	<p>Complied with.</p>

(iv)	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centers.	Complied with. Regular vehicle checkup system has been implemented and the vehicles engaged in mining & allied activities are allowed to operate after verifying PUC Certificate.
(v)	Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	Complied with. Dust suppression is being done by Water Sprinklers at Coal stock pile, material transfer points, etc., No crushers or conveyors are installed at Chotia II Mine. Wet drilling is being practiced.
(vi)	Coal handling plant shall be operated with effective control measures viz. bag filters/water or mist sprinkling system etc. to check fugitive emissions from crushing operations, conveyor system, transfer points , etc.	Not applicable There is no plan of Coal Handling plant at Mine site.
(vii)	Ground water, excluding mine water, shall not be used for mining operation. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	Complied with. Rainwater harvesting structures has been constructed in office complex and Bachelor's hostel for recharge of ground water. The design of Rainwater harvesting structures has been approved by Regional Director, CGWA–Raipur vide no. 35-1/NCCR/CGWA/Vol-X/038 dated 20th October 2016. <b>Annexure-II.</b>

(viii)	<p>Catch/garland drains and siltation ponds of appropriate size shall be constructed around the mine working, coal heaps &amp; OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted -and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilized for dust suppression measures and green belt development. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.</p>	<p>Complied with.</p> <p>Garland drains has been provided all along the OB dumps to prevent run off water and flow of sediments directly into the river/water bodies. Water collected in the sump is used for dust suppression in haul roads, coal stock pile, etc., 5 check dams with estimated storage capacity of 4000KL each are in place. Plantation of native species will be made between the toe of the OB dump and adjacent field.</p>
(ix)	<p>Industrial wastewater generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Oil and grease trap shall be installed and maintained fully functional with effluents discharge adhering to the norms. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste.</p>	<p>Complied with.</p> <p>ETP is in place to treat wastewater generated from workshop and STP has been installed for treating domestic waste water inside the colony.</p>
(x)	<p>Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.</p>	<p>Complied with.</p> <p>Rainwater harvesting structures have been constructed in office complex and Bachelor's hostel for recharge of ground water. The design of Rainwater harvesting structures has been approved by Regional Director, CGWA–Raipur vide no. 35-1/NCCR/CGWA/Vol-X/038 dated 20th October 2016.</p>
(d)	<b>Illumination, Noise &amp; Vibration</b>	

(I)	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The Report on the same shall be submitted to this ministry & it's RO on six-monthly basis.	Complied with. The Illumination Standards inside mine is as per the DGMS Standards and monitored weekly.
(II)	Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc. shall be provided with personal protective equipment (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness program for users to be conducted. Progress in usage of such accessories to be monitored.	Complied with. Workers engaged in blasting and drilling operations, operation of HEMM, etc., has been provided with Ear Plugs/Muffs. Regular training programs are conducted to aware the workers for its usage. <b>Annexure-III.</b>
(III)	Controlled blasting techniques shall be practiced in order to mitigate ground vibrations and fly rocks as per the guidelines prescribed by the DGMS.	Complied with. Controlled blasting techniques to mitigate ground vibrations and fly rocks as per the guidelines prescribed by the DGMS are being practiced.
(IV)	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workman at vulnerable points in the mine premises and report in this regard shall be submitted to the Ministry/RO on six- monthly basis.	Agreed.
<b>(e)</b>	<b>Occupational health &amp; safety</b>	
(i)	The project proponent shall undertake occupational health survey for initial and periodical medical examination of the workers engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational and hearing impairment, if any.	Agreed. Initial and periodical medical examination of the workers engaged in the Mines are being carried out as per Mines Rules 1955.
(ii)	Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.	Complied with. Personnel (including outsourcing employees) are being provided with protective respiratory devices and adequate training & information on safety and health aspects regularly.
(iii)	Skill training as per safety norms specified by DGMS shall be provided to all workm-en including the outsourcing employees to ensure high safety standards in mines.	Complied with.



<b>(f)</b>	<b>Ecosystem and biodiversity conservation</b>	
(i)	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the state forest and wildlife department.	Complied with. Wildlife Conservation & Management Plan has been approved by State Forest Department. We have also deposited requisite fund of Rs. 4.43 Crores for implementation of Wildlife Conservation and Management Plan to State CAMPA account. Its details are given at <b>Annexure – IV</b> .
<b>(g)</b>	<b>Public hearing , R&amp;R and CSR</b>	
(i)	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land outsees shall be compensated as per the norms laid down in the R&R policy of the company /state Government /Central Government, as applicable.	Agreed. BALCO has undertaken various tasks/measures for addressing the issues raised during Public Hearing.
(ii)	The project proponent shall ensure the expenditure towards socio-economic development in and around the mine, in every financial year in pursuance of the corporate social responsibility policy as per the provisions under section 135 of the companies Act, 2013.	Complied with.
(iii)	The project proponent shall follow the mitigation measures provided in this ministry's OM No.Z-11013/5712014-IA.I1 (M) dated 29th October,2014 titled 'Impact of mining activities on habitations-issues related to the mining project wherein habitations and villagers are the part of mine lease areas or habitations and villagers are surrounded by the mine lease area '.	Complied with. The entire lease area of Chotia II Mine falls under Forest Land for which FC has already been granted by MoEF&CC. <b>Annexure-I</b>
(iv)	The project proponent shall consultation with the state government to provide alternative arrangements-, If grazing land- is involved in core zone, in consultation with the state government to provide alternate areas for livestock grazing, if any. In this context the project proponent shall implement the direction of Hon'ble Supreme Court with regard to acquiring grazing land.	Complied with. The entire lease area of Chotia II Mine falls under Forest Land for which FC has already been granted by MoEF&CC.
<b>(h)</b>	<b>Corporate environment responsibility</b>	

(i)	The Company shall have a well laid down environment policy duly approved by Board of Directors. The environment policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. Also, the company shall have a defined system of reporting of non-compliances/violations of environmental norms to the Board of Directors and/or shareholders/stakeholders.	Complied with. The well laid down environment policy duly approved by Board of Directors is in place. The system of reporting of non-compliances/violations of environmental norms to the Board of Directors and/or shareholders/stakeholders is in place.
(ii)	The project proponent shall comply with the provisions contained in this Ministry's OM dated 1st May, 2018, as applicable, regarding Corporate Environment Responsibility.	Complied with.
(iii)	A separate environmental management cell both at the project and company headquarter level, with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Board level executive/Head of the Organization.	Complied with. Environmental Management Cell has been constituted.
(iv)	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report	Agreed.
(v)	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Agreed
(vi)	Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.	Complied with.
(vii)	Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.	Complied with.

(i)	<b>Statutory Obligations</b>	
(i)	The environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Court, NGT and any other Court of Law from time to time, and as applicable to the project.	Agreed.
(ii)	This environmental clearance shall be subject to obtaining wildlife clearance, if applicable, from the Standing Committee of National Board for Wildlife.	Agreed.
(iii)	The project proponent shall obtain Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 from the concerned State Pollution Control Board.	Complied The Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 from Chhattisgarh Environment Conservation Board has been obtained.
(iv)	The project proponent shall obtain the necessary permission from the Central Ground Water Authority (CGWA).	Agreed. NOC from Central Ground Water Authority (CGWA) has been obtained for Ground Water Abstraction.  NOC # CGWA/NOC/MIN/REN/2/2021/6179
(j)	<b>Monitoring of project</b>	
(i)	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5, SO <sub>2</sub> and NO <sub>x</sub> . Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and /or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months.	Complied with. Four Ambient Air Quality Monitoring Stations (AAQMS) have been established. Manual monitoring of ambient air quality is carried out twice in a week and Online ambient quality monitoring is not required. There is no source for Hg, As, Ni, Cd, Cr, in mines.
(ii)	The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742(E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr, and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.	Complied with. Report of AAQM data are being sent regularly to all concerned <b>Annexure-V</b>

(iii)	The effluent discharge (mine wastewater, workshop effluent) shall be monitored in terms of the parameters notified under the Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time by the Central Pollution Control Board.	Complied with.
(iv)	The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by the Ministry shall also be referred in this regard for its compliance.	Complied with Monitoring data has been uploaded on company's website with Half yearly reports.
(v)	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area through a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre monsoon, monsoon, post monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MoEF & CC/Regional Office.	Regular monitoring of ground water level and Quality is being done at existing wells and Piezometers installed in and around the Mine Lease area. The data thus collected is being sent regularly to Ministry of Environment & Forests, Central Ground Water Authority and Regional Director, Central Ground Water Board.
(vi)	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	Agreed. Pl refer to <b>Annexure-VI</b>
(vii)	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental conditions to the Ministry of Environment, Forest and climate change/Regional Office. For half yearly monitoring reports, the data should be monitored for the period of April to September and October to March of the financial years.	Agreed.
(viii)	The Regional Office of this Ministry 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.	Agreed.
(K)	<b>Miscellaneous</b>	
(i)	Efforts should be made to reduce energy consumption by conservation, efficiency improvements and of renewable energy.	Agreed.

(ii)	The project authorities shall inform to the Regional Office regarding commencement of mining operations.	Complied with. The intimation for commencement of Mining operations has been provided to Regional Office vide Letter no. Balco/Cho/2018/RO/2018/17 dated 11.10.2018 <b>Annexure-VII</b>
(iii)	A copy of the Environmental Clearance shall be marked to concerned Panchayat. A copy of the same shall also be sent to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's office/Tehsildar office for information in public domain within 30 days.	Complied with A copy of Environmental Clearance has been submitted to concerned panchayat, concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's office/Tehsildar office. It is enclosed as <b>Annexure - VIII</b>
(iv)	The EC shall be uploaded on the company's website. The compliances status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain.	Complied with The copy of Environmental Clearance has been uploaded on company's website.
(v)	The project authorities shall 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 this clearance, informing that the project has been accorded environmental clearance and a copy of the same is available with the State Pollution Control Board and also at website of the Ministry.	Complied with The grant of EC has been informed via advertisement in two local newspapers. It is enclosed as <b>Annexure – IX</b>
(vi)	The environmental statement for each financial year ending 31 March in Form - V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986 as amended subsequently, shall also be uploaded on the Company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail. Concerns raised during hearing.	Agreed. The Environment Statement has been submitted timely for Chotia mines in the month of September.
(vii)	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/High Courts and any other Court of Law relating to the subject matter.	Agreed.

5	The Proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.	Agreed.
6	The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental protection.	Complied with.
7	The Coal Company/Project proponent shall be liable to pay the compensation against the illegal mining, if any , and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August , 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of ' Common cause vs Union of India & others.'	Agreed.
8	The Concerned State Government shall ensure that the mining operations shall not commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of the Hon'ble Supreme Court.	Agreed.
9	This environment clearance shall not be operational till such time the project proponent complies with the above said judgement of Hon'ble Supreme Court, as applicable, and other statutory requirements.	Agreed.
10	This EC supersedes the earlier environmental clearance granted vide letter No. J-1105/96/2004-IA.II (M) dated 10th November, 2005.	Agreed.
	<b>EC Amendment vide Letter No: J- 11015/96/2004-IA.II (M), dated 13.09.2023</b> <b>Specific Condition</b>	
1.1	PP needs to revise the mine plan and progressive mine closure plan for Chotia mine having two sections separately in the form of Part A (for Chotia I) and Part B (for Chotia II).	Complied. Mining Plan prepared with progressive mine closure plan with two section for Chotia I & II.
1.2	PP shall initiate the process to separate the lease area for Chotia I & II within three years.	Noted and being complied with.

1.3	<p>As stipulated at para no. (5) &amp; (6) of Ministry letter no. J-11015/96/2004-IA.II(M) dated 06.05.2019 regarding revalidation of EC and single EC, the EAC in its meeting held during 21-22nd July 2023 in context of revalidation of Chotia I &amp; Single EC stated that “the application of Terms of Reference (vide proposal no. IA/CG/CMIN/434889/2023), revalidation of existing EC dated 10.11.2005 read with transferred EC dated 04.06.2015 along with other the application dated 31.07.2018 pending for revalidation under notification S.O. 1530 (E) dated 06.04.2018 is not required by PP”.</p> <p>Therefore, in view of the recommendation of EAC, the revalidation of Chotia I EC and also taking one EC for Chotia I &amp; II is not warranted in view of stipulation for preparing separate Mine plan and Mine lease.</p>	Noted.
1.4	<p>PP shall create a “Public Grievance Redressal and Monitoring System” for resolving any issues related to the pollution of mines and complaint has to resolve as soon as possible not beyond 30 days. In this regard, adequate awareness to be spread among the public to address their grievance to company with simple and easy manner and for which company needs to devise the mechanism. The same shall be reported to IRO within 3 months. A logbook to be maintained by PP on “Public Grievance Redressal and Monitoring System.</p>	Complied. We have Public Grievance Redressal and Monitoring System in place to address and resolve issues. Awareness sessions are being conducted in regular intervals.
1.5	<p>PP shall ensure distribution of water from the artificial reservoir within and outside Mine lease area in consultation with gram panchayat. The water treatment plant to meet the requirement with the start of production.</p>	Being Complied with.
1.6	<p>PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.</p>	Noted.
1.7	<p>PP should establish in house (at project site) environment laboratory for measurement of environment parameter with respect to air quality and water (surface and ground. A dedicated team to oversee environment management shall be setup which should comprise of Environment Engineers, Laboratory chemist and staff for monitoring of air, water quality parameters on routine basis. Any non- compliance or infringement should be reported to the concerned authority.</p>	Complied. In house laboratory established along with dedicated team at site to monitor environment parameters.

1.8	PP to install solar lights along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year.	Being Complied with.
1.9	PP to provide bio toilets to the villages located within the study areas within 1 year from the grant of this EC.	Complied. Bio toilets are provided in Mines and nearby areas.
1.10	PP shall conduct feasibility studies for assessment of voids for backfilling of ash and mixing of ash with overburden, taking up backfilling ash and OB mixing activities during operations as well as post closure of mines in line with the Fly Ash Utilization Notification, 2021.	Noted.



**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: 18<sup>th</sup> 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.



- (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)



**SPEED POST**

**No. 35-1/NCCR/CGWA/Vol-X**

1038

Central Ground Water Board,  
North Central Chhattisgarh Region,  
2<sup>nd</sup> Floor, Reena Apartment,  
Pachpedinaka, Dhamtari Road,  
Raipur - 492001  
Telefax: 0771-2413689  
Date: 20.10.2016

20 OCT 2016

To,

Sh. Rajiv Kumar, AGM(Mines),  
M/s Bharat Aluminium Company Limited,  
Baloco Nagar, Korba, District-Korba-495684  
Chhattisgarh

**Sub: Approval for design of Artificial Recharge and Rain water harvesting Structures-Reg.**

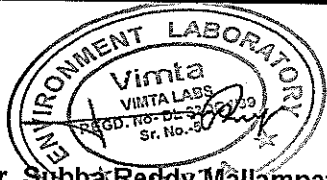
Sir,

Kindly refer to your letter no. Nil, dated 27.08.2016 on the above cited subject. The proposal submitted for Chotia Coal mines, Korba prepared by M/s Gumjuwala Lab & Projects Pvt. Limited has been examined and found satisfactory for Artificial Recharge and Rain water harvesting. After implementation of the proposal the firm is advised to carry out the impact assessment study of ground water recharge in and around 10km radius of the mines area and the report along with design details and photographs of the Artificial Recharge and Rain water harvesting structures constructed may be submitted to this office within a period of two years. After construction of the above structures the firm may intimate this office so that site visit for verification can be made accordingly.

Yours faithfully

*Paul Prabhakar*

(C. Paul Prabhakar)  
Regional Director

<b>ISSUED TO</b>						
<b>M/s. Bharat Aluminium Company Limited</b>				<b>Report Number: VLL/VLS/23-24/10824/002</b>		
<b>KORBA (C.G)</b>				<b>Issue Date: 2023-10-05</b>		
				<b>P.O. No: 8500005780</b>		
				<b>P.O. Date: 2022-06-29</b>		
<b><u>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</u></b>						
<b>Tests required: Sound Level</b>						
<b>SAMPLES COLLECTED BY VIMTA LABS LTD</b>				<b>LAB REF.: EC</b>		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-09-02 6:00 to 22.00	Norms in dB(Night)	2023-09-02 22.00 to 6.00
1	Near Loading Point	dB	75	63.9	70	46.7
2	Mine Dump	dB	75	64.1	70	48.2
3	Operational area During Drilling	dB	75	64.2	70	46.7
4	Weigh Bridge	dB	75	66.6	70	49.4
5	Near D. G. Room	dB	75	65.8	70	45.1
6	Operational Area Of Shove	dB	75	63.1	70	46.8
7	Chotia II Village Bhujang Kachhar	dB	55	53.8	50	33.5
 <b>Dr. Subba Reddy Mallampati</b> <b>Manager - Environment</b>						

**Vimta Labs Limited**

Registered Office  
142, IDA Phase II, Cherlapally  
Hyderabad-500 051, Telangana, India  
T : +91 40 2726 4141  
F : +91 40 2726 3657

**ISSUED TO**

M/s. Bharat Aluminium Company Limited  
KORBA (C.G)

Report Number: VLL/VLS/23-24/10824/002  
Issue Date: 2023-10-05  
P.O. No: 8500005780  
P.O. Date: 2022-06-29

**Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)**

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD

LAB REF.: EC

**TEST RESULTS**

S. No	Location	Unit	Norms in dB(Day)	2023-09-25	Norms in dB(Night)	2023-09-25
				6:00 to 22.00		22.00 to 6.00
1	Near Loading Point	dB	75	64.8	70	48.1
2	Mine Dump	dB	75	67.2	70	50.2
3	Operational area During Drilling	dB	75	68.4	70	49.6
4	Weigh Bridge	dB	75	69.7	70	52.5
5	Near D. G. Room	dB	75	66.3	70	50.7
6	Operational Area Of Shove	dB	75	64.9	70	49.7
7	Chotia II Village Bhujang Kachhar	dB	55	52.7	50	33.2

Dr. Subba Reddy Mallampati  
Manager, Environment

Sensitivity: Internal (C3)

**Vimta Labs Limited**

Registered Office

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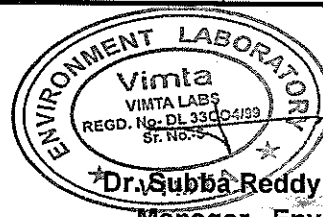
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S. No	Location	Unit	Norms in dB(Day)	2023-08-04	Norms in dB(Night)	2023-08-04
				6:00 to 22.00		22.00 to 6.00
1	Near Loading Point	dB	75	61.8	70	45.2
2	Mine Dump	dB	75	63.7	70	48.3
3	Operational area During Drilling	dB	75	64.8	70	45.1
4	Weigh Bridge	dB	75	63.4	70	49.6
5	Near D. G. Room	dB	75	64.6	70	44.7
6	Operational Area Of Shove	dB	75	62.2	70	46.2
7	Chotia II Village Bhujang Kachhar	dB	55	53.8	50	32.1

**Dr. Subba Reddy Mallampati**  
**Manager - Environment**

Sensitivity: Internal (C3)

Life Sciences Campus, # 5, MN Science &amp; Technology Park, Genome Valley, Shamirpet, Hyderabad - 500 101, Telangana, India

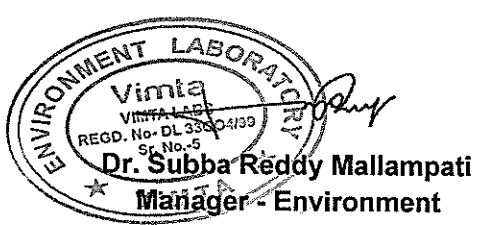
T : +91 40 6740 4040 E : mdoffice@vimta.com URL : www.vimta.com

CIN : L24110TG1990PLC011977

**Vimta Labs Limited**

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<b>ISSUED TO</b>						
<b>M/s. Bharat Aluminium Company Limited</b>				<b>Report Number: VLL/VLS/23-24/09226/002</b>		
<b>KORBA (C.G)</b>				<b>Issue Date: 2023-09-05</b>		
				<b>P.O. No: 8500005780</b>		
				<b>P.O. Date: 2022-06-29</b>		
<b>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</b>						
<b>Tests required: Sound Level</b>						
<b>SAMPLES COLLECTED BY VIMTA LABS LTD</b>				<b>LAB REF.: EC</b>		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-08-18 6:00 to 22.00	Norms in dB(Night)	2023-08-18 22.00 to 6.00
1	Near Loading Point	dB	75	65.8	70	46.2
2	Mine Dump	dB	75	65.4	70	48.7
3	Operational area During Drilling	dB	75	67.2	70	44.6
4	Weigh Bridge	dB	75	63.5	70	45.9
5	Near D. G. Room	dB	75	67.1	70	42.5
6	Operational Area Of Shove	dB	75	64.9	70	46.3
7	Chotia II Village Bhujang Kachhar	dB	55	55.3	50	34.8
						

Sensitivity: Internal (C3)

**Vimta Labs Limited**

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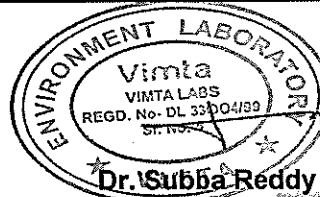
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**ISSUED TO****M/s. Bharat Aluminium Company Limited  
KORBA (C.G)****Report Number: VLL/VLS/23-24/07066/002****Issue Date: 2023-08-05****P.O. No: 8500005780****P.O. Date: 2022-06-29****Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)****Tests required: Sound Level****SAMPLES COLLECTED BY VIMTA LABS LTD****LAB REF.: EC****TEST RESULTS**

S. No	Location	Unit	Norms in dB(Day)	2023-07-04	Norms in dB(Night)	2023-07-04
				6:00 to 22.00		22.00 to 6.00
1	Near Loading Point	dB	75	62.7	70	42.1
2	Mine Dump	dB	75	61.3	70	44.6
3	Operational area During Drilling	dB	75	65.2	70	46.8
4	Weigh Bridge	dB	75	66.7	70	43.5
5	Near D. G. Room	dB	75	61.3	70	41.2
6	Operational Area Of Shove	dB	75	60.8	70	45.7
7	Chotia II Village Bhujang Kachhar	dB	55	56.9	50	35.7

**Dr. Subba Reddy Mallampati  
Manager - Environment**

Sensitivity: Internal (C3)

Life Sciences Campus, # 5, MN Science &amp; Technology Park, Genome Valley, Shamirpet, Hyderabad - 500 101, Telangana, India

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CIN : L24110TG1990PLC011977



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**ISSUED TO**

**M/s. Bharat Aluminium Company Limited**  
**KORBA (C.G)**

**Report Number: VLL/VLS/23-24/07066/002**  
**Issue Date: 2023-08-05**  
**P.O. No: 8500005780**  
**P.O. Date: 2022-06-29**

**Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)**

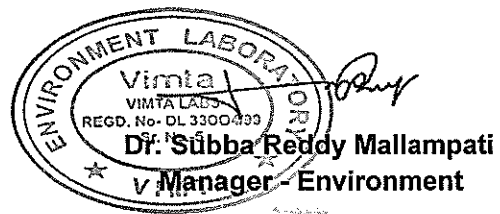
**Tests required: Sound Level**

**SAMPLES COLLECTED BY VIMTA LABS LTD**


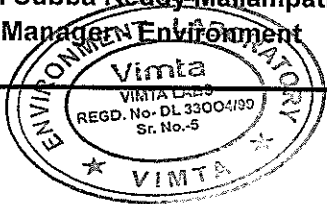
**LAB REF.: EC**

**TEST RESULTS**

S. No	Location	Unit	Norms in dB(Day)	2023-07-17	Norms in dB(Night)	2023-07-17
				6:00 to 22.00		22.00 to 6.00
1	Near Loading Point	dB	75	62.3	70	43.2
2	Mine Dump	dB	75	64.2	70	45.6
3	Operational area During Drilling	dB	75	65.7	70	42.9
4	Weigh Bridge	dB	75	62.1	70	43.1
5	Near D. G. Room	dB	75	65.9	70	40.7
6	Operational Area Of Shove	dB	75	60.7	70	44.5
7	Chotia II Village Bhujang Kachhar	dB	55	54.2	50	32.9



Sensitivity: Internal (C3)

<b>ISSUED TO</b>						
<b>M/s. Bharat Aluminium Company Limited</b>				<b>Report Number: VLL/VLS/23-24/05404/002</b>		
<b>KORBA (C.G)</b>				<b>Issue Date: 2023-07-05</b>		
				<b>P.O. No: 8500005780</b>		
				<b>P.O. Date: 2022-06-29</b>		
<b><u>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</u></b>						
<b>Tests required: Sound Level</b>						
<b>SAMPLES COLLECTED BY VIMTA LABS LTD</b>				<b>LAB REF.: EC</b>		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-06-08 6:00 to 22.00	Norms in dB(Night)	2023-06-08 22.00 to 6.00
1	Near Loading Point	dB	75	57.9	70	40.5
2	Mine Dump	dB	75	58.3	70	42.8
3	Operational area During Drilling	dB	75	60.2	70	39.5
4	Weigh Bridge	dB	75	56.4	70	41.6
5	Near D. G. Room	dB	75	56.2	70	42.4
6	Operational Area Of Shove	dB	75	58.4	70	39.6
7	Chotia II Village Bhujang Kachhar	dB	55	53.6	50	31.7
 <b>Dr. Subba Reddy Mallampati</b> <b>Manager, Environment</b> 						

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**ISSUED TO**

M/s. Bharat Aluminium Company Limited  
KORBA (C.G)

Report Number: VLL/VLS/23-24/05404/002

Issue Date: 2023-07-05

P.O. No: 8500005780

P.O. Date: 2022-06-29

**Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)**

Tests required: Sound Level

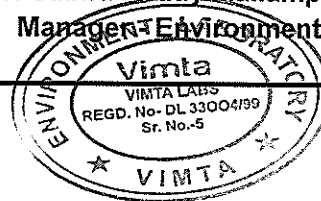
SAMPLES COLLECTED BY VIMTA LABS LTD

LAB REF.: EC

**TEST RESULTS**


S. No	Location	Unit	Norms in dB(Day)	2023-06-21	Norms in dB(Night)	2023-06-21
				6:00 to 22.00		22.00 to 6.00
1	Near Loading Point	dB	75	60.4	70	38.9
2	Mine Dump	dB	75	55.6	70	41.9
3	Operational area During Drilling	dB	75	59.7	70	40.2
4	Weigh Bridge	dB	75	57.8	70	42.3
5	Near D. G. Room	dB	75	56.2	70	41.2
6	Operational Area Of Shove	dB	75	57.1	70	38.7
7	Chotia II Village Bhujang Kachhar	dB	55	52.3	50	30.9

  
Dr. Subba Reddy Mallampati  
Manager - Environment



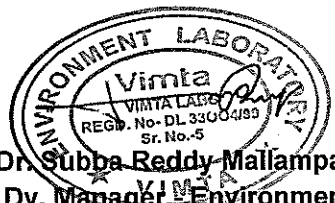
Sensitivity: Internal (C3)

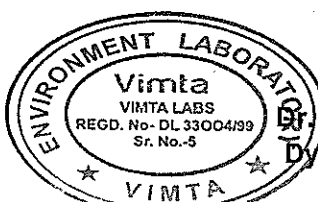

<b>ISSUED TO</b> <b>M/s. Bharat Aluminium Company Limited</b> <b>KORBA (C.G)</b>				<b>Report Number: VLL/VLS/23-24/03631/002</b> <b>Issue Date: 2023-06-05</b> <b>P.O. No: 8500005780</b> <b>P.O. Date: 2022-06-29</b>		
<b>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</b>						
<b>Tests required: Sound Level</b>						
<b>SAMPLES COLLECTED BY VIMTA LABS LTD</b>				<b>LAB REF.: EC</b>		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-05-27 6:00 to 22.00	Norms in dB(Night)	2023-05-27 22.00 to 6.00
1	Near Loading Point	dB	75	61.4	70	37.9
2	Mine Dump	dB	75	57.9	70	41.6
3	Operational area During Drilling	dB	75	60.2	70	40.6
4	Weigh Bridge	dB	75	59.6	70	42.3
5	Near D. G. Room	dB	75	57.8	70	40.2
6	Operational Area Of Shove	dB	75	56.3	70	36.7
7	Chotia II Village Bhujang Kachhar	dB	55	51.9	50	30.7

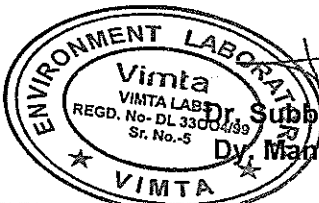


**Dr. Subba Reddy Mallampati**  
Dy. Manager - Environment

Sensitivity: Internal (C3)

<b>ISSUED TO</b>				<b>Report Number: VLL/VLS/23-24/03631/002</b>		
<b>M/s. Bharat Aluminium Company Limited</b>				<b>Issue Date: 2023-06-05</b>		
<b>KORBA (C.G)</b>				<b>P.O. No: 8500005780</b>		
				<b>P.O. Date: 2022-06-29</b>		
<b>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</b>						
<b>Tests required: Sound Level</b>						
<b>SAMPLES COLLECTED BY VIMTA LABS LTD</b>				<b>LAB REF.: EC</b>		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-05-09 6:00 to 22.00	Norms in dB(Night)	2023-05-09 22.00 to 6.00
1	Near Loading Point	dB	75	58.3	70	41.3
2	Mine Dump	dB	75	57.2	70	44.7
3	Operational area During Drilling	dB	75	59.4	70	38.6
4	Weigh Bridge	dB	75	58.2	70	42.6
5	Near D. G. Room	dB	75	57.3	70	41.6
6	Operational Area Of Shove	dB	75	59.6	70	40.1
7	Chotia II Village Bhujang Kachhar	dB	55	55.1	50	34.5
 <p><b>Dr. Subba Reddy Mallampati</b> Dy. Manager - Environment</p>						

<b>ISSUED TO</b>						
M/s. Bharat Aluminium Company Limited				Report Number: VLL/VLS/23-24/01732/002		
KORBA (C.G)				Issue Date: 2023-05-05		
				P.O. No: 8500005780		
				P.O. Date: 2022-06-29		
<b>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</b>						
Tests required: Sound Level						
SAMPLES COLLECTED BY VIMTA LABS LTD				LAB REF.: EC		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-04-14 6:00 to 22.00	Norms in dB(Night)	2023-04-14 22.00 to 6.00
1	Near Loading Point	dB	75	57.8	70	42.1
2	Mine Dump	dB	75	56.4	70	45.6
3	Operational area During Drilling	dB	75	58.7	70	37.6
4	Weigh Bridge	dB	75	59.3	70	43.1
5	Near D. G. Room	dB	75	57.8	70	44.8
6	Operational Area Of Shove	dB	75	60.8	70	42.6
7	Chotia II Village Bhujang Kachhar	dB	55	54.3	50	35.1
<div style="text-align: center;">  </div> <div style="text-align: right;">   <b>Dr. Subba Reddy Mallampati</b>  <b>Dy. Manager - Environment</b> </div>						

<b>ISSUED TO</b>						
M/s. Bharat Aluminium Company Limited				Report Number: VLL/VLS/23-24/01732/002		
KORBA (C.G)				Issue Date: 2023-05-05		
				P.O. No: 8500005780		
				P.O. Date: 2022-06-29		
<b><u>Sample Particulars: AMBIENT NOISE MONITORING (CHOTIA-2)</u></b>						
Tests required: Sound Level						
SAMPLES COLLECTED BY VIMTA LABS LTD				LAB REF.: EC		
<b>TEST RESULTS</b>						
S. No	Location	Unit	Norms in dB(Day)	2023-04-27 6:00 to 22.00	Norms in dB(Night)	2023-04-27 22.00 to 6.00
1	Near Loading Point	dB	75	61.3	70	38.9
2	Mine Dump	dB	75	58.7	70	41.3
3	Operational area During Drilling	dB	75	62.5	70	42.8
4	Weigh Bridge	dB	75	58.9	70	43.1
5	Near D. G. Room	dB	75	59.4	70	44.6
6	Operational Area Of Shove	dB	75	57.1	70	37.4
7	Chotia II Village Bhujang Kachhar	dB	55	55.7	50	35.7
<div style="text-align: right;">  <div style="display: inline-block; vertical-align: middle; margin-left: 10px;"> <p><i>(Signature)</i></p> <p><b>Dr. Subba Reddy Mallampati</b> Dy. Manager - Environment</p> </div> </div>						


**TABLE-9.1**  
**FINANCIAL ALLOCATION**

S.N. 1	ITEM	ESTIMATED EXPENDITURE (IN LACS)
	<b>CONSERVATION OF SOIL AND WATER</b>	
1.1	Watershed improvement	30.975
1.2	Improvement of existing water sources	50.000
1.3	Development of new water sources	05.000
2	<b>IMPROVEMENT OF FOOD</b>	
2.1	Pasture Development	19.960
2.2	Control of grazing	10.000
2.3	Weed control	6.000
2.4	Burning regime, seeding and grass cutting	10.000
2.5	Development of brows, fruit, seeds & mast	19.960
3	<b>IMPROVEMENT OF COVER</b>	
3.1	Escape cover	25.973
3.2	Ambush cover	10.153
3.3	Reproductive cover	19.978
3.4	Special Refuges	4.000
3.5	Shade and resting places	39.120
4	Creation of Conservation Awareness	40.000
5	Mitigating Human - Wild Life Conflict	25.000
6	Preparation of Biodiversity Register	17.000
7	Provision of Salt Licks	5.000
8	Fire Protection	15.000
	<b>TOTAL</b>	<b>443.017</b>

Total estimated budget of Rs. 4.43 Crore for implementation of this Plan is already been deposited into CAMPA account.

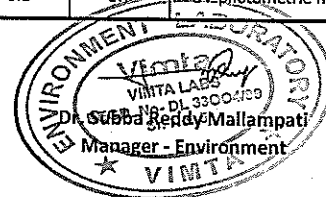
9.1.1 Year wise Expenditure Allocation for various Activities is given in Table-9.2.



  
 वन मण्डलाधिकारी  
 कटघोरा वनमण्डल, कटघोरा



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)			Report No.:		VLL/VLS/23-24/10824/005									
			Issue Date:		2023-10-05									
			P.O.No:		8500005780									
			P.O. Date:		2022-06-29									
Sample Particulars			AMBIENT AIR QUALITY MONITORING AT BHUJANG VILLAGE (CHOTIA 2)											
3Analysis starting date :- 2023-09-05			Analysis Completion date :- 2023-10-04											
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.														
TEST RESULTS														
Parameters	Units	Limits	AAQ Location : Bhujang Village - (CHOTIA 2)											
Sampling Date			2023-09-02	2023-09-04	2023-09-09	2023-09-11	2023-09-13	2023-09-15	2023-09-19	2023-09-22	2023-09-26	Method		
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	10.7	12.0	9.3	12.7	11.6	10.6	14.1	12.4	16.3	Improved West and Gaeke Method		
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	8.4	6.9	8.1	10.7	12.8	9.6	8.2	11.9	10.5	Modified Jacob & Hochheiser Method		
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	43.7	32.5	51.7	34.2	47.6	29.5	36.0	47.5	39.9	Gravimetric Method		
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	15.1	13.0	20.9	13.0	11.3	11.0	13.0	15.3	13.3	Gravimetric Method		
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	0.8	1.3	1.8	1.2	1.1	1.9	1.6	0.7	1.9	Indophenol Blue Method		
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis		
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis		
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method		
Nickel as Ni	ng/m <sup>3</sup>	20	0.8	1.1	1.2	0.9	0.8	1.5	1.3	0.7	1.4	AAS/ICP Method		
Lead as Pb	µg/m <sup>3</sup>	1	0.007	0.014	0.005	0.009	0.01	0.006	0.011	0.016	0.013	AAS/ICP Method		
Carbon Monoxide	µg/m <sup>3</sup>	2000	261	218	307	243	296	178	249	352	274	NDIR Spectroscopy Method		
Ozone	µg/m <sup>3</sup>	100	2.1	1.9	2.2	2.8	1.9	3.1	2.7	1.5	1.7	UV photometric method		



**Vimta Labs Limited**

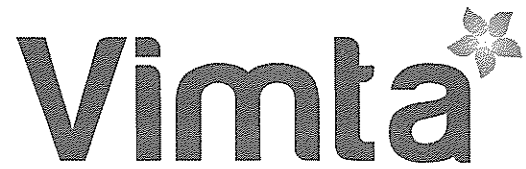
Registered Office

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/10824/006
	Issue Date:	2023-10-05
	P.O.No:	8500005780
	P.O. Date:	2022 06 20

**Sample Particulars****AMBIENT AIR QUALITY MONITORING AT D G SET (CHOTIA - 2)**

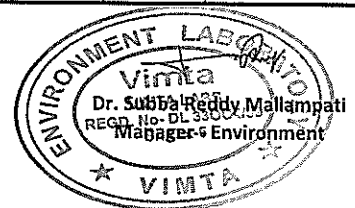
Analysis starting date :- 2023-09-05

Analysis Completion date :- 2023-10-04

**Tests required:** Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>x</sub>), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH<sub>3</sub>), Benzene (C<sub>6</sub>H<sub>6</sub>), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

**TEST RESULTS**

Parameters	Units	Limits	AAQ Location : D G SET (Chotia - 2)									
Sampling Date			2023-09-02	2023-09-04	2023-09-09	2023-09-11	2023-09-13	2023-09-15	2023-09-19	2023-09-22	2023-09-26	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	19.4	22.7	15.9	25.4	14.1	19.4	18.3	21.7	18.0	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	16.8	13.2	12.8	15.1	17.2	15.8	13.9	14.3	12.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	51.3	59.1	57.5	46.4	58.2	56.8	59.0	50.3	48.1	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	15.7	18.1	21.4	16.2	20.9	28.2	24.3	19.7	14.0	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.4	1.7	2.1	1.4	1.9	2.1	2.8	2.2	1.4	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	2.8	4.1	3.9	2.2	5.8	3.1	2.9	2.4	1.9	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.014	0.035	0.028	0.031	0.036	0.019	0.022	0.017	0.034	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	584	394	428	476	351	417	345	519	482	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	2.7	4.4	5.8	7.1	4.9	2.6	5.4	6.2	3.9	UV photometric method



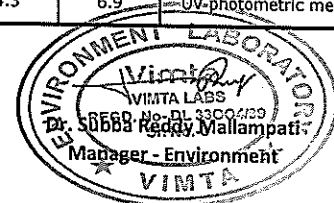
Sensitivity: Internal (C3)

Life Sciences Campus, # 5, MN Science & Technology Park, Genome Valley, Shamirpet, Hyderabad - 500 101, Telangana, India  
T : +91 40 6740 4040 E : mdoffice@vimta.com URL : www.vimta.com

CIN : L24110TG1990PLC011977

Sample Particulars	AMBIENT AIR QUALITY MONITORING AT GOVT SOLAR PANEL (CHOTIA -2)
Analysis starting date :- 2023-09-05	Analysis Completion date :- 2023-10-04
<b>Tests required:</b> Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM <sub>10</sub> ), Particulate Matter (PM <sub>2.5</sub> ), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.	

TEST RESULTS												
Parameters	Units	Limits	AAQ Location : Govt. Solar Panel (Chotia - 2)									
Sampling Date			2023-09-02	2023-09-04	2023-09-09	2023-09-11	2023-09-13	2023-09-15	2023-09-19	2023-09-22	2023-09-26	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	18.5	12.0	15.7	19.5	23.2	17.3	14.7	16.3	13.9	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>x</sub> )	µg/m <sup>3</sup>	80	12.7	10.8	9.3	11.6	13.7	10.9	8.3	9.6	11.5	
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	56.3	41.6	34.4	44.1	42.4	64.0	55.8	47.4	50.7	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	22.5	17.5	13.0	15.9	16.6	23.6	20.5	18.1	18.8	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.2	2.8	1.9	1.6	2.2	1.4	2.9	2.4	1.7	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	1.2	0.8	1.7	2.2	1.3	2.8	2.1	1.9	2.4	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.015	0.024	0.028	0.019	0.011	0.026	0.018	0.014	0.020	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	367	412	263	287	351	488	391	247	369	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	6.2	4.9	3.5	4.1	4.4	5.2	7.1	4.3	6.9	UV-photometric method



**Vimta Labs Limited**

Registered Office  
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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/10824/008
	Issue Date:	2023-10-05
	P.O.No:	8500005780
	P.O. Date:	2022 08 29

**Sample Particulars****AMBIENT AIR QUALITY MONITORING AT WEIGH BRIDGE (CHOTIA -2)**

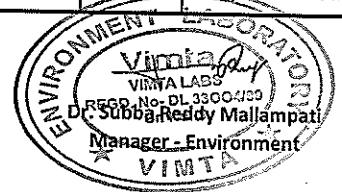
Analysis starting date :- 2023-09-05

Analysis Completion date :- 2023-10-04

Tests required: Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>x</sub>), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH<sub>3</sub>), Benzene (C<sub>6</sub>H<sub>6</sub>), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

**TEST RESULTS**

Parameters	Units	Limits	AAQ Location : Weigh Bridge (Chotia - 2)									
Sampling Date			2023-09-02	2023-09-04	2023-09-09	2023-09-11	2023-09-13	2023-09-15	2023-09-19	2023-09-22	2023-09-26	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	17.6	20.1	25.9	19.3	24.2	19.6	26.2	23.0	20.8	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	16.3	12.8	15.7	13.3	12.8	14.9	13.1	15.9	11.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	56.3	51.2	58.7	42.8	65.1	57.8	54.7	56.1	61.9	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	18.0	21.8	23.8	16.7	25.4	18.5	20.2	17.6	21.4	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.7	2.5	3.4	1.6	2.8	1.9	3.1	2.7	2.2	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	3.8	5.4	2.9	3.8	4.4	4.3	2.7	3.9	3.2	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.028	0.036	0.021	0.039	0.025	0.021	0.019	0.034	0.027	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	554	613	386	459	407	394	458	371	412	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	4.8	6.2	7.1	4.9	3.8	5.2	6.7	5.2	8.4	UV-photometric method



Sensitivity: Internal (C3)

Life Sciences Campus, # 5, MN Science & Technology Park, Genome Valley, Shamirpet, Hyderabad - 500 101, Telangana, India  
T : +91 40 6740 4040 E : mdoffice@vimta.com URL : www.vimta.com

CIN : L24110TG1990PLC011977

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/09226/005
	Issue Date:	2023-09-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-24

**Sample Particulars**

**AMBIENT AIR QUALITY MONITORING AT BHUJANG VILLAGE (CHOTIA 2)**

Analysis starting date :- 2023-08-03

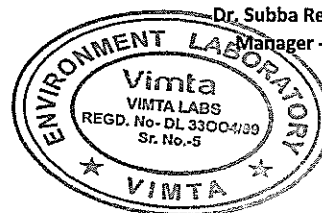
Analysis Completion date :- 2023-09-04

**Tests required:** Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>x</sub>), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH<sub>3</sub>), Benzene (C<sub>6</sub>H<sub>6</sub>), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

**TEST RESULTS**

Parameters	Units	Limits	AAQ Location : Bhujang Village - (CHOTIA 2)									
Sampling Date			2023-08-01	2023-08-04	2023-08-07	2023-08-14	2023-08-16	2023-08-18	2023-08-21	2023-08-23	2023-08-25	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	9.6	9.2	10.4	8.7	11.4	9.5	8.7	10.3	12.1	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>x</sub> )	µg/m <sup>3</sup>	80	6.3	5.8	8.2	7.1	8.8	10.3	7.6	6.4	6.8	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	34.1	28.9	26.0	39.2	34.8	40.8	42.6	41.3	49.7	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	12.3	10.2	9.2	173.4	13.2	16.7	16.7	17.1	18.4	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	0.9	1.8	0.5	0.3	1.1	0.4	1.0	0.7	1.2	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	0.8	1.1	0.6	1.5	1.3	0.7	1.2	1.9	1.6	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.008	0.014	0.011	0.006	0.013	0.009	0.011	0.014	0.010	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	241	193	118	206	267	149	218	306	254	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	1.1	0.8	1.3	2.2	0.9	1.8	2.5	1.2	1.7	UV photometric method

Dr. Subba Reddy Mallampati  
Manager - Environment



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/09226/006
	Issue Date:	2023-09-05
	P.O.No:	8500005780
	P.O. Date:	2022 06 20

**Sample Particulars**

**AMBIENT AIR QUALITY MONITORING AT D G SET (CHOTIA - 2)**

Analysis starting date :- 2023-08-03

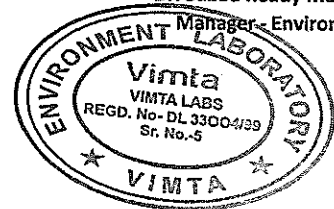
Analysis Completion date :- 2023-09-04

**Tests required:** Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>x</sub>), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH<sub>3</sub>), Benzene (C<sub>6</sub>H<sub>6</sub>), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

**TEST RESULTS**

Parameters	Units	Limits	AAQ Location : D G SET (Chotia - 2)									
Sampling Date			2023-08-01	2023-08-04	2023-08-07	2023-08-14	2023-08-16	2023-08-18	2023-08-21	2023-08-23	2023-08-25	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	25.4	18.5	21.6	14.1	18.1	17.2	15.3	23.8	16.1	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>x</sub> )	µg/m <sup>3</sup>	80	15.1	14.6	11.3	16.2	15.8	14.9	10.3	16.1	8.8	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	50.8	54.5	42.7	56.0	58.8	50.3	55.8	49.9	53.7	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	17.5	19.6	13.3	21.4	25.3	19.5	24.2	20.6	23.5	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.3	2.5	1.7	3.1	1.6	2.2	1.6	2.5	2.3	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	4.3	5.8	3.6	3.8	4.1	2.9	3.5	4.3	4.9	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.024	0.039	0.027	0.018	0.022	0.043	0.035	0.041	0.029	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	567	492	418	325	281	446	253	394	429	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	3.7	2.8	4.2	3.9	6.2	3.0	4.4	5.6	4.7	UV photometric method

Dr. Subba Reddy Mallampati  
Manager - Environment



Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/09266/007
	Issue Date:	2023-09-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

**Sample Particulars**

**AMBIENT AIR QUALITY MONITORING AT GOVT SOLAR PANEL (CHOTIA - 2)**

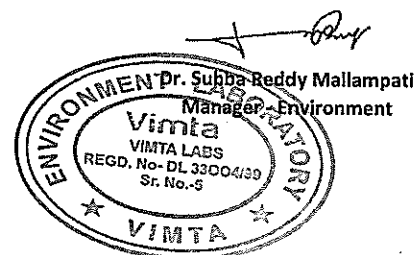
Analysis starting date :- 2023-08-03

Analysis Completion date :- 2023-09-04

**Tests required:** Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>x</sub>), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH<sub>3</sub>), Benzene (C<sub>6</sub>H<sub>6</sub>), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

**TEST RESULTS**

Parameters	Units	Limits	AAQ Location : Govt. Solar Panel (Chotia - 2)									
Sampling Date			2023-08-01	2023-08-04	2023-08-07	2023-08-14	2023-08-16	2023-08-18	2023-08-21	2023-08-23	2023-08-25	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	12.9	10.7	8.9	12.9	11.1	10.0	11.7	10.5	9.8	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>x</sub> )	µg/m <sup>3</sup>	80	11.3	8.2	9.7	8.7	11.1	10.7	10.1	7.6	7.7	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	47.9	40.2	49.2	30.4	68.7	55.0	50.6	60.4	52.6	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	17.2	16.4	18.1	11.3	21.7	19.5	20.3	16.7	14.9	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.1	1.5	0.8	1.1	1.5	3.2	1.7	2.4	2.6	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	2.6	1.4	1.9	2.3	2.5	2.8	1.7	3.5	2.9	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.021	0.016	0.018	0.025	0.017	0.024	0.031	0.027	0.019	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	321	357	228	396	163	276	219	283	345	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	3.1	2.5	2.9	4.2	3.9	3.5	2.6	4.0	4.3	UV photometric method



Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/29226/008
	Issue Date:	2023-09-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

**Sample Particulars**

**AMBIENT AIR QUALITY MONITORING AT WEIGH BRIDGE (CHOTIA -2)**

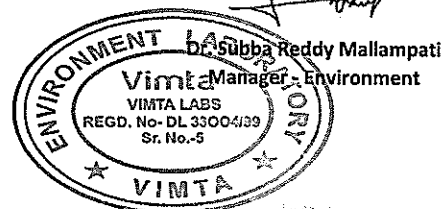
Analysis starting date :- 2023-08-03

Analysis Completion date :- 2023-09-05

Tests required: Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>x</sub>), Particulate Matter (PM<sub>10</sub>), Particulate Matter (PM<sub>2.5</sub>), Ammonia (NH<sub>3</sub>), Benzene (C<sub>6</sub>H<sub>6</sub>), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

**TEST RESULTS**

Parameters	Units	Limits	AAQ Location : Weigh Bridge (Chotia - 2)									
Sampling Date			2023-08-01	2023-08-04	2023-08-07	2023-08-14	2023-08-16	2023-08-18	2023-08-21	2023-08-23	2023-08-25	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	15.9	18.2	23.7	17.0	2.1	18.5	19.3	20.4	22.8	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	14.1	17.2	11.6	15.8	9.3	7.4	12.8	15.3	11.4	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	51.3	52.2	40.7	51.4	54.2	49.4	55.8	54.9	52.9	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	15.8	21.7	11.9	14.5	20.3	15.4	20.6	16.7	19.8	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.8	1.2	1.4	1.8	2.2	1.0	3.1	2.0	2.5	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	3.5	4.2	3.9	5.1	4.6	2.8	3.9	4.6	3.7	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.035	0.021	0.028	0.017	0.022	0.019	0.026	0.034	0.029	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	425	392	247	428	362	317	463	501	378	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	5.8	4.2	6.6	5.7	4.0	4.2	2.9	4.7	3.9	UV photometric method



Sensitivity: Internal (C3)

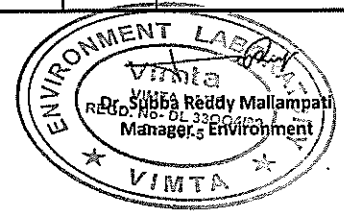


ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)							Report No.:		VLL/VLS/23-24/07066/005				
							Issue Date:		2023 08 05				
							P.O.No:		8500005780				
							P.O. Date:		2022-06-29				
Sample Particulars							AMBIENT AIR QUALITY MONITORING AT BHUJANG VILLAGE (CHOTIA 2)						
Analysis starting date :- 2023-07-06							Analysis Completion date :- 2023-08-04						
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.													
TEST RESULTS													
Parameters		Units	Limits	AAQ Location : Bhujang Village - (CHOTIA 2)									
Sampling Date				2023 07 03	2023 07-06	2023-07-11	2023-07-14	2023-07-17	2023-07-20	2023-07-24	2023-07-27	Method	
Sulphur Dioxide (SO <sub>2</sub> )		µg/m <sup>3</sup>	80	12.9	10.6	8.4	16.3	14.2	11.6	10.4	15.2	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>x</sub> )		µg/m <sup>3</sup>	80	7.4	12.9	10.2	11.6	15.1	8.3	6.4	10.8	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)		µg/m <sup>3</sup>	100	42.3	44.6	50.3	47.0	41.3	45.6	48.7	53.2	Gravimetric Method	
Particulate Matter (PM2.5)		µg/m <sup>3</sup>	60	12.1	10.1	13.1	11.7	9.4	11.3	12.5	13.7	Gravimetric Method	
Ammonia (NH <sub>3</sub> )		µg/m <sup>3</sup>	400	0.8	1.1	0.7	0.6	0.9	0.5	1.3	1.1	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )		µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase		ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As		ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni		ng/m <sup>3</sup>	20	2.5	0.8	1.9	1.1	0.9	1.3	0.7	0.9	AAS/ICP Method	
Lead as Pb		µg/m <sup>3</sup>	1	0.012	0.017	0.014	0.021	0.011	0.008	0.010	0.004	AAS/ICP Method	
Carbon Monoxide		µg/m <sup>3</sup>	2000	251	196	145	228	264	183	204	292	NDIR Spectroscopy Method	
Ozone		µg/m <sup>3</sup>	100	3.2	2.8	2.4	1.9	3.1	0.7	1.6	2.2	UV photometric method	



Sensitive Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)							Report No.:		VLL/VLS/23-24/07066/006				
							Issue Date:		2023 08 05				
							P.O.No:		8500005780				
							P.O. Date:		2022 06 29				
Sample Particulars							AMBIENT AIR QUALITY MONITORING AT D G SET (CHOTIA - 2)						
Analysis starting date :- 2023-07-06							Analysis Completion date :- 2023-08-04						
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM <sub>10</sub> ), Particulate Matter (PM <sub>2.5</sub> ), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.													
TEST RESULTS													
Parameters		Units	Limits	AAQ Location : D G SET (Chotia - 2)									
Sampling Date				2023-07-03	2023-07-06	2023-07-11	2023-07-14	2023-07-17	2023-07-20	2023-07-24	2023-07-27	Method	
Sulphur Dioxide (SO <sub>2</sub> )		µg/m <sup>3</sup>	80	21.6	28.2	19.6	30.3	21.4	25.2	15.6	19.3	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>2</sub> )		µg/m <sup>3</sup>	80	15.2	14.1	12.9	7.4	13.2	10.6	11.9	14.8	Modified Jacob & Hochhelsler Method	
Particulate Matter (PM <sub>10</sub> )		µg/m <sup>3</sup>	100	42.3	58.4	48.7	50.3	47.3	47.9	53.4	51.7	Gravimetric Method	
Particulate Matter (PM <sub>2.5</sub> )		µg/m <sup>3</sup>	60	19.4	20.6	17.2	18.1	16.3	20.2	22.5	21.9	Gravimetric Method	
Ammonia (NH <sub>3</sub> )		µg/m <sup>3</sup>	400	1.6	2.6	1.4	1.1	1.3	2.2	1.9	1.4	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )		µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase		ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As		ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni		ng/m <sup>3</sup>	20	3.2	1.6	2.2	1.9	2.5	1.4	1.7	2.6	AAS/ICP Method	
Lead as Pb		µg/m <sup>3</sup>	1	0.025	0.021	0.029	0.014	0.017	0.022	0.025	0.018	AAS/ICP Method	
Carbon Monoxide		µg/m <sup>3</sup>	2000	354	402	298	373	514	483	508	381	NDIR Spectroscopy Method	
Ozone		µg/m <sup>3</sup>	100	3.6	4.8	2.9	1.6	3.2	5.4	2.0	3.6	UV photometric method	



Sensitivity: Internal (C3)

**Vimta Labs Limited**

Registered Office

142, IDA Phase II, Cherlapally

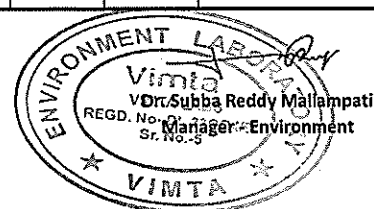
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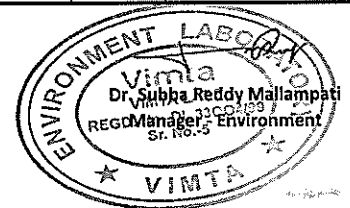


ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)							Report No.:		VLL/VLS/23-24/07066/007				
							Issue Date:		2023-08-05				
							P.O.No:		8500005780				
							P.O. Date.		2022-00-29				
Sample Particulars							AMBIENT AIR QUALITY MONITORING AT GOVT SOLAR PANEL (CHOTIA -2)						
Analysis starting date :- 2023-07-06							Analysis Completion date :- 2023-08-04						
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.													
TEST RESULTS													
Parameters		Units	Limits	AAQ Location : Govt. Solar Panel (Chotia - 2)									
Sampling Date				2023-07-03	2023-07-06	2023-07-11	2023-07-14	2023-07-17	2023-07-20	2023-07-24	2023-07-27	Method	
Sulphur Dioxide (SO <sub>2</sub> )		µg/m <sup>3</sup>	80	22.6	31.2	28.4	19.3	20.5	14.9	25.1	23.7	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>2</sub> )		µg/m <sup>3</sup>	80	15.1	10.8	13.1	7.4	16.9	5.2	9.3	12.1	Modified Jacob & Hochhelser Method	
Particulate Matter (PM10)		µg/m <sup>3</sup>	100	45.3	52.3	49.3	50.2	44.6	51.7	48.1	57.4	Gravimetric Method	
Particulate Matter (PM2.5)		µg/m <sup>3</sup>	60	16.9	18.2	15.4	16.3	13.7	16.1	15.4	19.3	Gravimetric Method	
Ammonia (NH <sub>3</sub> )		µg/m <sup>3</sup>	400	0.8	1.3	0.6	1.1	1.3	1.5	2.1	1.9	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )		µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase		ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As		ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni		ng/m <sup>3</sup>	20	1.3	1.8	2.1	1.6	2.5	1.7	1.2	1.8	AAS/ICP Method	
Lead as Pb		µg/m <sup>3</sup>	1	0.015	0.025	0.021	0.027	0.008	0.019	0.023	0.016	AAS/ICP Method	
Carbon Monoxide		µg/m <sup>3</sup>	2000	508	449	563	521	472	354	385	424	NDIR Spectroscopy Method	
Ozone		µg/m <sup>3</sup>	100	2.6	3.1	2.2	4.1	2.8	1.9	2.6	3.5	UV photometric method	



Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)							Report No.:		VLL/VLS/23-24/07066/008						
							Issue Date:		2023 08 05						
							P.O.No:		8500005780						
							P.O. Date:		2022-06-29						
Sample Particulars												AMBIENT AIR QUALITY MONITORING AT WEIGH BRIDGE (CHOTIA -2)			
Analysis starting date :- 2023-07-06												Analysis Completion date :- 2023-08-05			
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.															
TEST RESULTS															
Parameters		Units	Limits	AAQ Location : Weigh Bridge (Chotia - 2)											
Sampling Date				2023-07-03	2023-07-06	2023-07-11	2023-07-14	2023-07-17	2023-07-20	2023-07-24	2023-07-27	Method			
Sulphur Dioxide (SO <sub>2</sub> )		µg/m <sup>3</sup>	80	12.1	16.3	31.3	28.4	14.8	20.3	27.3	19.4	Improved West and Gaeke Method			
Nitrogen Dioxide (NO <sub>2</sub> )		µg/m <sup>3</sup>	80	7.9	9.2	10.3	13.6	14.1	11.6	7.2	15.2	Modified Jacob & Hochhelser Method			
Particulate Matter (PM10)		µg/m <sup>3</sup>	100	46.3	54.1	58.7	55.2	49.7	52.1	55.7	52.8	Gravimetric Method			
Particulate Matter (PM2.5)		µg/m <sup>3</sup>	60	21.7	18.7	22.3	19.3	18.4	20.2	25.2	23.9	Gravimetric Method			
Ammonia (NH <sub>3</sub> )		µg/m <sup>3</sup>	400	3.6	2.7	1.4	1.8	2.5	2.9	3.6	2.4	Indophenol Blue Method			
Benzene (C <sub>6</sub> H <sub>6</sub> )		µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis			
Benzo(a) Pyrene in particulate phase		ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis			
Arsenic as As		ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method			
Nickel as Ni		ng/m <sup>3</sup>	20	2.5	2.1	2.6	3.2	2.7	1.9	3.4	2.4	AAS/ICP Method			
Lead as Pb		µg/m <sup>3</sup>	1	0.021	0.028	0.017	0.026	0.012	0.018	0.011	0.024	AAS/ICP Method			
Carbon Monoxide		µg/m <sup>3</sup>	2000	412	365	287	405	665	475	541	339	NDIR Spectroscopy Method			
Ozone		µg/m <sup>3</sup>	100	4.2	2.1	5.4	1.8	6.3	4.4	3.7	2.9	UV photometric method			



Sensitivity: Internal (C3)

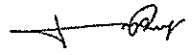
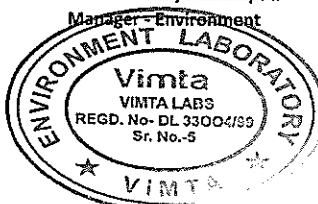
<b>ISSUED TO:</b> M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)						<b>Report No.:</b> VLL/VLS/23-24/05404/008					
						<b>Issue Date:</b> 2023-07-05					
						<b>P.O.No:</b> 8500005780					
						<b>P.U. Date:</b> 2022-06-29					
<b>Sample Particulars</b>						<b>AMBIENT AIR QUALITY MONITORING AT WEIGH BRIDGE (CHOTIA -2)</b>					
Analysis starting date :- 2023-06-07						Analysis Completion date :- 2023-07-05					
<b>Tests required:</b> Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.											
<b>TEST RESULTS</b>											
<b>Parameters</b>	<b>Units</b>	<b>Limits</b>	<b>AAQ Location : Weigh Bridge (Chotia - 2)</b>								
<b>Sampling Date</b>			<b>2023-06-02</b>	<b>2023-06-05</b>	<b>2023-06-09</b>	<b>2023-06-12</b>	<b>2023-06-15</b>	<b>2023-06-19</b>	<b>2023-06-21</b>	<b>2023-06-24</b>	<b>Method</b>
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	22.4	28.2	30.7	26.1	23.5	25.1	19.4	13.5	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	17.5	13.6	11.4	12.8	19.4	12.7	14.6	16.1	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	54.4	60.2	63.5	54.3	62.1	58.2	47.2	51.3	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	21.3	23.1	30.8	21.6	27.2	25.1	20.4	21.3	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.4	3.1	4.2	2.6	2.0	1.4	2.1	1.9	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	1.8	2.2	3.1	2.9	2.5	3.4	2.1	1.5	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.014	0.028	0.021	0.032	0.022	0.017	0.009	0.016	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	355	256	377	276	211	196	298	231	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	5.5	3.9	4.5	2.4	3.5	6.2	4.1	5.9	UV photometric method

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Manager - Environment



Sensitivity: Internal (C3)

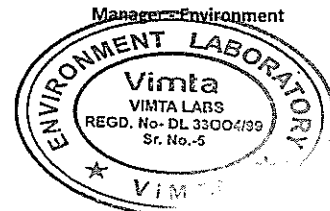
ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)		Report No.:		VLL/VLS/23-24/05404/007									
		Issue Date:		2023-07-05									
		P.O.No:		8500005780									
		P.O. Date:		2022-06-29									
Sample Particulars		AMBIENT AIR QUALITY MONITORING AT GOVT SOLAR PANEL (CHOTIA -2)											
Analysis starting date :- 2023-06-07		Analysis Completion date :- 2023-07-04											
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.													
TEST RESULTS													
Parameters	Units	Limits	AAQ Location : Govt. Solar Panel (Chotia - 2)										
Sampling Date			2023-06-02	2023-06-05	2023-06-09	2023-06-12	2023-06-15	2023-06-19	2023-06-21	2023-06-24	Method		
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	19.2	21.1	14.3	16.7	22.6	18.3	20.1	19.4	Improved West and Gaeke Method		
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	12.3	8.4	14.6	13.1	11.9	9.9	12.5	10.6	Modified Jacob & Hochheiser Method		
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	55.2	51.3	49.8	56.4	52.6	48.7	45.1	43.8	Gravimetric Method		
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	18.7	15.1	14.5	18.8	16.2	14.1	11.7	13.9	Gravimetric Method		
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.2	0.7	1.6	1.4	1.7	0.7	1.1	1.2	Indophenol Blue Method		
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis		
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis		
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method		
Nickel as Ni	ng/m <sup>3</sup>	20	2.1	1.6	1.9	3.2	2.7	2.1	1.8	2.3	AAS/ICP Method		
Lead as Pb	µg/m <sup>3</sup>	1	0.029	0.031	0.019	0.009	0.015	0.011	0.016	0.021	AAS/ICP Method		
Carbon Monoxide	µg/m <sup>3</sup>	2000	435	291	349	255	365	222	313	265	NDIR Spectroscopy Method		
Ozone	µg/m <sup>3</sup>	100	2.8	4.3	3.9	2.1	1.8	1.1	2.2	1.9	UV photometric method		

  
Dr. Subba Reddy Mallampati  
Manager - Environment  
  
Vimta  
VIMTA LABS  
REGD. No- DL 33004/199  
Sr. No.-5  
VIMTA

Sensitivity: Internal (CS)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/05404/006									
	Issue Date:	2023-07-05									
	P.O.No:	8500005780									
	P.O. Date:	2022-06-29									
Sample Particulars											
AMBIENT AIR QUALITY MONITORING AT D G SET (CHOTIA - 2)											
Analysis starting date :- 2023-06-07											
Analysis Completion date :- 2023-07-04											
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.											
TEST RESULTS											
Parameters	Units	Limits	AAQ Location : D G SET (Chotia - 2)								
Sampling Date			2023-06-02	2023-06-05	2023-06-09	2023-06-12	2023-06-15	2023-06-19	2023-06-21	2023-06-24	Method
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	23.2	28.4	25.3	18.7	26.5	24.8	21.3	27.4	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	12.8	16.3	10.7	13.4	16.3	11.5	12.1	10.9	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	52.7	61.4	58.3	55.4	60.5	56.2	50.4	48.3	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	18.9	21.4	23.5	19.9	22.6	17.7	13.9	15.1	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	0.9	1.2	1.7	0.8	1.4	1.3	1.1	1.5	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	2.2	3.8	4.1	2.9	2.4	2.7	2.1	1.9	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.019	0.021	0.03	0.029	0.031	0.018	0.021	0.024	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	211	326	191	432	364	255	374	285	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	1.9	2.4	3.1	3.6	4.3	1.9	2.4	2.1	UV photometric method

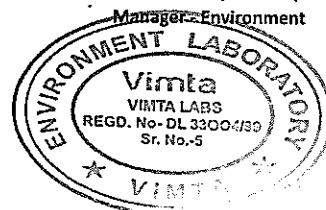
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Manager - Environment



Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)							Report No.:		VLL/VLS/23-24/05404/005			
							Issue Date:		2023-07-05			
							P.O.No:		8500005/80			
							P.O. Date:		2022-06-29			
Sample Particulars							AMBIENT AIR QUALITY MONITORING AT BHUJANG VILLAGE (CHOTIA 2)					
Analysis starting date :- 2023-06-07							Analysis Completion date :- 2023-07-04					
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters		Units	Limits	AAQ Location : Bhujang Village - (CHOTIA 2)								
Sampling Date				2023-06-02	2023-06-05	2023-06-09	2023-06-12	2023-06-15	2023-06-19	2023-06-21	2023-06-24	Method
Sulphur Dioxide (SO <sub>2</sub> )		µg/m <sup>3</sup>	80	14.9	13.2	8.4	12.6	9.2	10.1	12.5	11.9	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>x</sub> )		µg/m <sup>3</sup>	80	10.8	11.1	7.3	9.4	12.9	10.4	6.8	11.7	Modified Jacob & Hochhelser Method
Particulate Matter (PM10)		µg/m <sup>3</sup>	100	55.4	44.4	48.1	51.6	47.9	42.7	46.1	43.5	Gravimetric Method
Particulate Matter (PM2.5)		µg/m <sup>3</sup>	60	16.6	10.2	12.1	15.6	11.7	10.1	11.7	10.4	Gravimetric Method
Ammonia (NH <sub>3</sub> )		µg/m <sup>3</sup>	400	1.3	1.4	1.9	2.1	0.6	1.1	0.9	1.3	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )		µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase		ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As		ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni		ng/m <sup>3</sup>	20	1.8	2.1	1.3	1.6	2.1	1.4	1.6	1.0	AAS/ICP Method
Lead as Pb		µg/m <sup>3</sup>	1	0.016	0.021	0.014	0.011	0.019	0.014	0.009	0.016	AAS/ICP Method
Carbon Monoxide		µg/m <sup>3</sup>	2000	378	303	264	393	273	189	224	286	NDIR Spectroscopy Method
Ozone		µg/m <sup>3</sup>	100	1.7	2.9	4.1	3.2	2.4	1.8	2.6	2.1	UV photometric method

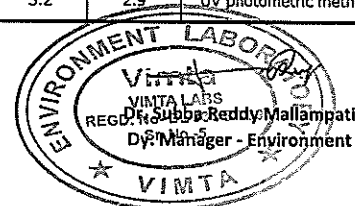
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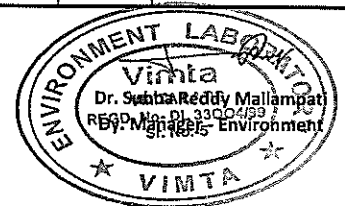


ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)	Report No.:	VLL/VLS/23-24/03631/005										
	Issue Date:	2023-06-05										
	P.O.No:	8500005/80										
	P.O. Date:	2022-06-29										
Sample Particulars			AMBIENT AIR QUALITY MONITORING AT BHUJANG VILLAGE (CHOTIA 2)									
Analysis starting date :- 2023-05-08			Analysis Completion date :- 2023-06-05									
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters	Units	Limits	AAQ Location : Bhujang Village - (CHOTIA 2)									
Sampling Date			2023-05-02	2023-05-05	2023-05-09	2023-05-12	2023-05-15	2023-05-18	2023-05-22	2023-05-25	Method	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	16.5	11.2	14.8	12.1	10.9	13.6	16.2	10.9	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	13.1	6.8	11.3	9.6	12.4	12.7	8.5	11.4	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	48.7	43.8	55.6	52.8	49.7	51.7	49.6	44.2	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	12.7	14.3	16.7	13.2	11.9	16.3	12.9	10.6	Gravimetric Method	
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.1	1.6	2.1	0.9	0.5	1.1	1.3	1.2	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m <sup>3</sup>	20	1.6	1.4	1.9	2.1	2.5	1.1	1.6	2.1	AAS/ICP Method	
Lead as Pb	µg/m <sup>3</sup>	1	0.022	0.029	0.019	0.012	0.023	0.015	0.022	0.018	AAS/ICP Method	
Carbon Monoxide	µg/m <sup>3</sup>	2000	254	218	335	385	284	213	376	239	NDIR Spectroscopy Method	
Ozone	µg/m <sup>3</sup>	100	2.3	4.3	2.7	3.9	1.4	2.6	3.2	2.9	UV photometric method	



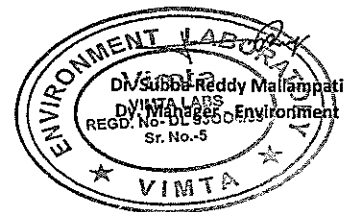
Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)		Report No.:		VLL/VLS/23-24/03631/006									
		Issue Date:		2023-06-05									
		P.O.No:		8500005780									
		P.O. Date:		2022-08-29									
Sample Particulars		AMBIENT AIR QUALITY MONITORING AT D G SET (CHOTIA - 2)											
Analysis starting date :- 2023-05-08		Analysis Completion date :- 2023-06-05											
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.													
TEST RESULTS													
Parameters	Units	Limits	AAQ Location : D G SET (Chotia - 2)										
Sampling Date			2023-05-02	2023-05-05	2023-05-09	2023-05-12	2023-05-15	2023-05-18	2023-05-22	2023-05-25	Method		
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	25.4	31.7	26.5	22.8	16.9	30.7	32.1	18.4	Improved West and Gaeke Method		
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	14.3	15.8	12.9	10.6	12.4	15.1	13.9	12.1	Modified Jacob & Hochheiser Method		
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	55.7	59.4	69.3	61.2	55.6	58.9	60.7	57.1	Gravimetric Method		
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	21.8	19.3	24.0	22.6	18.4	19.1	21.9	17.5	Gravimetric Method		
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.3	0.9	1.6	1.9	0.7	1.4	1.1	1.8	Indophenol Blue Method		
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis		
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis		
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method		
Nickel as Ni	ng/m <sup>3</sup>	20	2.9	4.3	3.7	3.1	2.7	3.2	2.3	2.6	AAS/ICP Method		
Lead as Pb	µg/m <sup>3</sup>	1	0.024	0.019	0.031	0.038	0.019	0.022	0.028	0.020	AAS/ICP Method		
Carbon Monoxide	µg/m <sup>3</sup>	2000	254	348	214	338	261	436	420	476	NDIR Spectroscopy Method		
Ozone	µg/m <sup>3</sup>	100	2.6	5.4	3.9	1.7	4.1	3.6	5.1	3.4	UV photometric method		

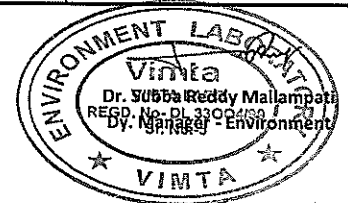


Sensitivity: Internal (G3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)			Report No.:		VLL/VLS/23-24/03631/007							
			Issue Date:		2023-06-05							
			P.O.No:		8500005/80							
			P.U. Date:		2022-06-29							
Sample Particulars			AMBIENT AIR QUALITY MONITORING AT GOVT SOLAR PANEL (CHOTIA -2)									
Analysis starting date :- 2023-05-08			Analysis Completion date :- 2023-06-05									
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters	Units	Limits	AAQ Location : Govt. Solar Panel (Chotia - 2)									
Sampling Date			2023-05-02	2023-05-05	2023-05-09	2023-05-12	2023-05-15	2023-05-18	2023-05-22	2023-05-25	Method	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	17.2	25.6	13.8	11.9	21.5	16.3	19.7	20.5	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	15.4	12.8	8.9	11.6	15.4	12.9	7.9	13.7	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	57.4	47.9	51.3	54.8	46.9	51.9	56.7	55.1	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	15.7	13.8	18.5	16.8	16.4	18.4	21.5	19.7	Gravimetric Method	
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.4	0.8	1.3	1.7	1.4	0.6	1.1	1.3	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m <sup>3</sup>	20	1.7	2.1	2.6	4.3	2.7	3.8	3.1	2.9	AAS/ICP Method	
Lead as Pb	µg/m <sup>3</sup>	1	0.039	0.026	0.021	0.018	0.011	0.031	0.028	0.016	AAS/ICP Method	
Carbon Monoxide	µg/m <sup>3</sup>	2000	255	437	373	391	286	452	398	264	NDIR Spectroscopy Method	
Ozone	µg/m <sup>3</sup>	100	3.2	1.7	6.3	3.8	2.2	1.7	3.8	2.5	UV photometric method	



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)			Report No.:		VLL/VLS/23-24/03631/008							
			Issue Date:		2023-06-05							
			P.U.No:		8500005780							
			P.O. Date:		2022-06-29							
Sample Particulars			AMBIENT AIR QUALITY MONITORING AT WEIGH BRIDGE (CHOTIA -2)									
Analysis starting date :- 2023-05-08			Analysis Completion date :- 2023-06-05									
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters	Units	Limits	AAQ Location : Weigh Bridge (Chotia - 2)									
Sampling Date			2023-05-02	2023-05-05	2023-05-09	2023-05-12	2023-05-15	2023-05-18	2023-05-22	2023-05-25	Method	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	26.5	34.8	25.4	22.7	21.9	18.6	30.7	24.9	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	16.5	12.3	10.9	13.8	18.2	11.9	15.3	12.5	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	57.8	61.2	57.8	56.5	58.7	63.5	61.7	60.8	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	22.9	22.4	25.9	24.3	20.9	23.1	24.2	26.3	Gravimetric Method	
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	2.4	4.3	2.7	2.1	1.7	1.2	2.6	1.9	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m <sup>3</sup>	20	2.1	1.9	2.1	3.4	3.7	2.3	2.7	1.9	AAS/ICP Method	
Lead as Pb	µg/m <sup>3</sup>	1	0.018	0.031	0.026	0.035	0.028	0.019	0.022	0.016	AAS/ICP Method	
Carbon Monoxide	µg/m <sup>3</sup>	2000	341	287	436	337	453	453	271	398	NDIR Spectroscopy Method	
Ozone	µg/m <sup>3</sup>	100	6.7	4.3	5.8	3.9	3.2	2.5	5.6	3.2	UV photometric method	



Sensitivity: Internal (C3)

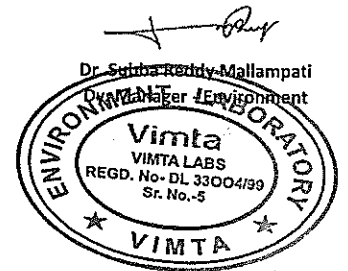
ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)							Report No.:		VLL/VLS/23-24/01732/005			
							Issue Date:		2023-05-05			
							P.O.No:		8500005780			
							P.O. Date:		2022-06-29			
Sample Particulars							AMBIENT AIR QUALITY MONITORING AT BHUJANG VILLAGE (CHOTIA 2)					
Analysis starting date :- 2023-04-05							Analysis Completion date :- 2023-05-05					
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters		Units	Limits	AAQ Location : Bhujang Village - (CHOTIA 2)								
Sampling Date				2023-04-03	2023-04-06	2023-04-10	2023-04-13	2023-04-17	2023-04-21	2023-04-25	2023-04-28	Method
Sulphur Dioxide (SO <sub>2</sub> )		µg/m <sup>3</sup>	80	12.1	14.6	16.8	11.1	9.3	15.2	10.3	11.6	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )		µg/m <sup>3</sup>	80	6.8	8.9	10.1	11.7	9.4	13.2	10.3	7.8	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)		µg/m <sup>3</sup>	100	50.5	52.1	48.2	51.4	44.9	51.1	42.7	46.8	Gravimetric Method
Particulate Matter (PM2.5)		µg/m <sup>3</sup>	60	17.1	17.7	16.3	17.4	15.2	17.3	14.5	15.9	Gravimetric Method
Ammonia (NH <sub>3</sub> )		µg/m <sup>3</sup>	400	0.9	1.3	1.1	1.2	0.6	1.0	1.1	1.2	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )		µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase		ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As		ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni		ng/m <sup>3</sup>	20	1.4	1.1	0.8	0.9	1.0	0.6	0.8	1.1	AAS/ICP Method
Lead as Pb		µg/m <sup>3</sup>	1	0.013	0.011	0.018	0.021	0.019	0.023	0.017	0.026	AAS/ICP Method
Carbon Monoxide		µg/m <sup>3</sup>	2000	288	154	305	277	234	134	311	354	NDIR Spectroscopy Method
Ozone		µg/m <sup>3</sup>	100	2.9	3.1	2.8	4.1	2.2	1.8	3.7	2.6	UV photometric method

Dr. Subba Reddy Mallampati  
By Manager - Environment

**Vimta**  
VIMTA LABS  
REGD. No- DL 33004/99  
Sr. No.-5  
ENVIRONMENT LABORATORY  
VIMTA

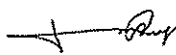
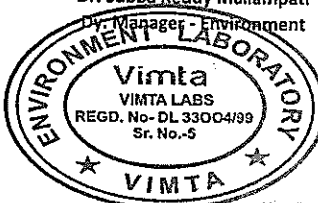
Signature of Manager (C)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)			Report No.:		VLL/VLS/23-24/01732/006							
			Issue Date:		2023-05-05							
			P.O.No:		8500005780							
			P.O. Date:		2022-06-29							
Sample Particulars			AMBIENT AIR QUALITY MONITORING AT D G SET (CHOTIA - 2)									
Analysis starting date :- 2023-04-05			Analysis Completion date :- 2023-05-05									
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters	Units	Limits	AAQ Location : D G SET (Chotia - 2)									
Sampling Date			2023-04-03	2023-04-06	2023-04-10	2023-04-13	2023-04-17	2023-04-21	2023-04-25	2023-04-28	Method	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	28.1	33.8	23.3	26.1	18.2	24.6	21.4	30.3	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	10.1	14.2	19.8	12.9	14.1	16.5	12.3	13.4	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	61.9	74.3	52.3	64.7	52.6	72.2	63.2	60.1	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	24.5	29.7	17.2	24.6	17.3	32.1	28.0	26.9	Gravimetric Method	
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.5	1.1	2.2	1.7	2.0	2.6	1.8	2.1	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m <sup>3</sup>	20	1.9	2.6	1.3	1.8	1.6	2.3	2.0	1.5	AAS/ICP Method	
Lead as Pb	µg/m <sup>3</sup>	1	0.037	0.024	0.019	0.021	0.015	0.013	0.018	0.031	AAS/ICP Method	
Carbon Monoxide	µg/m <sup>3</sup>	2000	398	458	411	378	295	314	480	512	NDIR Spectroscopy Method	
Ozone	µg/m <sup>3</sup>	100	3.2	3.9	4.1	5.4	4.8	3.5	2.7	3.3	UV photometric method	



Sanitizing Agent (20)

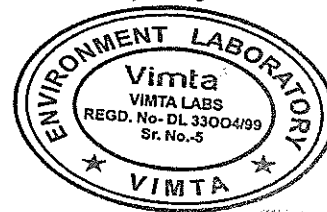
ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)			Report No.:		VLL/VLS/23-24/01732/007							
			Issue Date:		2023-05-05							
			P.O.No:		8500005780							
			P.O. Date:		2022-06-29							
Sample Particulars			AMBIENT AIR QUALITY MONITORING AT GOVT SOLAR PANEL (CHOTIA -2)									
Analysis starting date :- 2023-04-05			Analysis Completion date :- 2023-05-05									
Tests required: Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.												
TEST RESULTS												
Parameters	Units	Limits	AAQ Location : Govt. Solar Panel (Chotia - 2)									
Sampling Date			2023-04-03	2023-04-06	2023-04-10	2023-04-13	2023-04-17	2023-04-21	2023-04-25	2023-04-28	Method	
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	20.3	14.8	11.7	16.9	15.6	17.8	19.2	16.3	Improved West and Gaeke Method	
Nitrogen Dioxide (NO <sub>x</sub> )	µg/m <sup>3</sup>	80	11.1	13.3	9.7	10.6	11.7	14.7	9.4	12.2	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	62.1	59.3	56.6	51.8	49.1	50.7	55.4	60.2	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	21.7	20.7	19.8	18.1	17.1	17.7	19.4	21.1	Gravimetric Method	
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	0.9	1.1	0.8	1.6	1.7	0.8	1.0	1.3	Indophenol Blue Method	
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m <sup>3</sup>	20	2.4	1.9	1.1	2.6	1.6	2.1	1.8	2.4	AAS/ICP Method	
Lead as Pb	µg/m <sup>3</sup>	1	0.021	0.016	0.022	0.013	0.035	0.028	0.017	0.023	AAS/ICP Method	
Carbon Monoxide	µg/m <sup>3</sup>	2000	345	236	167	376	289	211	465	322	NDIR Spectroscopy Method	
Ozone	µg/m <sup>3</sup>	100	1.2	2.8	1.9	3.4	2.7	2.1	4.1	3.8	UV photometric method	

  
 Dr. Subba Reddy Mallampati  
 Dr. Manager - Environment  


Continued on next page

<b>ISSUED TO:</b> M/s. Bharat Aluminium Company Limited, KORBA ( C.G.)				<b>Report No.:</b> VLL/VLS/23-24/01732/008							
				<b>Issue Date:</b> 2023-05-05							
				<b>P.O.No:</b> 8500005780							
				<b>P.O. Date:</b> 2022-06-29							
<b>Sample Particulars</b>				<b>AMBIENT AIR QUALITY MONITORING AT WEIGH BRIDGE (CHOTIA -2)</b>							
<b>Analysis starting date :- 2023-04-05</b>				<b>Analysis Completion date :- 2023-05-05</b>							
<b>Tests required:</b> Sulphur Dioxide (SO <sub>2</sub> ), Nitrogen Dioxide (NO <sub>x</sub> ), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH <sub>3</sub> ), Benzene (C <sub>6</sub> H <sub>6</sub> ), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.											
<b>TEST RESULTS</b>											
<b>Parameters</b>	<b>Units</b>	<b>Limits</b>	<b>AAQ Location : Weigh Bridge (Chotia - 2)</b>								
<b>Sampling Date</b>			<b>2023-04-03</b>	<b>2023-04-06</b>	<b>2023-04-10</b>	<b>2023-04-13</b>	<b>2023-04-17</b>	<b>2023-04-21</b>	<b>2023-04-25</b>	<b>2023-04-28</b>	<b>Method</b>
Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	22.2	31.7	23.9	19.6	25.7	30.9	26.6	21.8	Improved West and Gaeke Method
Nitrogen Dioxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	14.9	13.5	16.8	21.2	10.3	14.5	20.8	17.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m <sup>3</sup>	100	62.8	67.7	59.2	70.4	61.1	60.5	72.3	58.1	Gravimetric Method
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	60	22.2	24.3	21.3	29.5	21.9	21.7	31.8	20.9	Gravimetric Method
Ammonia (NH <sub>3</sub> )	µg/m <sup>3</sup>	400	1.5	2.1	1.9	1.2	1.1	1.4	1.3	1.8	Indophenol Blue Method
Benzene (C <sub>6</sub> H <sub>6</sub> )	µg/m <sup>3</sup>	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m <sup>3</sup>	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m <sup>3</sup>	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m <sup>3</sup>	20	2.3	1.9	1.1	2.6	1.7	3.2	2.1	1.6	AAS/ICP Method
Lead as Pb	µg/m <sup>3</sup>	1	0.020	0.011	0.017	0.028	0.032	0.029	0.023	0.018	AAS/ICP Method
Carbon Monoxide	µg/m <sup>3</sup>	2000	377	476	412	362	388	279	301	216	NDIR Spectroscopy Method
Ozone	µg/m <sup>3</sup>	100	4.1	3.9	2.7	1.9	2.3	2.9	4.2	3.8	UV photometric method

Dr. Subba Reddy Mallampati  
Dy. Manager - Environment





**Vimta Labs Limited**

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited  
BALCO  
KORBA  
Chhattisgarh

Report Number : VLL/VLS/23-24/10824/002  
Issue Date : 2023-10-04  
P. O. No. : 8500005780  
P.O. Date : 2022-06-29

**Sample Particulars: SURFACE WATER (CHOTIA MINES)**

Page 1 of 1

Sample Registration Date: 2023-09-18  
Analysis starting date : 2023-09-18

Sampling collection date: 2023-09-16  
Analysis Completion date: 2023-09-30

Sample collected at: SW1 (Chotia -I Nala Up stream, SW2 (Chotia-I) Nala Down Stream, SW3 (Chotia II Hasdeov river Downstream) and SW4 (Chotia- II-Hasdeov river Up Stream).

SAMPLES COLLECTED BY VIMTA LABS LTD.

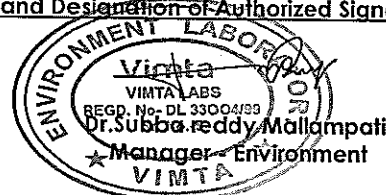
LAB REF.: EC

**TEST RESULTS**

Sr.No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	6.82	7.11	7.24	7.58
2	Color	Hazen	2	3	4	3
3	Conductivity	µS/cm	195	289	210	245
4	TDS	mg/l	127	188	137	159
5	DO	mg/l	5.2	5.1	5.3	5.1
6	BOD	mg/l	<3.0	3.9	<3.0	<3.0
7	COD	mg/l	<5.0	10	10	<5.0
8	Turbidity	NTU	5	9	6	8
9	Total Hardness as CaCO <sub>3</sub>	mg/l	65	97	59	79
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	45	64	39	60
11	Calcium as Ca	mg/l	16.4	23.2	15.6	20.5
12	Magnesium as Mg	mg/l	5.8	9.4	4.8	6.7
13	Chlorides as Cl	mg/l	33	49.8	38.7	36.6
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO <sub>4</sub>	mg/l	0.04	0.11	0.08	0.09
16	Sulphates as SO <sub>4</sub>	mg/l	5.6	8.2	7.0	6.7
17	Fluorides as F	mg/l	0.272	0.150	0.291	0.263
18	Nitrates as NO <sub>3</sub>	mg/l	1.1	2.3	1.4	1.8
19	Sodium as Na	mg/l	14.8	20.6	18.9	17.6
20	Potassium as K	mg/l	1.5	2.8	2.3	2.9
21	Total Boron as B	mg/l	0.03	0.09	0.07	0.06
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.04	0.12	0.17	0.07
30	Chromium as Cr <sup>6</sup>	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.13	0.19	0.15	0.18
33	Aluminum as Al	mg/l	0.04	0.11	0.09	0.05
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.80	0.91	1.07	0.86
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	1960	2120	2320	2240

-END OF THE REPORT-

Name and Designation of Authorized Signatory



**Vimta Labs Limited**

Registered Office  
142, IDA Phase II, Cherlapally  
Hyderabad-500 051, Telangana, India  
T : +91 40 2726 4141  
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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited  
BALCO  
KORBA  
Chhattisgarh

Report Number : VLL/VLS/23-24/09226/002

Issue Date : 2023-09-02

P. O. No. : 8500005780

P.O. Date : 2022-06-29

Page 1 of 1

**Sample Particulars: SURFACE WATER (CHOTIA MINES)**

Sample Registration Date : 2023-08-20

Sampling collection date: 2023-08-18

Analysis starting date : 2023-08-20

Analysis Completion date: 2023-08-31

Sample collected at: SW1 (Chotia-I Nala Up stream, SW2 (Chotia-I) Nala Down Stream, SW3 (Chotia-II-Hasdeo river Downstream)  
and SW4 (Chotia- II-Hasdeo river Up Stream).

SAMPLES COLLECTED BY VIMTA LABS LTD.

LAB REF.: EC

**TEST RESULTS**

Sr.No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	6.59	7.05	7.28	7.60
2	Color	Hazen	3	5	7	2
3	Conductivity	µS/cm	216	273	196	243
4	TDS	mg/l	136	175	124	157
5	DO	mg/l	5.4	5.2	5.6	5.5
6	BOD	mg/l	<3.0	3.9	<3.0	<3.0
7	COD	mg/l	<5.0	10	10	<5.0
8	Turbidity	NTU	5	8	7	3
9	Total Hardness as CaCO <sub>3</sub>	mg/l	69	91	60	84
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	50	60	40	65
11	Calcium as Ca	mg/l	17.2	22.4	14.5	21.2
12	Magnesium as Mg	mg/l	6.4	8.6	5.7	7.6
13	Chlorides as Cl	mg/l	35.6	47.7	35.8	34.3
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO <sub>4</sub>	mg/l	0.03	0.09	0.11	0.12
16	Sulphates as SO <sub>4</sub>	mg/l	6.2	7.9	5.7	5.5
17	Fluorides as F	mg/l	0.272	0.150	0.291	0.263
18	Nitrates as NO <sub>3</sub>	mg/l	0.76	1.14	1.35	1.97
19	Sodium as Na	mg/l	16.8	19.4	17.1	15.7
20	Potassium as K	mg/l	1.7	2.6	1.1	2.4
21	Total Boron as B	mg/l	0.05	0.11	0.08	0.09
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.05	0.14	0.21	0.08
30	Chromium as Cr <sup>6+</sup>	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.17	0.24	0.18	0.27
33	Aluminum as Al	mg/l	0.03	0.13	0.11	0.06
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.88	0.88	0.96	0.74
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	2140	2280	2460	2310

-END OF THE REPORT-

Signature and Designation of Authorized Signatory  
  
VIMTA  
VIMTA LABS  
REGD. No- DL 33004/99  
Sr. No.-5  
Dr. Subba reddy Mallampati  
Manager - Environment

**Vimta Labs Limited**

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited  
BALCO  
KORBA  
Chhattisgarh

Report Number : VLL/VLS/23-24/07066/002

Issue Date : 2023-08-03

P. O. No. : 8500005780

P.O. Date : 2022-06-29

Page 1 of 1

**Sample Particulars: SURFACE WATER (CHOTIA MINES)**

Sample Registration Date: 2023-07-06

Sampling collection date: 2023-07-04

Analysis starting date : 2023-07-07

Analysis Completion date: 2023-07-31

Sample collected at: SW1 (Chotia -I Nala Up stream, SW2 (Chotia-I) Nala Down Stream, SW3 (Chotia-II-Hasdeev river Downstream) and SW4 (Chotia- II-Hasdeev river Up Stream).

SAMPLES COLLECTED BY VIMTA LABS LTD.

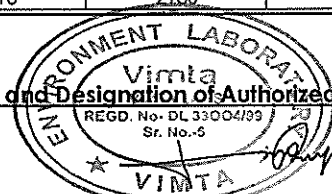
LAB REF.: EC

**TEST RESULTS**

Sr.No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.36	7.12	7.21	7.14
2	Color	Hazen	4	/	8	3
3	Conductivity	µS/cm	316	381	293	356
4	TDS	mg/l	205	248	172	225
5	DO	mg/l	5.2	5.1	5.4	5.3
6	BOD	mg/l	<3.0	4.2	<3.0	<3.0
7	COD	mg/l	<5.0	15	10	<5.0
8	Turbidity	NTU	5	9	8	6
9	Total Hardness as CaCO <sub>3</sub>	mg/l	108	126	96	120
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	90	85	60	75
11	Calcium as Ca	mg/l	19.6	23.2	18.2	21.5
12	Magnesium as Mg	mg/l	14.3	16.5	12.2	17.5
13	Chlorides as Cl	mg/l	44.0	60.0	51.3	63.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO <sub>4</sub>	mg/l	0.04	0.12	0.09	0.15
16	Sulphates as SO <sub>4</sub>	mg/l	8.5	14.7	5.6	9.40
17	Fluorides as F	mg/l	0.127	0.152	0.254	0.193
18	Nitrates as NO <sub>3</sub>	mg/l	1.98	2.63	1.57	2.44
19	Sodium as Na	mg/l	24.2	27.3	19.2	22.4
20	Potassium as K	mg/l	2.7	3.6	2.9	3.20
21	Total Boron as B	mg/l	0.05	0.11	0.08	0.09
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.06	0.17	0.23	0.09
30	Chromium as Cr <sup>6+</sup>	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.18	0.09	0.36	0.21
33	Aluminum as Al	mg/l	0.04	0.11	0.12	0.05
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.01	1.06	0.85	0.87
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	1980	2310	2180	2460

-END OF THE REPORT-

Name and Designation of Authorized Signatory



Dr. Subba reddy Mallampati  
Manager - Environment

**Vimta Labs Limited**

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited  
BALCO  
KORBA  
Chhattisgarh

Report Number : VLL/VLS/23-24/05404/002  
Issue Date : 2023-06-27  
P. O. No. : 8500005780  
P.O. Date : 2022-06-29

Page 1 of 1

**Sample Particulars: SURFACE WATER (CHOTIA MINES)**

Sample Registration Date: 2023-06-12  
Analysis starting date : 2023-06-13

Sampling collection date: 2023-06-09  
Analysis Completion date: 2023-06-26

Sample collected at: SW1 (Chotia -I Nala Up stream, SW2 (Chotia-I) Nala Down Stream, SW3 (Chotia-II-Hasdeo river Downstream) and SW4 (Chotia- II-Hasdeo river Up Stream).

SAMPLES COLLECTED BY VIMTA LABS LTD.

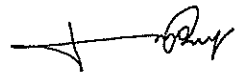
LAB REF.: EC

**TEST RESULTS**

Sr.No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.21	7.06	7.18	7.10
2	Color	Hazen	3	5	6	4
3	Conductivity	µS/cm	326	240	290	216
4	TDS	mg/l	212	152	184	140
5	DO	mg/l	5.4	5.2	5.3	5.6
6	BOD	mg/l	<3.0	4.8	<3.0	<3.0
7	COD	mg/l	<5.0	20	10	<5.0
8	Turbidity	NTU	4	7	6	5
9	Total Hardness as CaCO <sub>3</sub>	mg/l	97	79	93	68
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	70	60	65	51
11	Calcium as Ca	mg/l	21.5	15.3	19.4	14.8
12	Magnesium as Mg	mg/l	10.4	9.80	10.7	7.6
13	Chlorides as Cl	mg/l	62.1	35.9	48.5	34.4
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO <sub>4</sub>	mg/l	0.05	0.14	0.07	0.17
16	Sulphates as SO <sub>4</sub>	mg/l	9.6	6.8	8.5	6.7
17	Fluorides as F	mg/l	0.198	0.115	0.281	0.177
18	Nitrates as NO <sub>3</sub>	mg/l	2.9	1.8	2.4	3.8
19	Sodium as Na	mg/l	32.4	17.3	23.1	18.5
20	Potassium as K	mg/l	2.8	2.6	1.8	1.2
21	Total Boron as B	mg/l	0.07	0.04	0.06	0.05
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.08	0.18	0.15	0.07
30	Chromium as Cr <sup>++</sup>	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.14	0.24	0.17	0.28
33	Aluminum as Al	mg/l	0.03	0.08	0.05	0.07
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.44	0.85	1.05	0.97
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	2120	2460	2080	2540

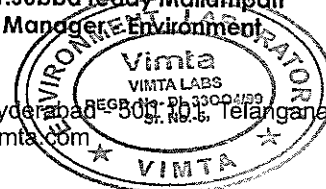
-END OF THE REPORT-

**Name and Designation of Authorized Signatory**

  
Dr. Subba reddy Mallampati  
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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited  
BALCO  
KORBA  
Chhattisgarh

Report Number : VLL/VLS/23-24/03631/002

Issue Date : 2023-06-03

P. O. No. : 8500005780

P.O. Date : 2022-06-29

Page 1 of 1

**Sample Particulars: SURFACE WATER (CHOTIA MINES)**

Sample Registration Date: 2023-05-18

Sampling collection date: 2023-05-16

Analysis starting date : 2023-05-18

Analysis Completion date: 2023-05-31

Sample collected at: SW1 (Chotia-I Nala Up stream, SW2 (Chotia-I) Nala Down Stream, SW3 (Chotia-II-Hasdev river Downstream)  
and SW4 (Chotia- II-Hasdev river Up Stream).

SAMPLES COLLECTED BY VIMTA LABS LTD.

LAB REF.: EC

**TEST RESULTS**

Sr.No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	6.97	7.23	6.94	7.45
2	Color	Hazen	3	5	3	4
3	Conductivity	µS/cm	364	237	321	283
4	TDS	mg/l	229	145	194	172
5	DO	mg/l	5.3	5.2	4.9	5.1
6	BOD	mg/l	<3.0	<3.0	<3.0	<3.0
7	COD	mg/l	<5.0	<5.0	<5.0	<5.0
8	Turbidity	NTU	2	4	3	5
9	Total Hardness as CaCO <sub>3</sub>	mg/l	98	81	94	87
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	70	45	55	50
11	Calcium as Ca	mg/l	21.5	16.6	19.8	17.4
12	Magnesium as Mg	mg/l	11.6	9.5	10.7	9.3
13	Chlorides as Cl	mg/l	72.3	32.5	43.6	56.8
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO <sub>4</sub>	mg/l	0.04	0.09	0.05	0.11
16	Sulphates as SO <sub>4</sub>	mg/l	9.6	6.4	3.6	8.3
17	Fluorides as F	mg/l	0.231	0.094	0.342	0.416
18	Nitrates as NO <sub>3</sub>	mg/l	4.3	2.7	3.4	2.6
19	Sodium as Na	mg/l	43.5	21.5	19.6	23.4
20	Potassium as K	mg/l	2.8	1.7	2.6	3.6
21	Total Boron as B	mg/l	0.06	0.03	0.11	0.05
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.03	0.19	0.15	0.13
30	Chromium as Cr <sup>6+</sup>	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.12	0.23	0.17	0.29
33	Aluminum as Al	mg/l	0.03	0.09	0.05	0.08
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.49	0.82	0.67	1.01
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	2140	2460	1980	2410

-END OF THE REPORT-

Name and Designation of Authorized Signatory

ENVIRONMENT LABORATORY  
Vimta  
VIMTA LABS  
REGD. No. DL030046  
Sr. No. 5  
Dr. Subba reddy Mallampati  
Dy. Manager - Environment

**Vimta Labs Limited**

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited  
BALCO  
KORBA  
Chhattisgarh

Report Number : VII/VLS/23-24/01732/002

Issue Date : 2023-05-04

P. O. No. : 8500005780

P.O. Date : 2022-06-29

**Sample Particulars: SURFACE WATER (CHOTIA MINES)**

Page 1 of 1

Sample Registration Date: 2023-04-17

Sampling collection date: 2023-04-14

Analysis starting date : 2023-04-17

Analysis Completion date: 2023-05-02

Sample collected at: SW1 (Chotia - I Nala Up stream, SW2 (Chotia-I) Nala Down Stream, SW3 (Chotia-II-Hasdev river Downstream) and SW4 (Chotia- II-Hasdev river Up Stream).

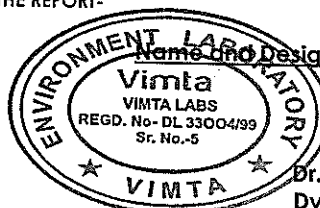
SAMPLES COLLECTED BY VIMTA LABS LTD.

LAB REF.: EC

**TEST RESULTS**

Sr.No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	6.85	7.11	7.23	7.36
2	Color	Hazen	2	4	4	3
3	Conductivity	µS/cm	386	215	234	276
4	TDS	mg/l	245	136	150	175
5	DO	mg/l	5.6	5.3	5.1	5.2
6	BOD	mg/l	<3.0	<3.0	<3.0	<3.0
7	COD	mg/l	<5.0	<5.0	<5.0	<5.0
8	Turbidity	NTU	3	5	4	3
9	Total Hardness as CaCO <sub>3</sub>	mg/l	110	71	80	90
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	80	50	60	55
11	Calcium as Ca	mg/l	23.8	14.6	16.2	18.7
12	Magnesium as Mg	mg/l	12.3	8.4	9.6	10.5
13	Chlorides as Cl	mg/l	68.9	33.8	35.2	51.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO <sub>4</sub>	mg/l	0.06	0.12	0.08	0.13
16	Sulphates as SO <sub>4</sub>	mg/l	11.8	7.2	4.3	7.1
17	Fluorides as F	mg/l	0.345	0.084	0.412	0.362
18	Nitrates as NO <sub>3</sub>	mg/l	3.8	2.1	1.8	3.2
19	Sodium as Na	mg/l	36.4	15.2	16.2	21.5
20	Potassium as K	mg/l	3.6	2.4	1.2	1.7
21	Total Boron as B	mg/l	0.08	0.05	0.07	0.04
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.06	0.23	0.17	0.09
30	Chromium as Cr <sup>6</sup>	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.16	0.19	0.14	0.26
33	Aluminum as Al	mg/l	0.04	0.07	0.04	0.09
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.51	0.78	0.79	0.99
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	1960	2310	2130	2680

-END OF THE REPORT-



Name and Designation of Authorized Signatory

Dr. Subba reddy Mallampati  
Dy. Manager - Environment



BHARAT ALUMINIUM COMPANY LIMITED  
P.O. - BALCO Nagar, Korba, CG  
India - 495084

Balco/Chc/2018/RO/2018/17-

Date: 11.10.2018

To  
The Director,  
Ministry of Environment, Forests and Climate Change,  
Regional Office (WC2), Ground Floor,  
East Wing, New Secretariat Building,  
Civil Line, Nagpur - 440 001.

Sub: Intimation for commencement of Mining Operations at Chotia II Coal Captive Coal Mining Project  
of M/s Bharat Aluminium Company Limited

Ref: Environment Clearance issued by MoEF&CC vide no. J-11015/96/2004.IA.II (M) dated 18<sup>th</sup> July 2018.

Dear Sir,

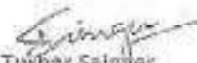
Chotia II Captive Coal Mining Project of M/s Bharat Aluminium Company Limited has been granted Environment Clearance (EC) for 1.0 MTPA on 18<sup>th</sup> July 2018. Subsequent to the grant of EC by MoEF&CC, we had applied for various state and central Govt. approvals to start the mining operation at Chotia II Coal Mine.

We wish to inform your goodself that the requisite approvals have been obtained and the mining operation has been commenced from Chotia II Coal Mine on 10.10.2018. This is being submitted to comply with condition no. 4 (k) (ii) of EC issued on 18<sup>th</sup> July 2018.

Thanking You,

Yours sincerely

For Bharat Aluminium Company Limited

  
Tushar Salinger

Authorized Signatory



Copy: Regional Officer, Chhattisgarh Environment Conservation Board, District Korba (CG)

9/c



BHARAT ALUMINIUM COMPANY LIMITED  
P.O. - BALCO Nagar, Korba, CG  
India - 495684

Balco/Coal Mines/2018/July/01

Date: Friday, 20 July, 2018

To,

1. Member Secretary,  
CECB, Raipur (C.G.)
2. Collector,  
Korba,  
District- Korba (C.G.)
3. Regional Office,  
CECB, Korba  
District Korba (C.G.)
4. General Manager  
District Industry and Business center,  
Korba (C.G.)
5. Tehsildar  
Tehsil Office, Podiuprodha  
District Korba, (C.G.)
- ✓ 6. Sarpanch  
Office of Sarpanch,  
Ghuchapur Panchayat,  
Podiuprodha, District Korba (C.G.)

Subject: Chotia II Captive Coal Mining Project of 1 MTPA of M/s Bharat Aluminium Company Limited (BALCO) in mine lease area of 316.826 Ha located in Salaiot Village, Tehsil Podiuprodha, District Korba (Chhattisgarh) - Environmental Clearance-reg.

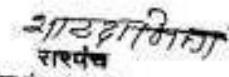
Reference: Letter No. J-11015/96/2004-IA.II (M) from MOEF & CC, New Delhi Dated 18 July 2018.

Sir/Mam,

With reference to the above mentioned subject, this is to inform your good office that the Ministry of Environment, Forests & Climate Change (MOEF&CC), New Delhi, Government of India has accorded Environmental Clearance to M/s Bharat Aluminium Company Limited for proposed project Chotia II Captive Coal Mining Project for 1.0 MTPA in mine lease area of 316.826 ha located in Salaiot village, Tehsil Podiuprodha, District Korba Chhattisgarh. The copy of said letter is also enclosed for your kind reference.

Thanking You  
Yours Sincerely

  
Tushar Sainger  
Associate Manager  
For Bharat Aluminium Company Limited

  
सरपंच  
ग्राम बंधावत-पुसापुर  
पि.ख.-पोंडी उपरोडा  
जिला-कोरबा (उ.प्र.) 20/07/18

Enclosed: - As mentioned above.





BHARAT ALUMINIUM COMPANY LIMITED  
P.O. - BALCO Nagar, Korba, C.G.  
India - 495002

Balco/Coal Mines/2018/July/01

Date: Friday, 20 July, 2018

To,

1. Member Secretary,  
CLCB, Raipur (C.G.)
2. Collector,  
Korba,  
District- Korba (C.G.)
3. Regional Office,  
CLCB, Korba  
District Korba (C.G.)
4. General Manager,  
District Industry and Business center,  
Korba (C.G.)
5. Tehsildar  
Tehsil Office, Poduprodha  
District Korba (C.G.)
6. Sarpanch  
Office of Sarpanch,  
Chuthapur Panchayat,  
Poduprodha, District Korba (C.G.)

Subject: Chotia II Captive Coal Mining Project of 1 MTPA of M/s Bharat Aluminium Company Limited (BALCO) in mine lease area of 316.826 Ha located in Salagot Village, Tehsil Poduprodha, District Korba (Chhattisgarh) - Environmental Clearance-reg.

Reference: Letter No. J-11015/96/2004-IA II (M) from MOEF & CC, New Delhi Dated 18 July 2018

Sir/Mam,

With reference to the above mentioned subject, this is to inform your good office that the Ministry of Environment, Forests & Climate Change (MOEF&CC), New Delhi, Government of India has accorded Environmental Clearance to M/s Bharat Aluminium Company Limited for proposed project Chotia-II Captive Coal Mining Project for 1.0 MTPA in mine lease area of 316.826 ha located in Salagot village, Tehsil Poduprodha, District Korba Chhattisgarh. The copy of said letter is also enclosed for your kind reference.

Thanking You

Yours Sincerely

  
Tushar Sanger

Associate Manager

For Bharat Aluminium Company Limited



Enclosed: As mentioned above.



BHARAT ALUMINIUM COMPANY LIMITED  
P.O. - BALCO Nagar, Korba, CG  
India - 495684

Balco/Coal Mines/2018/July/01

Date: Friday, 20 July, 2018

To,

1. Member Secretary,  
CECB, Raipur (C.G.)
2. Collector,  
Korba,  
District- Korba (C.G.)
- ✓ 3. Regional Office,  
CECB, Korba  
District Korba (C.G.)
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Tehsil Office, Podiuprodha  
District Korba, (C.G.)
6. Sarpanch  
Office of Sarpanch,  
Ghuchapur Panchayat,  
Podiuprodha, District Korba (C.G.)

Subject: Chotia II Captive Coal Mining Project of 1 MTPA of M/s Bharat Aluminium Company Limited (BALCO) in mine lease area of 316.826 Ha located in Salaigot Village, Tehsil Podiuprodha, District Korba (Chhattisgarh) - Environmental Clearance-reg.

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Thanking You  
Yours Sincerely

  
Tushar Sainger  
Associate Manager  
For Bharat Aluminium Company Limited



Enclosed: - As mentioned above.





BHARAT ALUMINIUM COMPANY LIMITED  
P.O. - BALCO Nagar, Korba, CG  
India 495684

Balco/Coal Mines/2018/July/01

Date: Friday, 20 July, 2018

To,

1. Member Secretary,  
CECB, Raipur (C.G.)
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Korba,  
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Subject: Chotia II Captive Coal Mining Project of 1 MTPA of M/s Bharat Aluminium Company Limited (BALCO) in mine lease area of 316.826 Ha located in Salaigot Village, Tehsil Podiuprodha, District Korba (Chhattisgarh) - Environmental Clearance-reg.

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Thanking You  
Yours Sincerely

Tushar Sainger  
Associate Manager  
For Bharat Aluminium Company Limited

Enclosed: - As mentioned above.





