

BALCO/ENV/A-02(A)/2025/497

Date: 18.10.2025

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

Sub: Half Yearly Compliance Status Report (April 2025 to September 2025) of the Expansion of Aluminium Smelter Plant from 5.75 to 10.85 LTPA.

Dear Sir,

As per the Environmental Clearance identification # EC22A008CG177331 (No. J-11011/123/2007.IA-II (I) dated 22 April 2022) received for the Expansion of Aluminium Smelter from 5.75 to 10.85 LTPA, please find enclosed herewith the compliance report along with the necessary supporting documents.

We hope that the above is in line with the provisions stipulated in the Environmental Clearance. Should your good office require any further information, we will be glad to furnish the same.

Thanking you,

Yours Truly,
On behalf of Bharat Aluminum Company Ltd.



(Authorized Signatory)

Encl: a/a

Copy to: The Regional Officer, Chhattisgarh Environment Conservation Board, Korba.



**Expansion of Aluminium Smelter Plant from 5.75 to 10.85 LTPA of
BHARAT ALUMINIUM COMPANY LTD, KORBA (C.G.)
EC Identification No- EC22A008CG177331
File No. J-11011/123/2007-IA-II (I) MoEF-22/04/2022
Duration: April 2025 to September 2025**

A. SPECIFIC CONDITION

S. No.	Conditions	Compliance status
i.	The project proponent shall abide by all orders and judicial pronouncements, made from time to time in case no. IA No.1424-1425 of 2005 filed in W.P. (C) No.202/1995 (T N Godavarman matter) in Hon'ble High Court of Chhattisgarh; Civil Appeal No. 3236/2020 (BALCO vs MoEF&CC& Others) in Hon'ble Supreme Court and Writ Petition (PIL) 58/2020 (Dilendra Yadav vs CECB &Ors) in Hon'ble High Court of Chhattisgarh.	Will be complied as and when orders and judicial pronouncements received.
ii.	The poly-aromatic hydrocarbons (PAH) from the carbon plant (anode bake oven) shall not exceed 2 mg/Nm ³ . The data on PAH shall be monitored quarterly and report shall be submitted regularly to the Ministry/Regional Office at Raipur and CECB.	The poly-aromatic hydrocarbon (PAH) emission from carbon plant (Anode Bake Oven) is within 2 mg/Nm ³ for the existing facility. Monitoring will be conducted, and report will be submitted to MoEF & CC and CECB once the project is implemented for expansion facility.
iii.	Particulate fluoride emissions shall not be more than 0.65 mg/Nm ³ and fugitive particulate fluoride emissions from pot room shall not be more than 1.85 mg/Nm ³ .	Particulate Fluoride emission and fugitive particulate. Fluoride emissions from pot rooms for the existing facility are within limit and reports are submitted on regular basis. Monitoring will be conducted, and report will be submitted to MoEF & CC and CECB once the project is implemented for expansion facility.
iv.	SO ₂ and NO _x emissions shall be controlled by replacing Furnace Oil with Low Sulphur Heavy Stock (LSHS) within 6 months. Compliance status in this regard shall be submitted to the Regional Office of the MoEF&CC latest by 30/06/2022.	Furnace Oil (HFO) has been replaced with Low Sulphur Heavy Stock (LSHS).
v.	Project proponent shall achieve the Fluoride consumption less than 10 kg/tonne of Aluminium production for the existing 5.75 LTPA Aluminium smelter by 30/04/2022 and for the proposed 5.1 LTPA expansion project right from the day of commissioning of the unit.	CREP (Corporate Responsibility for Environmental Protection) recommendation prescribing Specific Fluoride consumption less than 10 kg/ton of aluminium has been amended to specific AlF ₃ consumption less than 20 kg/ton of aluminium as per the Gazette Notification dated 21st July 2025

		under the Environment (Protection) Fifth Amendment Rules, 2025, issued by the Ministry of Environment, Forest and Climate Change, Government of India. The revised standard replaces the earlier entry under Serial No. 36 of Schedule I of the Environment (Protection) Rules, 1986 and we will be complying to the same.
vi.	Total water requirement for the existing and expansion project shall not exceed 4900 KLD.	Total water consumption for 10.85 LTPA is under 4900 KLD.
vii.	Present stock of SPL (48000 T) and legacy SPL stock shall be liquidated by December 2022 as committed.	Complied with. The Spent Pot Lining (SPL) stock has been diluted.
viii.	Refractory SPL stock of 30,000 T stored in covered shed on concrete floors shall be disposed off within 18 months from the date of approved Standard Operating Procedure (SOPs) by CPCB.	The SPL Refractory is stored currently in covered shed having concrete floors as there is no approved SOP by CPCB for detoxification of SPL refractory. We have requested CPCB to share with us the SOP, if and as and when available vide our letter dated 31.01.2024, 22.03.2024 and 23.09.2024, 09.01.2025, 05.05.2025 and 26.09.2025.
ix.	Present stock of Shot Blasting Dust stored in covered shed in plant premises is 10,000 T which shall be disposed off within 18 months from the date of approved Standard Operating Procedure (SOPs) by CPCB.	The Shot Blast Dust (SBD) is stored currently in covered shed having concrete floors as there is no approved SOP by CPCB for detoxification of Shot Blast Dust (SBD). We have requested CPCB to share with us the SOP, if and as and when available vide our letter dated 31.01.2024, 22.03.2024 and 23.09.2024, 09.01.2025, 05.05.2025 and 26.09.2025.
x.	PM levels shall be less than 30 mg/Nm ³ for all units under expansion. In case of older units, PP shall initiate retrofitting/modification action to achieve the PM emission level of 30 mg/Nm ³ by October, 2024.	FTPs will be installed to control the PM emission within 30 mg/Nm ³ for the proposed expansion. The present emission of PM is also less than 30 mg/ Nm ³ for existing smelter facility.
xi.	Leachate from Secured Land Fill (SLF) shall be collected and transferred to the solar drying ponds. During rainy season, SLF shall be covered with tarpaulin to minimize leachate generation. Regular monitoring of cyanide and fluoride in wastewater shall be monitored.	Leachate pits are available at present SLF. Fluoride and cyanide are monitored regularly. During the rainy season, SLF is covered with tarpaulin for minimization of leachate generation. No additional SLF is envisaged in the proposed expansion project.

xii.	The company shall develop rainwater structures to harvest the run-off water for recharge of ground water as per the action plan submitted in the EIA report.	Noted and will be complied with as per action plan submitted.
xiii.	All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.	Noted and will be complied with.
xiv.	Legacy ash stocks of 18.2 Million tons shall be liquidated by December 2024. The vehicles carrying ash from dyke shall use tarpaulin covers. No additional ash pond shall be developed for ash disposal.	Complied with The legacy ash has been liquidated. Currently we are utilizing fly ash in mine back filling, brick manufacturing, road making, cement manufacturing. We have reclaimed 5 ash dykes namely Dyke Nos. 1, 3, 5 & BCPP dykes. At present, we have only 4 operational ash dykes in compliance with the new notification vide amendment dated 30.12.2022. We have no other legacy ash available.
xv.	Performance monitoring of pollution control equipment shall be taken up yearly and compliance status in this regard shall be reported to RO.	Complied with. Monitoring of the performance of Pollution Control Equipment is being conducted through third party and the yearly performance report will be submitted to IRO, Raipur & RO, Korba.
xvi.	BALCO shall develop captive refractory detoxifying facility at project site by 31st March, 2024 as committed after obtaining requisite statutory approvals from the concerned Competent Authority.	There is no approved SOP by CPCB for detoxification of SPL refractory. We have requested CPCB to share with us the SOP, if and as and when available vide our letter dated 31.01.2024, 22.03.2024, 23.09.2024, 09.01.2025, 05.05.2025 and 26.09.2025 The feasibility of developing refractory detoxifying facility will be taken up after approval of suitable SOP by CPCB (Annexure-I).
xvii.	The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report to the concerned Regional Office of the MoEF&CC.	Complied with. The site-specific Wildlife Management/ Conservation plan has been approved by PCCF, Wildlife. The approval letter is attached as Annexure-II . For the implementation of the Wildlife Conservation/ Management plan INR 1.53 Cr. has been deposited with the Forest Department for the mitigative measures as approved in the Wildlife Conservation/Management plan. The copy of

B.O.

		the letter from DFO in this regard is attached as Annexure- III .																																																													
xviii.	The area of sampling and analysis of fluoride in soil and forage should extend up to 10 kilometers radius of plant premises covering upwind and downwind directions. Further, fluoride sampling and analysis should be taken quarterly at the nearest irrigated lands growing crops, vegetables, and other products of human consumption.	Complied with. The sampling locations have been extended up to a 10 KM radius as per the latest EIA for sampling of fluoride in soil and forage. The monthly and quarterly analysis reports of fluoride in forage, soil, crops and vegetables respectively from the month of April 2025 to March 2025 are attached as Annexure-IV .																																																													
xix.	The major emissions are from the pot room roof. The sampling frequency should be increased, and sampling is done at multiple locations. The laser based advance technology shall be in place by March, 2023 for continuously monitor gaseous fluoride emissions from pot rooms on real time basis.	Complied with.																																																													
xx.	Wheel Washing mechanism shall be provided in entry and exit gates with complete water recirculation system	Complied with.																																																													
xxi.	Three tier Green Belt shall be developed in a time frame of one year covering 33% of total area with native species all along the periphery of the project site of adequate width and tree density shall not be less than 2500 per ha. Survival rate of green belt developed shall be monitored on periodic basis to ensure that damaged plants are replaced with new plants in the subsequent years. GB action plan is given as below. <table><tr><th rowspan="2">S. No.</th><th rowspan="2">Details</th><th rowspan="2">Total Area (in ha)</th><th rowspan="2">Existing Plantation Area (in ha)</th><th rowspan="2">On-Going Plantation Area (in ha)</th><th colspan="3">*Action Plan: Green Cover Proposed up to FY 24 (in Ha)</th><th rowspan="2">Total Green Cover (in Ha)</th><th rowspan="2">Total Green Cover- (%)</th><th rowspan="2">Species Proposed</th></tr><tr><th>FY 22</th><th>FY 23</th><th>FY 24</th></tr><tr><td>1</td><td>Integrated Aluminium Smelter Complex</td><td>383.63</td><td>97.72</td><td>0.81</td><td>5.0</td><td>5.85</td><td>17.40</td><td>126.78</td><td rowspan="5">33%</td><td>Karanj, Neem, Peepal, Sal, Sarai, Arjun, Sagon, Banyan, Sisoo, Rain Tree, Gulmohar, Mahua, Kadam, etc</td></tr><tr><td>2</td><td>Ash Dyke</td><td>151.75</td><td>8.87</td><td>-</td><td>6</td><td>10</td><td>9.24</td><td>34.11</td></tr><tr><td>3</td><td>Township Land</td><td>263.04</td><td>126.49</td><td>6.84</td><td>2</td><td>2</td><td>2</td><td>139.33</td></tr><tr><td>4</td><td>Balance Other Land</td><td>301.49</td><td>20.94</td><td>7.12</td><td>10</td><td>10</td><td>15</td><td>63.06</td></tr><tr><td colspan="2">Total Area</td><td>1099.91</td><td>254.02</td><td>14.77</td><td>23</td><td>27.85</td><td>43.64</td><td>363.28</td></tr></table>	S. No.	Details	Total Area (in ha)	Existing Plantation Area (in ha)	On-Going Plantation Area (in ha)	*Action Plan: Green Cover Proposed up to FY 24 (in Ha)			Total Green Cover (in Ha)	Total Green Cover- (%)	Species Proposed	FY 22	FY 23	FY 24	1	Integrated Aluminium Smelter Complex	383.63	97.72	0.81	5.0	5.85	17.40	126.78	33%	Karanj, Neem, Peepal, Sal, Sarai, Arjun, Sagon, Banyan, Sisoo, Rain Tree, Gulmohar, Mahua, Kadam, etc	2	Ash Dyke	151.75	8.87	-	6	10	9.24	34.11	3	Township Land	263.04	126.49	6.84	2	2	2	139.33	4	Balance Other Land	301.49	20.94	7.12	10	10	15	63.06	Total Area		1099.91	254.02	14.77	23	27.85	43.64	363.28	Extensive tree plantation is being carried out in all open spaces available in and around the plant premises. 48023 number of saplings have been planted around BALCO's premises including ash dykes, township and plant premises during FY 2024-25.
S. No.	Details						Total Area (in ha)	Existing Plantation Area (in ha)	On-Going Plantation Area (in ha)				*Action Plan: Green Cover Proposed up to FY 24 (in Ha)			Total Green Cover (in Ha)	Total Green Cover- (%)	Species Proposed																																													
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xxii.	Greening and Paving shall be implemented in the plant area to arrest soil erosion and dust pollution from exposed soil surface.	Will be complied.																																																													
B. General Condition																																																															
I. Statutory Compliance																																																															
i.	The Environment Clearance (EC) granted to the project/ activity is strictly under the provisions of the EIA Notification, 2006 and its amendments issued from time to time. It does not tantamount/	Noted.																																																													

	construe to approvals/ consent/ permissions etc., required to be obtained or standards/conditions to be followed under any other Acts/Rules/Subordinate legislations, etc., as may be applicable to the project.	
II. Air quality monitoring and preservation		
i.	The project proponent shall install 24x7 Continuous Emission Monitoring System (CEMS) at process stacks to monitor stack emission as well as 4 Nos. Continuous Ambient Air Quality Station (CAAQS) for monitoring AAQ parameters with respect to standards prescribed in Environment (Protection) Rules 1986 as amended from time to time. The CEMS and CAAQMS shall be connected to SPCB and CPCB online servers and calibrate these systems from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.	CEMS and CAAQMS have been installed and connected with SPCB and CPCB server for existing operation and will be complied for expansion project once it is implemented.
ii.	The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognized under Environment (Protection) Act, 1986.	Complied for existing facility and will be complied for expansion project.
iii.	The project proponent shall provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags.	Noted and the same is a part of FTP.
iv.	The project proponent shall ensure covered transportation and conveying of ore, coal and other raw material to prevent spillage and dust generation; Use closed bulkers for carrying fly ash;	Complied with.
v.	The project proponent shall provide wind shelter fence and chemical spraying on the raw material stock piles;	The smelter raw materials are stored inside shed/ silos; hence wind shelter fence and chemical spraying are not envisaged.
vi.	Ventilation system shall be designed for adequate air changes as per the prevailing norms for all tunnels, motor houses, and cement bagging plants.	Ventilation system will be installed as applicable as per the design/technology for smelter plant.
vii.	Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.	Being complied for existing operation and will be ensured for proposed expansion.
viii.	Adopt measures to recover fluoride gas from electrolytic cells and recycle the same in the process.	FTPs will be installed for expansion project to recover the Fluoride and recycle the same.
ix.	Practice use of low-Sulphur tars for baking anodes.	Complied.

x.	Make efforts to increase the life of pot lining through better construction and operating techniques.	Noted.
xi.	Design the pot roofs with louvers and roof ventilators.	Noted.

III. Water quality monitoring and preservation

i.	The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 (G.S.R 742 (E) dated 30th August 1990 and further amended vide G.S.R 46 (E) dated 3rd February 2006 (Aluminium); S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.	Will be complied with.
ii.	The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.	Ground water qualities are being monitored regularly through NABL accredited lab. Copy attached as Annexure-V .
iii.	Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.	Noted and will be complied.
iv.	Garland drains and collection pits shall be provided for each stockpile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.	All the smelter raw materials will be stored in a covered shed on concrete floor. No raw material will be stored outside in open stockpile hence, garland drains, and collection pits are not envisaged.
v.	Water meters shall be provided at the inlet to all unit processes in the cement plant.	Water meters will be provided at the inlet to all unit processes in the Smelter Plant.
vi.	The project proponent shall make efforts to minimize water consumption in the cement plant complex by segregation of used water, practicing cascade use and by recycling treated water.	Noted.

IV. Noise monitoring and prevention

i.	Noise quality shall be monitored as per the prescribed Noise Pollution (Regulation and Control) Rules, 2000 and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.	Noted and will be complied.
V. Energy Conservation measures		
i.	The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases.	Not applicable on Smelter Units.
ii.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, streetlights, parking around project area and maintain the same regularly;	Noted and will be complied.
iii.	Provide LED lights in their offices and residential areas.	Noted.
VI. Waste management		
i.	Used refractories shall be recycled.	Noted and will be complied.
ii.	Oily scum and metallic sludge recovered from ETP shall be mixed, dried, and briquetted and reused.	Sludge generated from ETP is being sent to SLF. Used Oil/Waste oil will be recycled through authorized re-processor.
VII. Green Belt		
i.	The project proponent shall prepare GHG emissions inventory for the plant and shall submit the Program for reduction of the same including carbon sequestration including plantation.	GHG emissions inventory report submitted to the CECB vide our letter No. BALCO/Envnt/A-06(A)/2025/494 dated 16.10.2025. Moreover, GHG emissions have been monitored regularly, and the data has been published in the Sustainability Report/TCFD report of the company.
ii.	Project proponent shall submit a study report on De-carbonization program, which would essentially consist of company's carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies. Further, the report shall also contain time bound action plan to reduce its carbon intensity of its operations and supply chains, energy transition pathway from fossil fuels to Renewable energy etc. All these activities/ assessments should be measurable and monitorable with defined time frames.	Study report on De-carbonization program, consist of carbon emissions, carbon budgeting/ balancing, carbon sequestration activities and carbon capture, use and storage and offsetting strategies has been submitted to the CECB vide our letter No. BALCO/Envnt/A-06(A)/2025/494 dated 16.10.2025. Moreover, GHG emissions have been monitored regularly, and the data has been published in the Sustainability Report/TCFD report of the company.
VIII. Public hearing and Human health issues		

i.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Emergency Preparedness plan based on HIRA and Disaster Management Plan already implemented for existing plant and will continue for proposed expansion.
ii.	The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms.	Heat stress analysis for the workmen working in high temperature work zone is carried out. PPEs like high temperature resistant suits (Molten Metal Splash Protection Suit) are being provided as per the norms of factory act.
iii.	Occupational health surveillance of the workers shall be done on a regular basis and records maintained.	Complied with. PME is being conducted-on regularly basis and same will be implemented for proposed smelter.

IX. Environment Management

i.	The project proponent shall comply with the provisions contained in this Ministry's OM vide F. No. 22-65/2017-IA.III dated 30/09/2020. As part of Corporate Environment Responsibility (CER) activity, company shall adopt nearby villages based on the socio-economic survey and undertake community developmental activities in consultation with the village Panchayat and the District Administration as committed.	Noted. Action plans are prepared and will be implemented as per the timeline.
ii.	The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental 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 / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	Complied with. Company has well defined Environment Policy duly approved by Board of Directors. Environment Policy is enclosed as Annexure VI and also we have following environment compliance procedures: 1) Comprehensive compliance checklist in place for every unit wherein all the applicable laws and regulations are mapped. 2) Automated compliance monitoring system in place. 3) Timely updating & regular review of compliance checklist from time to time.
iii.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.	Complied with. An environmental cell with qualified personnel under the control of a senior executive is already in place which will cater to the need.

X. Miscellaneous

i.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	Complied with. Publication has been made in 2 Newspapers including Central Chronicle and Amrit Sandesh on 28.04.2022 (Copy attached as Annexure-VII) also copy of EC is uploaded on company's website.
ii.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	Complied with. A copy of the EC letter has been submitted to nearby local bodies. Copy of the letters submitted is attached herewith as Annexure- VIII .
iii.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	Noted. Compliance status is being uploaded for existing plants on the company website and same is being complied for expansion.
iv.	The project proponent shall monitor the criteria pollutants level namely; PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.	Noted. Monitoring and report will be submitted to MoEF & CC and CECB once the project is implemented.
v.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.	Noted and is being complied with.
vi.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	Noted and is being complied with.
vii.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	The expansion project of Aluminium smelter from 5.75 LTPA to 10.85 LTPA was approved by MoEFCC vide EC letter No. J-11011/123/2007-IA-II (I) MoEF dated 22/04/2022 and Consent to Establish vide letter No. 2207/TS/CECB/2022 dated 28.06.2022. We have commenced the land development work as per the Consent to Establish.

viii.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.	Noted.
ix.	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted
x.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted
xi.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
xii.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
xiii.	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.	Noted.
xiv.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted



BALCO/ENV/A-12/2025/450

Date: 26.09.2025

To,
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110032.

Sub: Standard Operating Procedure (SOP) for disposal of SPL Refractory.

Ref: 1. Specific Condition no. (viii) & (xvi) of the Environment Clearance granted to M/s. Bharat Aluminium Company Ltd, Korba (C.G.) vide letter bearing no. J-11011/123/2007-IA-II (I) dated 22.04.2022.
2. Our letter no. BALCO/ENV/A-12/2024/75 dated 22.03.2024.
3. Our letter no. BALCO/ENV/A-12/2024/29 dated 31.01.2024.
4. Our letter no. BALCO/ENV/A-12/2024/320 dated 23.09.2024.
5. Our letter no. BALCO/ENV/A-12/2025/22 dated 09.01.2025.
6. Our letter no. BALCO/ENV/A-12/2025/246 dated 05.05.2025.

Respected Sir,

This has reference to the abovementioned subject and cited reference. M/s. Bharat Aluminium Company Limited (BALCO) has been granted Environment Clearance (EC) for expansion of its aluminium smelter plants production capacity from 5.75 LTPA to 10.85 LTPA vide letter no. J-11011/123/2007-IA-II (I) dated 22.04.2022. In the Specific Condition (viii) of the above referred EC, it is stipulated that the stock of stored SPL Refractory has to be disposed off within a period of 18 months from the date of approved Standard Operating Procedure (SOPs) by the Central Pollution Control Board (CPCB). Similarly in the specific condition no. (xvi), it is stipulated to establish captive SPL refractory detoxifying facility at project site after obtaining requisite statutory approval from the concerned competent authority, which requires approved SOP from CPCB.

We have requested to your good office regarding this subject previously vide our above referred letters (Ref 2,3,4,5 & 6), to apprise us as to whether any standard operating procedure (SOP) for alternate use/disposal of SPL Refractory (2nd cut of SPL) has been approved by CPCB. This information will help us in ensuring due compliance with the specific condition no. viii & xvi as stipulated in the EC.

We once again request your good office, to kindly let us know, if there are SOPs approved for alternate use/disposal of SPL Refractory (2nd cut of SPL). If so, we request your good office to kindly share the same with us.

Thanking you,
Yours Sincerely,
On behalf of Bharat Aluminium Company Ltd. (BALCO),

(Authorized Signatory)

Copies to:

1. The Integrated Regional Office (IRO), MoEF&CC, Raipur, Chhattisgarh
2. The Member Secretary, CECB, Nava Raipur, Chhattisgarh
3. The Regional Office, CECB, Korba, Chhattisgarh



BOK



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

BALCO/ENVT/A-12/2025/246

Date: 05.05.2025

To,
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110032.

Sub: Standard Operating Procedure (SOP) for disposal of SPL Refractory.

Ref: 1. Specific Condition no. (viii) & (xvi) of the Environment Clearance granted to M/s. Bharat Aluminium Company Ltd, Korba (C.G.) vide letter bearing no. J-11011/123/2007-IA-II (I) dated 22.04.2022.
2. Our letter no. BALCO/ENVT/A-12/2024/75 dated 22.03.2024.
3. Our letter no. BALCO/ENVT/A-12/2024/29 dated 31.01.2024.
4. Our letter no. BALCO/ENVT/A-12/2024/320 dated 23.09.2024.
5. Our letter no. BALCO/ENVT/A-12/2025/22 dated 09.01.2025.

Respected Sir,

This has reference to the abovementioned subject and cited reference. M/s. Bharat Aluminium Company Limited (BALCO) has been granted Environment Clearance (EC) for expansion of its aluminium smelter plants production capacity from 5.75 LTPA to 10.85 LTPA vide letter no. J-11011/123/2007-IA-II (I) dated 22.04.2022. In the Specific Condition (viii) of the above referred EC, it is stipulated that the stock of stored SPL Refractory has to be disposed off within a period of 18 months from the date of approved Standard Operating Procedure (SOPs) by the Central Pollution Control Board (CPCB). Similarly in the specific condition no. (xvi), it is stipulated to establish captive SPL refractory detoxifying facility at project site after obtaining requisite statutory approval from the concerned competent authority, which requires approved SOP from CPCB.

We have requested to your good office regarding this subject previously vide our above referred letters (Ref 2,3,4 & 5), to apprise us as to whether any standard operating procedure (SOP) for alternate use/disposal of SPL Refractory (2nd cut of SPL) has been approved by CPCB. This information will help us in ensuring due compliance with the specific condition no. viii & xvi as stipulated in the EC.

We once again request your good office, to kindly let us know, if there are SOPs approved for alternate use/disposal of SPL Refractory (2nd cut of SPL). If so, kindly share the same with us.

Thanking you,

Yours Sincerely,

On behalf of Bharat Aluminium Company Ltd. (BALCO),

(Authorized Signatory)

Copies to:

1. The Integrated Regional Office (IRO), MoEF&CC, Raipur, Chhattisgarh
2. The Member Secretary, CECB, Nava Raipur, Chhattisgarh
3. The Regional Office, CECB, Korba, Chhattisgarh



B.O.

BALCO/ENVT/A-12/2024/75

Date: 22.03.2024

To,
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110032.

Sub: Standard Operating Procedure (SOP) for disposal of SPL Refractory.

Ref: 1. Specific Condition no. (viii) of Environment Clearance granted to M/s. Bharat Aluminium Company Ltd, Korba (C.G.) vide letter bearing no. J-11011/123/2007-IA-II (I) dated 22.04.2022.
2. Our letter vide no. BALCO/ENVT/A-12/2024/29 dated 31.01.2024.

Respected Sir,

This has reference to the abovementioned subject and cited reference, whereby M/s. Bharat Aluminium Company Limited (BALCO) has been granted Environment Clearance (EC) for expansion of its aluminium smelter plants production capacity from 5.75 LTPA to 10.85 LTPA vide letter no. J-11011/123/2007-IA-II (I) dated 22.04.2022. In the Specific Condition (viii) of the above referred EC, it is stipulated that the stock of stored SPL Refractory has to be disposed off within a period of 18 months from the date of approved Standard Operating Procedure (SOPs) by the Central Pollution Control Board (CPCB).

We have requested your good office vide our letter No. BALCO/ENVT/A-12/2024/29 dated 31.01.2024 (attached), to apprise us as to whether any standard operating procedure (SOP) for alternate use/disposal of SPL Refractory (2nd cut of SPL) has been approved by CPCB. This information will help us in ensuring due compliance with the specific condition no. (ix) as per the timelines prescribed in the EC.

We once again request your good office, to kindly let us know, if there are SOPs approved for alternate use/disposal of SPL Refractory (2nd cut of SPL). If so, kindly share the same with us.

Thanking you,

Yours Sincerely,

On behalf of Bharat Aluminium Company Ltd. (BALCO),



(Authorized Signatory)

BALCO/ENV/A-12/2024/29

Date: 31.01.2024

To,
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110032.

Sub: Standard Operating Procedure (SOP) for disposal of SPL Refractory.

Ref: Specific Condition no. (viii) of Environment Clearance granted to M/s. Bharat Aluminium Company Ltd, Korba (C.G.) vide letter bearing no. J-11011/123/2007-IA-II (I) dated 22.04.2022.

Respected Sir,

This has reference to the abovementioned subject and cited reference, whereby M/s. Bharat Aluminium Company Limited (BALCO) has been granted Environment Clearance (EC) for expansion of its aluminium smelter plants production capacity from 5.75 LTPA to 10.85 LTPA vide letter no. J-11011/123/2007-IA-II (I) dated 22.04.2022. In the Specific Condition (viii) of the above referred EC, it is stipulated that the stock of stored SPL Refractory has to be disposed off within a period of 18 months from the date of approved Standard Operating Procedure (SOPs) by the Central Pollution Control Board (CPCB).

That, in order to comply with the above condition in EC, we humbly request your good office to kindly apprise us as to whether any standard operating procedure (SOP) for alternate use/disposal of SPL Refractory (2nd cut of SPL) has been approved by CPCB. This information will help us in ensuring due compliance with the specific condition no. (ix) as per the timelines prescribed in the EC.

Thanking you,

Yours Sincerely,

On behalf of Bharat Aluminium Company Ltd. (BALCO),



(Authorized Signatory)

BALCO/ENV/A-12/2024/320

Date: 23.09.2024

To,
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110032.

Sub: Standard Operating Procedure (SOP) for disposal of SPL Refractory.

- Ref: 1. Specific Condition no. (viii) & (xvi) of the Environment Clearance granted to M/s. Bharat Aluminium Company Ltd, Korba (C.G.) vide letter bearing no. J-11011/123/2007-IA-II (I) dated 22.04.2022.
2. Our letter no. BALCO/ENV/A-12/2024/75 dated 22.03.2024.
3. Our letter no. BALCO/ENV/A-12/2024/29 dated 31.01.2024.

Respected Sir,

This has reference to the abovementioned subject and cited reference. M/s. Bharat Aluminium Company Limited (BALCO) has been granted Environment Clearance (EC) for expansion of its Aluminium smelter plants production capacity from 5.75 LTPA to 10.85 LTPA vide letter no. J-11011/123/2007-IA-II (I) dated 22.04.2022. In the Specific Condition (viii) of the above referred EC, it is stipulated that the stock of stored SPL Refractory has to be disposed off within a period of 18 months from the date of approved Standard Operating Procedure (SOPs) by the Central Pollution Control Board (CPCB). Similarly in the specific condition no. (xvi), it is stipulated to establish captive SPL refractory detoxifying facility at project site after obtaining requisite statutory approval from the concerned competent authority, which requires approved SOP from CPCB.

We have requested your good office regarding this subject previously vide our above referred letters (Ref 2&3), to apprise us as to whether any standard operating procedure (SOP) for alternate use/disposal of SPL Refractory (2nd cut of SPL) has been approved by CPCB. This information will help us in ensuring due compliance with the specific condition no. viii & xvi as prescribed in the EC.



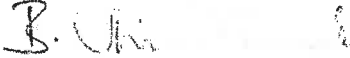
BHARAT ALUMINIUM COMPANY LIMITED
P.O. - BALCO Nagar, Korba, CG
India - 495684

We once again request your good office, to kindly let us know, if there are SOPs approved for alternate use/disposal of SPL Refractory (2nd cut of SPL). If so, kindly share the same with us.

Thanking you,

Yours Sincerely,

On behalf of Bharat Aluminium Company Ltd. (BALCO),


(Authorized Signatory)

Copies to:

- a. The Integrated Regional Office (IRO), MoEFCC, Raipur, Chhattisgarh
- b. The Member Secretary, CECB, Nava Raipur, Chhattisgarh
- c. The Regional Office, CECB, Korba, Chhattisgarh

BALCO/ENV/A-12/2025/22

Date: 09.01.2025

To,
The Member Secretary,
Central Pollution Control Board,
Parivesh Bhawan,
East Arjun Nagar,
Delhi-110032.

Sub: Standard Operating Procedure (SOP) for disposal of SPL Refractory.

Ref: 1. Specific Condition no. (viii) & (xvi) of the Environment Clearance granted to M/s. Bharat Aluminium Company Ltd, Korba (C.G.) vide letter bearing no. J-11011/123/2007-IA-II (I) dated 22.04.2022.
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4. Our letter no. BALCO/ENV/A-12/2024/320 dated 23.09.2024.

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We have requested to your good office regarding this subject previously vide our above referred letters (Ref 2,3 & 4), to apprise us as to whether any standard operating procedure (SOP) for alternate use/disposal of SPL Refractory (2nd cut of SPL) has been approved by CPCB. This information will help us in ensuring due compliance with the specific condition no. viii & xvi as stipulated in the EC.

We once again request your good office, to kindly let us know, if there are SOPs approved for alternate use/disposal of SPL Refractory (2nd cut of SPL). If so, kindly share the same with us.

Thanking you,

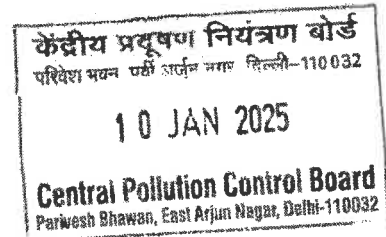
Yours Sincerely,

On behalf of Bharat Aluminium Company Ltd. (BALCO),

(Authorized Signatory)

Copies to:

1. The Integrated Regional Office (IRO), MoEF&CC, Raipur, Chhattisgarh
2. The Member Secretary, CECB, Nava Raipur, Chhattisgarh
3. The Regional Office, CECB, Korba, Chhattisgarh



**आदेश द्वारा पी.व्ही. नरसिंग राव, भा.व.से. प्रधान मुख्य वन संरक्षक,
(वन्यप्राणी एवं जैव विविधता संरक्षण) सह मुख्य वन्यप्राणी
अभिरक्षक, छत्तीसगढ़**

सेक्टर-19, नार्थ ब्लॉक, अरण्य भवन, प्रथम तल (एफ.आर.) अटल नगर, नवा रायपुर

✉ cwlwcg@gmail.com

(☎0771-2512880, 📠 0771-2512881)

// आदेश //

आदेश क्रमांक/व.प्रा./प्रबंध-540/110

नवा रायपुर, दिनांक- 02.08.2021

मुख्य वन संरक्षक (वन्यप्राणी) एवं क्षेत्र संचालक, अचानकमार टायगर रिजर्व, बिलासपुर का पत्र क्रमांक/व.प्रा./त.अधि./2021/1554 दिनांक 03.07.2021 द्वारा मेसर्स भारत एल्युमिनियम कम्पनी लिमिटेड द्वारा कोरबा वनमंडल अंतर्गत ग्राम रिसदा, तहसील व जिला कोरबा में बाल्को प्लांट के अंदर एल्युमिनियम स्मेल्टर का विस्तार हेतु कुल रकबा 39.66 हेक्ट. में व्यपर्वतन बाबत भारत सरकार, पर्यावरण, वन एवं जलवायु परिवर्तन, मंत्रालय के पत्र दिनांक 19.09.2017 के पालनार्थ वन्यप्राणी संरक्षण योजना तैयार कर इस कार्यालय को अनुशंसा सहित प्रस्तुत की गई है।

प्रस्तुत वन्यप्राणी संरक्षण योजना का गहन परीक्षण किया गया। आवेदक संस्थान द्वारा प्रस्तुत वन्यप्राणी संरक्षण योजना का अनुमोदन करते हुये योजना में प्रावधानित राशि का कुल 10 वर्षों में उपयोग करते हुये वर्षवार आबंटन किया जाता है। अनुमोदित योजना में वन्यजीव रहवास सुधार, वन्यजीव संरक्षण तथा जन जागरूकता आदि से संबंधित राशि का विवरण निम्नानुसार है :-

Sr. No.	Item	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Estimated Expenditure (in Lakhs)
1	First aid care center for injured animals	10	5	3	1	1	1	1	1	1	1	25.00
	Temporary rescue rooms for orphan animals											
	Strengthening of Existing veterinary care unit											
	Blood analyzer											
	Portable x-ray machine											
	Laser messenger											
	Maintenance and repair											
2	Study to assess the population of aquatic fauna in the Hasdeo River ecosystem	5	3	1	1	-	-	-	-	-	-	10.00
3	Procurement of Protection and monitoring equipment to track the movement of wildlife in Hasdeo-Achhanakmar land scape ecosystem	15	10	1	1	1	1	1	1	1	1	33.00

4	Contribution of the Tiger Conservation foundation fund to be strengthen the wildlife protection infrastructure of the Hasdeo-Achhanakmar landscape ecosystem	7.5	2.5	1	1	1	1	1	1	1	1	18.00
5	Awareness creation programs on nature Wild life conservation days	2	2	2	2	2	2	2	1	1	1	17.00
6	Establishment of Rapid response unit. System to deal with man animal conflicts in an around the mining areas.	25	10	5	1	1	1	1	1	1	1	47.00
	Procurement of transportation vehicle											
	Procurement of square cage											
	Tranquilizer gun and other chemicals											
	Hiring the veterinary expertise services on contract basis											
	Grand Total in lakhs											150.00
	Cost escalation @2% of the total											3.00
	Grand Total (One crore fifty-three lakhs only)											153.00

उक्त वन्यप्राणी संरक्षण योजना की लागत राशि रूपये 153.00 लाख वर्तमान दरों पर है। परियोजना में देरी होने से समय लागत बढ़ेगी, जिसमें प्राईस इन्डेक्स के हिसाब से वृद्धि होगी। परियोजना के क्रियान्वयन के समय जो भी लागत आयेगी वह प्रस्तावकों को वन विभाग में एकमुश्त जमा करानी होगी, जिससे मूल्य वृद्धि के प्रभाव को समाप्त किया जा सके। वन विभाग इस प्रकार जमा की गई राशि से वन्यप्राणी संरक्षण योजना में दर्शाते समय सारणी के अनुसार क्रियान्वित करेगा।

अनुमोदित वन्यप्राणी योजना में दर्शाये गये उपरोक्त घटकों के संगत फील्ड में किये जाने वाले कार्यों का कार्यवार/स्थलवार प्रोजेक्ट संबंधित वनमण्डलाधिकारी के द्वारा तत्समय प्रचलित मार्गदर्शी सिद्धांतों (व्यय नार्मस, कार्य की प्रकृति, वन्यप्राणी प्रबंधन के संबंध में लागू होने वाले अन्य तकनीकी तथ्यों व निर्देशों) के अनुरूप तैयार कर सक्षमतानुसार तकनीकी स्वीकृति/अनुमोदन हेतु अनुशंसा सहित संबंधित मुख्य वन संरक्षक को प्रेषित किया जावेगा। संबंधित मुख्य वन संरक्षक द्वारा प्रोजेक्ट की तकनीकी स्वीकृति/अनुमोदन की अनुशंसा के साथ मुख्य वन्यप्राणी अभिरक्षक छत्तीसगढ़ को प्रेषित किया जावेगा। प्रोजेक्ट का परीक्षण वन्यप्राणी प्रबंधन की उपयुक्तता की दृष्टि से किया जाकर मुख्य वन्यप्राणी अभिरक्षक के द्वारा कार्य हेतु प्रशासकीय स्वीकृति जारी किये जाने की अनुशंसा के साथ प्रोजेक्ट, प्रशासकीय स्वीकृति/बजट आबंटन करने हेतु सक्षम अधिकारी को प्रेषित किया जावेगा। प्रशासकीय स्वीकृति आदेश जारी किये जाने के पश्चात ही कार्यों का क्रियान्वयन व.मं.अ. द्वारा किया जावेगा।

वन्यप्राणी प्रबंधन योजना के कार्यों की मॉनिटरिंग का कार्य संबंधित मुख्य वन संरक्षक व मुख्य वन्यप्राणी अभिरक्षक छ.ग. द्वारा किया जावेगा। किये जा रहे कार्यों की भौतिक व आर्थिक प्रगति से मुख्य वन्यप्राणी अभिरक्षक को प्रतिमाह वनमंडलाधिकारी द्वारा अवगत कराया जावेगा।

कृपया वन्यप्राणी संरक्षण योजना में प्रावधानित राशि रूपये 153.00 लाख एकमुश्त जमा करने हेतु परियोजना प्रस्तावकों को आदेशित करें।

प्रधान मुख्य वन संरक्षक (व.प्रा.) सह मुख्य वन्यप्राणी
अभिरक्षक, छ.ग., अटल नगर, रायपुर

पृ.क्रमांक/व.प्रा./प्रबंध-540/2734

नवा रायपुर, दिनांक-02.08.2021

प्रतिलिपि सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित :-

1. अपर प्रधान मुख्य वन संरक्षक (भू-प्रबंध) नवा रायपुर।
2. मुख्य वन संरक्षक, बिलासपुर वृत्त, बिलासपुर।
3. मुख्य वन संरक्षक वन्यजीवन और क्षेत्रीय निदेशक, अचानकमार टायगर रिजर्व बिलासपुर।
4. वनमंडलाधिकारी, कोरबा वनमंडल, कोरबा
5. मेसर्स भारत एल्युमिनियम कंपनी लिमिटेड, कोरबा छत्तीसगढ़।

प्रधान मुख्य वन संरक्षक (व.प्रा.) सह मुख्य वन्यप्राणी
अभिरक्षक, अटल नगर, रायपुर, छ.ग.

10-10-2022

प्रति,
वनमंडलाधिकारी,
कोरबा वनमंडल,
कोरबा, छग

विषय: वन्य प्राणी संरक्षण योजना के तहत योजना राशि ₹1,53,00,000/- जमा करने के सम्बन्ध में।

सन्दर्भ: आपके कार्यालय के पत्र क्रमांक /तक.अ./4771/कोरबा, दिनांक 24-08-2022

महोदया,

विषयान्तर्गत संदर्भित पत्र के सम्बन्ध में अवगत कराना चाहेंगे कि भारत एल्युमीनियम कंपनी लिमिटेड द्वारा वन्य प्राणी संरक्षण योजना के तहत योजना राशि **₹1,53,00,000/-** (रुपये एक करोड़ तिरपन लाख मात्र) का डिमांड ड्राफ्ट (बैंक का नाम: **आईसीआईसीआई बैंक, कोरबा**; क्रमांक: **500410**, दिनांक **10-10-2022**) आपके कार्यालय में जमा किया जा रहा है।

सधन्यवाद

सहयोग की अपेक्षा के साथ
वास्ते, **भारत एल्युमीनियम कंपनी लिमिटेड**



अधिकृत हस्ताक्षरकर्ता

प्रतिलिपि:

1. प्रधान मुख्य वन संरक्षक (वन्य एवं जैव विविधता संरक्षण) -सह- मुख्य वन्यप्राणी अभिरक्षक, छत्तीसगढ़ रायपुर की ओर सूचनार्थ सम्प्रेषित।
2. अपर प्रधान मुख्य वन संरक्षक (भू-प्रबंध/ व.से.अ.) छत्तीसगढ़ रायपुर की ओर सूचनार्थ सम्प्रेषित।
3. मुख्य वन संरक्षक, बिलासपुर वृत्त, बिलासपुर की ओर सूचनार्थ सम्प्रेषित।
4. मुख्य वन संरक्षक, वन्य जीवन एवं क्षेत्रीय निदेशक, अचानकमार टाइगर रिजर्व, बिलासपुर की ओर सूचनार्थ सम्प्रेषित।



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कार्यालय वनमण्डलाधिकारी, कोरबा वनमण्डल कोरबा (छ.ग.)

☎ का. : 07759-221273, नि. : 07759-222504, फैक्स 07759-223531, Email : dfo_korba@yahoo.co.in

क्रमांक/तक.अ/4772

कोरबा, दिनांक 24/08/2022

प्रति,

Chief Executive Officer
& Whole Time Director
Bharat Aluminium Company
Limited Balco (C.G.)

विषय — "Authentication of Flora & Fauna and approval of Wild Life Conservation and Management Plan" - Regarding

- संदर्भ —
1. प्रधान मुख्य वन संरक्षक, (वन्यप्राणी एवं जैव विविधता संरक्षण) सह मुख्य वन्यप्राणी अभिरक्षक, छत्तीसगढ़ रायपुर का आदेश क्र/व.प्रा./प्रबंध-540/110 रायपुर दिनांक 02.08.2021
 2. मुख्य वन संरक्षक, वन्य जीवन और क्षेत्रीय निदेशक, अचानकमार टाईगर रिजर्व बिलासपुर का पत्र क्र./व.प्रा./तक.अ./2022/4909 दिनांक 03.08.2022

—00—

उपरोक्त विषयांतर्गत लेख है कि संदर्भित पत्र के द्वारा भारत एल्युमिनियम कम्पनी लिमिटेड बालको को कोरबा वनमण्डल अंतर्गत ग्राम रिसदा, तहसील व जिला कोरबा में बालको प्लांट के अंदर एल्युमिनियम स्मेल्टर का विस्तार हेतु भारत सरकार पर्यावरण वन एवं जलवायु परिवर्तन मंत्रालय के पत्र दिनांक 10.09.2017 के पालनार्थ वन्यप्राणी संरक्षण योजना तैयार कर अनुशंसा सहित प्रस्तुत की गई है के परिपालन में आवेदक संस्थान से 10 वर्षों का वन्यप्राणी संरक्षण योजना राशि 153.00 लाख रुपये एकमुश्त जमा करने हेतु परियोजना प्रस्तावकों को निर्देश दिये गये।

संदर्भित पत्र के निर्देशानुसार आप वन्यप्राणी संरक्षण योजना की राशि 153.00 लाख रुपये (एक करोड़ तिरपन लाख रुपये) का अद्योहस्ताक्षर के नाम पर बैंकर चेक/डी.डी. के माध्यम से इस कार्यालय में जमा करें।

सहपत्र — उपरोक्तानुसार।

वनमण्डलाधिकारी

कोरबा वनमण्डल कोरबा

कोरबा, दिनांक 24/08/2022

पृ. क्रमांक/तक.अ/4772

प्रतिलिपि —

1. प्रधान मुख्य वन संरक्षक, (वन्यप्राणी एवं जैव विविधता संरक्षण) सह मुख्य वन्यप्राणी अभिरक्षक, छत्तीसगढ़ रायपुर की ओर संदर्भित पत्र के तारतम्य में सूचनार्थ संप्रेषित।
2. अपर प्रधान मुख्य वन संरक्षक (भू-प्रबंध/व.से.अ.) छत्तीसगढ़ रायपुर की ओर सूचनार्थ संप्रेषित।
3. मुख्य वन संरक्षक, बिलासपुर वृत्त बिलासपुर की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु संप्रेषित।
4. मुख्य वन संरक्षक, वन्य जीवन और क्षेत्रीय निदेशक, अचानकमार टाईगर रिजर्व बिलासपुर की ओर सूचनार्थ संप्रेषित।

वनमण्डलाधिकारी

कोरबा वनमण्डल कोरबा

कार्यालय वनमण्डलाधिकारी, कोरबा वनमण्डल कोरबा (छ.ग.)

☎ का. : 07759-221273 , नि. : 07759- 222504,, फ़ैक्स 07759-223531, Email : dfo_korba@yahoo.co.in

क्रमांक/तक.अ/
प्रति,

7432

कोरबा, दिनांक 20/12/2022

मुख्य कार्यकारी अधिकारी

और पूर्णकालिक निदेशक

भारत एल्युमिनियम कंपनी लिमिटेड, कोरबा (छ.ग.)

विषय :- वन्यजीव संरक्षण/प्रबंधन योजना के संबंध में ।

संदर्भ :- आपका पत्र क्र./BALCO/Smelter 5-1 LTPA/Envr-01/282 दिनांक 6.10.2022 एवं 291 दिनांक 18.10.2022

—00—

उपरोक्त विषयांतर्गत लेख है कि आवेदक संस्थान भारत एल्युमिनियम कंपनी लिमिटेड, कोरबा (छ.ग.) के द्वारा 10 वर्षों का वन्यप्राणी संरक्षण योजना के कार्यान्वयन के लिये वनमण्डलाधिकारी कोरबा के नाम डी.डी. के माध्यम से धनादेश क्रमांक 500410 दिनांक 10.10.2022 राशि 1,53,00,000/- रुपये प्राप्त किया है।

वनमण्डलाधिकारी

कोरबा वनमण्डल कोरबा

Vimta Labs Limited

Registered Office
142, IDA Phase II, Cherlapally
Hyderabad-500 051, Telangana, India
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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/02532/Forage
	Issue Date:	2025-05-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FORAGE FLUORIDE

Registration Date: 2025-04-10

Sampling Date:

2025-04-08

Analysis starting date: 2025-04-10

Analysis Completion date:

2025-04-16

Test Required :- Fluoride;

TEST RESULTS

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	36
2	Near Parsabhata	PPM	80	21
3	Near Lal ghat	PPM	80	28
4	Near check post	PPM	80	18
5	Near Sharma petrol pump	PPM	80	16
6	Bhadrapara	PPM	80	12
7	Risdi	PPM	80	14
8	Rampur	PPM	80	11
9	Manikpur	PPM	80	13
10	jambahar	PPM	80	17
11	Rumgarha	PPM	80	20
12	Gerwan	PPM	80	14



Dr. Subba Reddy Mallampati
Manager - Environment

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/04458/Forage
	Issue Date:	2025-06-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FORAGE FLUORIDE**Registration Date: 2025-05-09****Sampling Date:****2025-05-07****Analysis starting date: 2025-05-09****Analysis Completion date:****2025-05-16****Test Required :- Fluoride;****TEST RESULTS**

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	42
2	Near Parsabhata	PPM	80	27
3	Near Lal ghat	PPM	80	31
4	Near check post	PPM	80	22
5	Near Sharma petrol pump	PPM	80	19
6	Bhadrapara	PPM	80	14
7	Risdi	PPM	80	18
8	Rampur	PPM	80	12
9	Manikpur	PPM	80	15
10	jambahar	PPM	80	11
11	Rumgarha	PPM	80	17
12	Gerwan	PPM	80	16



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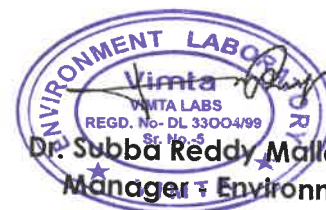
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KORBA (C.G.)**

Report No.:	VLL/VLS/25-26/06982/Forage
Issue Date:	2025-07-05
P.O.No:	8500005780
P.O. Date:	2022-06-29

FORAGE FLUORIDE**Registration Date: 2025-06-07****Sampling Date:****2025-06-04****Analysis starting date: 2025-06-07****Analysis Completion date:****2025-06-14****Test Required :- Fluoride;****TEST RESULTS**

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	31
2	Near Parsabhata	PPM	80	16
3	Near Lal ghat	PPM	80	12
4	Near check post	PPM	80	14
5	Near Sharma petrol pump	PPM	80	18
6	Bhadrappara	PPM	80	12
7	Risdi	PPM	80	8
8	Rampur	PPM	80	10
9	Manikpur	PPM	80	12
10	jambahar	PPM	80	6
11	Rumgarha	PPM	80	11
12	Gerwan	PPM	80	12



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)		Report No.:	VLL/VLS/25-26/09740/Forage	
		Issue Date:	2025-08-05	
		P.O.No:	8500005780	
		P.O. Date:	2022-06-29	
FORAGE FLUORIDE				
Registration Date: 2025-07-05		Sampling Date: 2025-07-02		
Analysis starting date: 2025-07-05		Analysis Completion date: 2025-07-11		
Test Required :- Fluoride;				
TEST RESULTS				
S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	38
2	Near Parsabhata	PPM	80	11
3	Near Lal ghat	PPM	80	14
4	Near check post	PPM	80	13
5	Near Sharma petrol pump	PPM	80	12
6	Bhadrapara	PPM	80	9
7	Risdi	PPM	80	10
8	Rampur	PPM	80	7
9	Manikpur	PPM	80	8
10	jambahar	PPM	80	6
11	Rumgarha	PPM	80	10
12	Gerwan	PPM	80	11


Dr. Subba Reddy Mallampati
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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/11867/Forage
	Issue Date:	2025-09-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FORAGE FLUORIDE**Registration Date: 2025-08-07****Sampling Date:****2025-08-05****Analysis starting date: 2025-08-07****Analysis Completion date:****2025-08-14****Test Required :- Fluoride;****TEST RESULTS**

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	43
2	Near Parsabhata	PPM	80	25
3	Near Lal ghat	PPM	80	36
4	Near check post	PPM	80	25
5	Near Sharma petrol pump	PPM	80	31
6	Bhadrapara	PPM	80	20
7	Risdi	PPM	80	18
8	Rampur	PPM	80	14
9	Manikpur	PPM	80	12
10	jambahar	PPM	80	10
11	Rumgarha	PPM	80	18
12	Gerwan	PPM	80	11



Dr. Subba Reddy Mallampati
Manager - Environment

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	Issue Date:	2025-10-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FORAGE FLUORIDE

Registration Date: 2025-09-11

Sampling Date: 2025-09-09

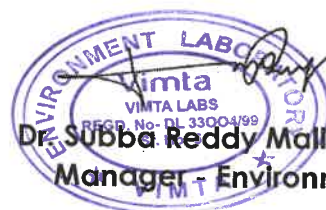
Analysis starting date: 2025-09-11

Analysis Completion date: 2025-09-17

Test Required :- Fluoride;

TEST RESULTS

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	32
2	Near Parsabhata	PPM	80	21
3	Near Lal ghat	PPM	80	27
4	Near check post	PPM	80	23
5	Near Sharma petrol pump	PPM	80	18
6	Bhadrapara	PPM	80	22
7	Risdi	PPM	80	16
8	Rampur	PPM	80	15
9	Manikpur	PPM	80	11
10	jambahar	PPM	80	13
11	Rumgarha	PPM	80	16
12	Gerwan	PPM	80	12

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

Sensitivity: Internal (C3)

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Report Number : VLL/VLS/24-25/04458/001
Issued Date : 2025-06-04
P. O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS : Vegetables

Sample Registration Date		:	2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		:	2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		:	North Direction-Dondro Vegetable Broad Bean			
SAMPLE COLLECTED BY VIMTA LABS LTD.						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	132.8
4	Manganese as Mn	mg/kg	26.3
5	Nickel as Ni	mg/kg	1.05
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	97.5
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	48.5
11	Chromium as Cr	mg/kg	0.75
12	Copper as Cu	mg/kg	1.15
13	Fluoride as F	mg/kg	43.8

Results relate only to the sample tested
Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
Manager - Environment



Vimta Labs Limited

Registered Office
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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/24-25/04458/002
Issued Date : 2025-06-04
P. O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS : Leafy Vegetables

Sample Registration Date		: 2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		: 2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		North Direction-Dondro Leafy Vegetable - Raddish			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.03
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	198.4
4	Manganese as Mn	mg/kg	76.3
5	Nickel as Ni	mg/kg	1.54
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	153.8
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	58.7
11	Chromium as Cr	mg/kg	1.43
12	Copper as Cu	mg/kg	2.87
13	Fluoride as F	mg/kg	37.3

Results relate only to the sample tested
Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
Manager - Environment



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Chhattisgarh

Report Number : VLL/VLS/24-25/04458/003
Issued Date : 2025-06-04
P. O. No. : 8500005780
P.O. Date : 2022-06-29

SAMPLE PARTICULARS : Crops

Page 1 of 1

Sample Registration Date		: 2025-05-21	Sampling Date	: 2025-05-16
Analysis Starting Date		: 2025-05-22	Analysis Completion Date	: 2025-06-03
Test Required		Heavy metals and fluorides		
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details		North Direction-Dondro- Peanuts		
SAMPLE COLLECTED BY VIMTA LABS LTD.				

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.09
2	Cobalt as Co	mg/kg	0.40
3	Iron as Fe	mg/kg	794.3
4	Manganese as Mn	mg/kg	71.5
5	Nickel as Ni	mg/kg	1.83
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	447.0
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	17.29
11	Chromium as Cr	mg/kg	4.41
12	Copper as Cu	mg/kg	7.71
13	Fluoride as F	mg/kg	23.5

Results relate only to the sample tested
Remarks: Sample tested as received.

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,
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Chhattisgarh

Report Number : VLL/VLS/24-25/04458/004
Issued Date : 2025-06-04
P. O. No. : 8500005780
P.O. Date : 2022-06-29

SAMPLE PARTICULARS : Vegetables

Page 1 of 1

SAMPLE PARTICULARS		Vegetables	
Sample Registration Date	: 2025-05-21	Sampling Date	: 2025-05-16
Analysis Starting Date	: 2025-05-22	Analysis Completion Date	: 2025-06-03
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	South Direction-Gerva Ghat Vegetable -Began		
SAMPLE COLLECTED BY VIMTA LABS LTD.			

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.02
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	298.7
4	Manganese as Mn	mg/kg	64.5
5	Nickel as Ni	mg/kg	2.45
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	387.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	43.8
11	Chromium as Cr	mg/kg	1.15
12	Copper as Cu	mg/kg	4.34
13	Fluoride as F	mg/kg	36.5

Results relate only to the sample tested
Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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Report Number : VLL/VLS/24-25/04458/005
Issued Date : 2025-06-04
P. O. No. : 8500005780
P.O. Date : 2022-06-29

SAMPLE PARTICULARS : Leafy Vegetables

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Sample Registration Date		: 2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		: 2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		South Direction-Gerva Ghat Leafy Vegetable- Lal Bhaji			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.05
2	Cobalt as Co	mg/kg	0.08
3	Iron as Fe	mg/kg	472.7
4	Manganese as Mn	mg/kg	97.4
5	Nickel as Ni	mg/kg	2.23
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	589.3
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	31.6
11	Chromium as Cr	mg/kg	1.53
12	Copper as Cu	mg/kg	4.54
13	Fluoride as F	mg/kg	42.5

Results relate only to the sample tested
Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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Issued Date : 2025-06-04
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P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS : Crops

Sample Registration Date		:	2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		:	2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		:	South Direction-Gerva Ghat Crops - Paddy			
SAMPLE COLLECTED BY VIMTA LABS LTD.						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.20
2	Cobalt as Co	mg/kg	0.44
3	Iron as Fe	mg/kg	414.38
4	Manganese as Mn	mg/kg	963.2
5	Nickel as Ni	mg/kg	1.52
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	192.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	43.1
11	Chromium as Cr	mg/kg	6.11
12	Copper as Cu	mg/kg	3.42
13	Fluoride as F	mg/kg	37.8

Results relate only to the sample tested
Remarks: Sample tested as received.

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P.O. Date : 2022-06-29

SAMPLE PARTICULARS : Vegetables

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Sample Registration Date		:	2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		:	2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES;			
Location Details		:	East Direction-Risdi Vegetable - Bagan			
SAMPLE COLLECTED BY VIMTA LABS LTD.						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.09
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	345.3
4	Manganese as Mn	mg/kg	64.4
5	Nickel as Ni	mg/kg	1.72
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	314.8
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	49.3
11	Chromium as Cr	mg/kg	0.61
12	Copper as Cu	mg/kg	3.74
13	Fluoride as F	mg/kg	44.8

Results relate only to the sample tested
Remarks: Sample tested as received.

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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : Leafy Vegetables

Sample Registration Date	: 2025-05-21	Sampling Date	: 2025-05-16
Analysis Starting Date	: 2025-05-22	Analysis Completion Date	: 2025-06-03
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	East Direction-Risdi Leafy Vegetable - Lal Bhaji		

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	512.5
4	Manganese as Mn	mg/kg	136.2
5	Nickel as Ni	mg/kg	2.54
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	297.8
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	53.8
11	Chromium as Cr	mg/kg	1.29
12	Copper as Cu	mg/kg	3.97
13	Fluoride as F	mg/kg	46.9

Results relate only to the sample tested

Remarks: Sample tested as received.

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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : Crops

Sample Registration Date		:	2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		:	2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		:	East Direction-Risdi crops-Toor dal			
SAMPLE COLLECTED BY VIMTA LABS LTD.						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	198.7
4	Manganese as Mn	mg/kg	32.4
5	Nickel as Ni	mg/kg	0.98
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	163.8
9	Lead as Pb	mg/kg	<0.01
10	Zinc as Zn	mg/kg	53.7
11	Chromium as Cr	mg/kg	1.02
12	Copper as Cu	mg/kg	3.43
13	Fluoride as F	mg/kg	29.6

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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2022-06-29

SAMPLE PARTICULARS : Vegetables

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Sample Registration Date		:	2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		:	2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		:	West Direction-Rumgarha Vegetable -Green Peas			
SAMPLE COLLECTED BY VIMTA LABS LTD.						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	595.4
4	Manganese as Mn	mg/kg	186.3
5	Nickel as Ni	mg/kg	3.15
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	378.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	36.8
11	Chromium as Cr	mg/kg	21.67
12	Copper as Cu	mg/kg	11.45
13	Fluoride as F	mg/kg	51.8

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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2022-06-29

SAMPLE PARTICULARS : **Leafy Vegetables**

Page 1 of 1

Sample Registration Date		:	2025-05-21	Sampling Date	:	2025-05-16
Analysis Starting Date		:	2025-05-22	Analysis Completion Date	:	2025-06-03
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		:	West Direction-Rumgarha Leafy Vegetable - Raddish			
SAMPLE COLLECTED BY VIMTA LABS LTD.						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.11
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	675.6
4	Manganese as Mn	mg/kg	112.8
5	Nickel as Ni	mg/kg	1.98
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	489.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	46.8
11	Chromium as Cr	mg/kg	5.51
12	Copper as Cu	mg/kg	9.76
13	Fluoride as F	mg/kg	53.2

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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P. O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : Crops

Sample Registration Date	: 2025-05-21	Sampling Date	: 2025-05-16
Analysis Starting Date	: 2025-05-22	Analysis Completion Date	: 2025-06-03
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	West Direction-Rumgarha crops-Pigeon Pea		
SAMPLE COLLECTED BY VIMTA LABS LTD.			

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.04
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	218.5
4	Manganese as Mn	mg/kg	34.6
5	Nickel as Ni	mg/kg	0.48
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	162.8
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	13.68
11	Chromium as Cr	mg/kg	1.16
12	Copper as Cu	mg/kg	3.24
13	Fluoride as F	mg/kg	53.8

Results relate only to the sample tested
Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : Vegetables

Sample Registration Date	: 2025-08-14	Sampling Date	: 2025-08-11
Analysis Starting Date	: 2025-08-18	Analysis Completion Date	: 2025-08-28
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	North Direction-Dondro Vegetable - Brinjal		
SAMPLE COLLECTED BY VIMTA LABS LTD.			

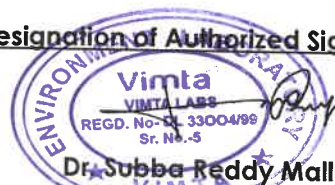
TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	298.7
4	Manganese as Mn	mg/kg	57.8
5	Nickel as Ni	mg/kg	1.13
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	184.5
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	74.7
11	Chromium as Cr	mg/kg	1.06
12	Copper as Cu	mg/kg	3.23
13	Fluoride as F	mg/kg	52.6

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS : Leafy Vegetables

Sample Registration Date		: 2025-08-14	Sampling Date	:	2025-08-11
Analysis Starting Date		: 2025-08-18	Analysis Completion Date	:	2025-08-28
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		North Direction-Dondro Leafy Vegetable - Roopa Bhaji			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

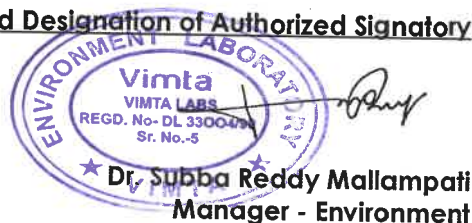
TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.05
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	212.5
4	Manganese as Mn	mg/kg	83.7
5	Nickel as Ni	mg/kg	1.98
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	142.5
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	67.8
11	Chromium as Cr	mg/kg	1.12
12	Copper as Cu	mg/kg	3.24
13	Fluoride as F	mg/kg	35.6

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : Crops

Sample Registration Date	: 2025-08-14	Sampling Date	: 2025-08-11
Analysis Starting Date	: 2025-08-18	Analysis Completion Date	: 2025-08-28
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	North Direction-Dondro- Peanuts		
SAMPLE COLLECTED BY VIMTA LABS LTD.			


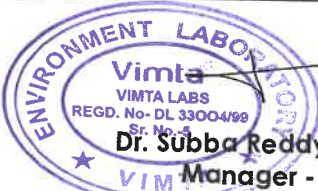
TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.07
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	139.7
4	Manganese as Mn	mg/kg	42.6
5	Nickel as Ni	mg/kg	0.65
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	124.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	32.7
11	Chromium as Cr	mg/kg	0.82
12	Copper as Cu	mg/kg	4.2
13	Fluoride as F	mg/kg	42.4

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : Vegetables

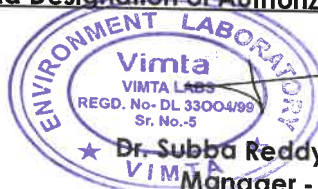
Sample Registration Date		: 2025-08-14	Sampling Date	: 2025-08-11
Analysis Starting Date		: 2025-08-18	Analysis Completion Date	: 2025-08-28
Test Required		Heavy metals and fluorides		
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details		South Direction-Gerva Ghat Vegetable - Lady Fingers		
SAMPLE COLLECTED BY VIMTA LABS LTD.				

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	284.3
4	Manganese as Mn	mg/kg	67.7
5	Nickel as Ni	mg/kg	1.16
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	312.5
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	45.8
11	Chromium as Cr	mg/kg	0.73
12	Copper as Cu	mg/kg	3.37
13	Fluoride as F	mg/kg	34.5

Results relate only to the sample tested

Remarks: Sample tested as received.

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: 8500005780

P.O. Date

: 2022-06-29

SAMPLE PARTICULARS : Leafy Vegetables

Page 1 of 1

Sample Registration Date	: 2025-08-14	Sampling Date	: 2025-08-11
Analysis Starting Date	: 2025-08-18	Analysis Completion Date	: 2025-08-28
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	South Direction-Gerva Ghat Leafy Vegetable Chech Bhaji		
SAMPLE COLLECTED BY VIMTA LABS LTD.			

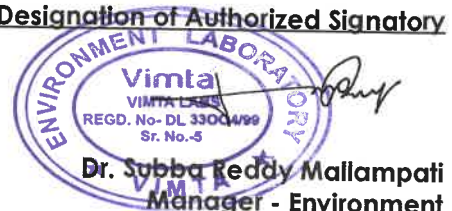
TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.02
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	368.3
4	Manganese as Mn	mg/kg	94.8
5	Nickel as Ni	mg/kg	1.36
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	287.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	38.3
11	Chromium as Cr	mg/kg	1.48
12	Copper as Cu	mg/kg	2.11
13	Fluoride as F	mg/kg	31.5

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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Report Number : VLL/VLS/25-26/09740/006
Issued Date : 2025-08-29
P. O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : Crops

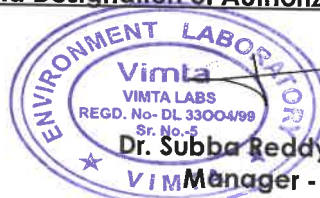
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Analysis Starting Date		: 2025-08-18	Analysis Completion Date	:	2025-08-28
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		South Direction-Gerva Ghat Crops - Corn			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	192.4
4	Manganese as Mn	mg/kg	39.8
5	Nickel as Ni	mg/kg	0.73
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	178.7
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	34.3
11	Chromium as Cr	mg/kg	0.65
12	Copper as Cu	mg/kg	3.89
13	Fluoride as F	mg/kg	52.4

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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SAMPLE PARTICULARS : Vegetables

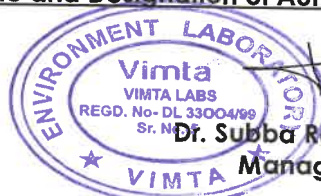
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Analysis Starting Date		: 2025-08-18	Analysis Completion Date	:	2025-08-28
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		East Direction-Risdi Vegetable - Snake Beans			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	156.4
4	Manganese as Mn	mg/kg	42.8
5	Nickel as Ni	mg/kg	0.56
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	53.7
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	48.6
11	Chromium as Cr	mg/kg	0.58
12	Copper as Cu	mg/kg	4.12
13	Fluoride as F	mg/kg	37.4

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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SAMPLE PARTICULARS : Leafy Vegetables

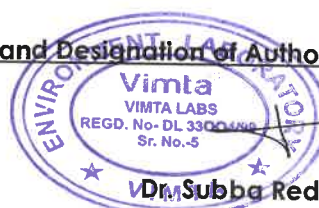
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Analysis Starting Date		: 2025-08-18	Analysis Completion Date	:	2025-08-28
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		East Direction-Risdi Leafy Vegetable - Chech Bhaji			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.02
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	324.2
4	Manganese as Mn	mg/kg	73.8
5	Nickel as Ni	mg/kg	0.75
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	216.8
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	53.7
11	Chromium as Cr	mg/kg	0.76
12	Copper as Cu	mg/kg	3.16
13	Fluoride as F	mg/kg	34.2

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : Crops

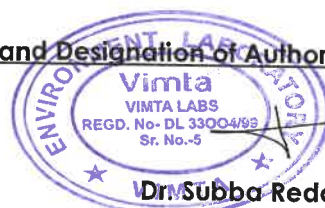
SAMPLE PARTICULARS :		Crops	
Sample Registration Date	: 2025-08-14	Sampling Date	: 2025-08-11
Analysis Starting Date	: 2025-08-18	Analysis Completion Date	: 2025-08-28
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	East Direction-Risdi crops-Peanuts		
SAMPLE COLLECTED BY VIMTA LABS LTD.			

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.03
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	154.7
4	Manganese as Mn	mg/kg	39.6
5	Nickel as Ni	mg/kg	0.47
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	143.8
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	37.5
11	Chromium as Cr	mg/kg	0.43
12	Copper as Cu	mg/kg	3.12
13	Fluoride as F	mg/kg	36.4

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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SAMPLE PARTICULARS : Vegetables

Sample Registration Date	: 2025-08-14	Sampling Date	: 2025-08-11
Analysis Starting Date	: 2025-08-18	Analysis Completion Date	: 2025-08-28
Test Required	Heavy metals and fluorides		
Method of Testing	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:		
Location Details	West Direction-Rumgarha Vegetable - Ridge Gourd		

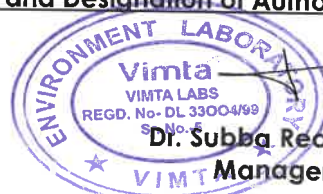
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	165.3
4	Manganese as Mn	mg/kg	53.8
5	Nickel as Ni	mg/kg	0.43
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	56.7
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	73.3
11	Chromium as Cr	mg/kg	0.89
12	Copper as Cu	mg/kg	6.12
13	Fluoride as F	mg/kg	51.6

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory

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P. O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : Leafy Vegetables

Sample Registration Date		: 2025-08-14	Sampling Date	:	2025-08-11
Analysis Starting Date		: 2025-08-18	Analysis Completion Date	:	2025-08-28
Test Required		Heavy metals and fluorides			
Method of Testing		As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		West Direction-Rumgarha Leafy Vegetable - Chech Bhajhi			
SAMPLE COLLECTED BY VIMTA LABS LTD.					

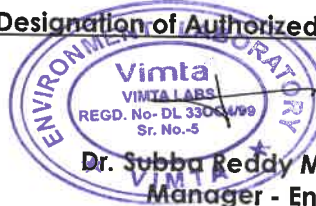
TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	<0.10
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	348.7
4	Manganese as Mn	mg/kg	67.6
5	Nickel as Ni	mg/kg	1.12
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	317.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	49.6
11	Chromium as Cr	mg/kg	0.84
12	Copper as Cu	mg/kg	4.43
13	Fluoride as F	mg/kg	36.4

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory


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2025-08-29

P. O. No.

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8500005780

P.O. Date

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2022-06-29

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SAMPLE PARTICULARS : Crops

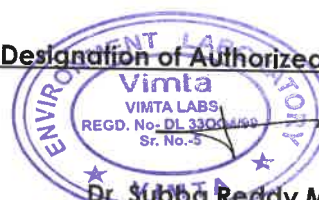
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Analysis Starting Date		:	2025-08-18	Analysis Completion Date	:	2025-08-28
Test Required		:	Heavy metals and fluorides			
Method of Testing		:	As per EPA 3050B, USEPA 9056 and Instrument Used: ICP-OES:			
Location Details		:	West Direction-Rumgarha crops-Peanuts			
SAMPLE COLLECTED BY VIMTA LABS LTD						

TEST REPORT

Sr. No.	Parameters	Units of Measurement	Results
1	Cadmium as Cd	mg/kg	0.05
2	Cobalt as Co	mg/kg	<0.10
3	Iron as Fe	mg/kg	182.5
4	Manganese as Mn	mg/kg	44.7
5	Nickel as Ni	mg/kg	0.67
6	Arsenic as As	mg/kg	<0.10
7	Mercury as Hg	mg/kg	<0.10
8	Aluminum as Al	mg/kg	167.6
9	Lead as Pb	mg/kg	<0.10
10	Zinc as Zn	mg/kg	28.5
11	Chromium as Cr	mg/kg	0.71
12	Copper as Cu	mg/kg	4.84
13	Fluoride as F	mg/kg	38.6

Results relate only to the sample tested

Remarks: Sample tested as received.

Name and Designation of Authorized Signatory**Dr. Subba Reddy Mallampati**
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Issued Date : 2025-05-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

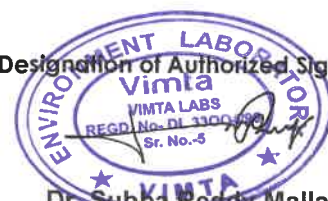
Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
1	pH value	-	6.5-8.5 (NR)	6.78	7.12	6.97	7.24
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	1.1	<1.0	<1.0	1.2
6	Total dissolved solids at 180°C	mg/l	500(2000)	168	245	361	403
7	Total Hardness as CaCO ₃	mg/l	200(600)	97	143	205	258
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	75	110	165	195.0
9	Calcium as Ca	mg/l	75(200)	24.8	38.4	69.2	65.5
10	Magnesium as Mg	mg/l	30(100)	8.5	11.5	7.7	22.8
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.024	0.019	0.014	0.16
13	Chlorides as Cl	mg/l	250(1000)	28.2	43.8	58.7	65.8
14	Sulphate as SO ₄	mg/l	200(400)	13.6	16.3	23.2	22.6
15	Fluorides as F	mg/l	1.0(1.5)	0.146	0.128	0.217	0.295
16	Nitrates as NO ₃	mg/l	45(NR)	1.9	2.1	3.2	2.6
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT) -

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.021	0.005	0.007	0.036
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.006	0.005	<0.01	0.007
28	Iron as Fe	mg/l	0.3(NR)	0.178	0.119	0.212	0.087
29	Total Chromium as Cr	mg/l	0.05(NR)	0.006	<0.005	0.007	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.013	0.014	0.009	0.034
32	Aluminum as Al	mg/l	0.03(0.2)	0.065	0.032	0.076	0.051
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.054	0.063	0.032	0.055
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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Issued Date : 2025-05-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29**

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1 (NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06 (NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2 (NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/02532/001
Issued Date : 2025-05-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1 (NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0 (NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrupada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.19	6.87	6.95	7.11
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	<1.0	1.3	1.2	1.1
6	Total dissolved solids at 180°C	mg/l	500(2000)	322	390	196	330
7	Total Hardness as CaCO ₃	mg/l	200(600)	211	231	114	196
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	180	210.0	95	140
9	Calcium as Ca	mg/l	75(200)	52.3	48.5	21.7	57.5
10	Magnesium as Mg	mg/l	30(100)	19.5	26.6	14.4	12.7
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.024	0.01	0.013	0.01
13	Chlorides as Cl	mg/l	250(1000)	36.7	46.3	33.5	67.4
14	Sulphate as SO ₄	mg/l	200(400)	12.2	24	10.5	19.6
15	Fluorides as F	mg/l	1.0(1.5)	0.231	0.264	0.228	0.186
16	Nitrates as NO ₃	mg/l	45(NR)	1.7	1.5	1.1	2.3
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.003	0.016	0.019	0.034
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.009	0.006	0.011	0.012
28	Iron as Fe	mg/l	0.3(NR)	0.045	0.064	0.034	0.027
29	Total Chromium as Cr	mg/l	0.05(NR)	0.005	0.008	0.006	0.011
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.023	0.022	0.037	0.029
32	Aluminum as Al	mg/l	0.03(0.2)	0.018	0.014	0.031	0.026
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.031	0.019	0.047	0.087
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1 (NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date	: 2025-04-14	Sampling Date	: 2025-04-09
Analysis Starting Date	: 2025-04-14	Analysis Completion Date	: 2025-04-30
Test Required	: Water Analysis as per IS 10500 : 2012		

SAMPLE COLLECTED BY VIMTA LABS LTD.**TEST REPORT**

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1 (NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-28
Samples Details : SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Bailgiri Basti, SW3-Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco.

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.28	7.09	7.42	7.38
2	Colour	Hazen	1	2	1	3
3	Conductivity	µS/cm	135	275	190	240
4	TDS	mg/l	89	174	123	153
5	DO	mg/l	7.2	6.9	7.1	6.8
6	BOD	mg/l	1.2	2.7	1.9	2.8
7	COD	mg/l	4	10	8	12
8	Turbidity	NTU	2.7	3.5	2.4	2.3
9	Total Hardness as CaCO ₃	mg/l	45	85	57	74
10	Total Alkalinity as CaCO ₃	mg/l	40	70	60	65
11	Calcium as Ca	mg/l	9.8	19.5	12.4	14.5
12	Magnesium as Mg	mg/l	4.7	8.9	6.4	9.2
13	Chlorides as Cl	mg/l	13.8	35.6	17.9	26.8
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.06	0.02	0.05
16	Sulphates as SO ₄	mg/l	8.3	13.2	7.3	12.6
17	Fluorides as F	mg/l	0.082	0.102	0.216	0.375
18	Nitrates as NO ₃	mg/l	0.8	1.3	1.1	2.4
19	Sodium as Na	mg/l	11.3	23.5	16.4	19.8
20	Potassium as K	mg/l	0.6	1.3	1.1	1.6
21	Total Boron as B	mg/l	0.016	0.023	0.010	0.231
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
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	0.012
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.131	0.056	0.021	0.011
30	Chromium as Cr ⁶⁺	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	0.156	0.089	0.117	0.024
33	Aluminum as Al	mg/l	0.036	0.024	0.019	0.016
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.74	1.11	0.94	1.00
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	120	180	160	270

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS

SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-04-14 Sampling Date : 2025-04-09
Analysis Starting Date : 2025-04-14 Analysis Completion Date : 2025-04-28
Samples Details : SW5- Hasdeo river near Ramgarh (U/S) SW6- Hasdeo river near Gerwaghat, SW7- Hasdeo river near kohariya, SW8- Hasdeo river near kobra (D/S)-1, SW9- Hasdeo River near Kobra (D/S)-2.

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW5	SW6	SW7	SW8	SW9
1	pH	-	7.34	7.48	7.56	7.52	7.28
2	Colour	Hazen	1	3	2	1	1
3	Conductivity	µS/cm	220	296	252	210	245
4	TDS	mg/l	143	190	160	135	156
5	DO	mg/l	7.4	7.2	7.3	6.8	6.7
6	BOD	mg/l	2.6	3.1	2.1	3.2	2.4
7	COD	mg/l	10	16	10	16	12
8	Turbidity	NTU	2.2	2.8	1.9	3.7	4.2
9	Total Hardness as CaCO ₃	mg/l	62	72	70	72	77
10	Total Alkalinity as CaCO ₃	mg/l	65	70	60	60	70
11	Calcium as Ca	mg/l	11.5	13.6	15.7	16.7	14.8
12	Magnesium as Mg	mg/l	8.1	9.2	8.4	7.4	9.7
13	Chlorides as Cl	mg/l	25.3	41.7	34.3	21.6	25.4
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.02	0.03	0.02	0.04	0.03
16	Sulphates as SO ₄	mg/l	8.5	16.8	14.6	12.2	13.5
17	Fluorides as F	mg/l	0.218	0.265	0.309	0.294	0.312
18	Nitrates as NO ₃	mg/l	1.3	1.8	2.4	0.9	1.4
19	Sodium as Na	mg/l	21.5	34.3	23.7	14.3	19.7
20	Potassium as K	mg/l	1.8	1.6	0.9	1.1	1.6
21	Total Boron as B	mg/l	0.013	0.008	0.026	0.017	0.012
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	0.01	<0.01	0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.027	0.043	0.098	0.036	0.022
30	Chromium as Cr ⁺⁶	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.097	0.078	0.137	0.067	0.084
33	Aluminum as Al	mg/l	0.031	0.018	0.028	0.025	0.022
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.19	1.76	1.20	0.73	0.98
36	Insecticides	mg/l	Absent	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	180	240	220	230	220

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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**ISSUED TO:**

**M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh**

**Report Number : VLL/VLS/25-26/04458/001
Issued Date : 2025-06-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29**

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
1	pH value	-	6.5-8.5 (NR)	6.89	6.85	6.95	7.20
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	1	1.2	1	1.1
6	Total dissolved solids at 180°C	mg/l	500(2000)	567	295	605	330
7	Total Hardness as CaCO ₃	mg/l	200(600)	263	167	300	208
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	250	140	285	180
9	Calcium as Ca	mg/l	75(200)	64.8	42.2	72.6	54.5
10	Magnesium as Mg	mg/l	30(100)	24.6	15	28.9	17.4
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.036	0.017	0.027	0.045
13	Chlorides as Cl	mg/l	250(1000)	98.3	52.6	91.5	39.7
14	Sulphate as SO ₄	mg/l	200(400)	43.5	13.2	41.7	15.2
15	Fluorides as F	mg/l	1.0(1.5)	0.254	0.419	0.371	0.486
16	Nitrates as NO ₃	mg/l	45(NR)	3.4	1.9	5.6	2.3
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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Report Number

: VLL/VLS/25-26/04458/001

Issued Date

: 2025-06-04

P.O. No.

: 8500005780

P.O. Date

: 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.012	0.006	0.009	0.028
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.008	<0.005	0.006	0.005
28	Iron as Fe	mg/l	0.3(NR)	0.131	0.056	0.187	0.065
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	0.006	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.021	0.012	0.017	0.028
32	Aluminum as Al	mg/l	0.03(0.2)	0.037	0.028	0.043	0.047
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.047	0.058	0.029	0.063
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1 (NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

-END OF THE REPORTS-

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Chhattisgarh

Report Number : VLL/VLS/25-26/04458/001
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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.02	6.93	6.82	6.90
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	1	1.3	1.2	1
6	Total dissolved solids at 180°C	mg/l	500(2000)	335	155	190	365
7	Total Hardness as CaCO ₃	mg/l	200(600)	205	85	109	210
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	175	80	90	190
9	Calcium as Ca	mg/l	75(200)	51.5	20.5	23.3	61.4
10	Magnesium as Mg	mg/l	30(100)	18.6	8.3	12.4	13.7
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.073	0.038	0.048	0.023
13	Chlorides as Cl	mg/l	250(1000)	41	17.7	29.8	48.4
14	Sulphate as SO ₄	mg/l	200(400)	19.4	11.5	12.7	17.5
15	Fluorides as F	mg/l	1.0(1.5)	0.307	0.404	0.224	0.166
16	Nitrates as NO ₃	mg/l	45(NR)	1.8	1.2	1.4	1.1
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.005	0.019	0.023	0.037
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.006	<0.005	0.013	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.038	0.078	0.041	0.018
29	Total Chromium as Cr	mg/l	0.05(NR)	0.005	0.007	0.016	0.009
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.016	0.018	0.028	0.015
32	Aluminum as Al	mg/l	0.03(0.2)	0.022	0.018	0.025	0.031
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.024	0.017	0.038	0.065
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1 (NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/04458/001
Issued Date : 2025-06-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/04458/002
Issued Date : 2025-06-04
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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS	:	SURFACE WATER SAMPLE (BALCO PLANT)
Sample Registration Date	:	2025-05-12
Analysis Starting Date	:	2025-05-12
Samples Details	:	SW5- Hasdeo river near Ramgarh (U/S) SW6- Hasdeo river near Gerwaghat, SW7- Hasdeo river near kohariya, SW8- Hasdeo river near kobra(D/S)-1, SW9- Hasdeo River near Kobra (D/S)-2.
SAMPLE COLLECTED BY VIMTA LABS LTD.		

TEST REPORT

Sr. No.	Parameters	Unit	SW5	SW6	SW7	SW8	SW9
1	pH	-	7.47	7.52	7.53	7.31	7.35
2	Colour	Hazen	1	2	1	2	2
3	Conductivity	µS/cm	130	228	158	267	266
4	TDS	mg/l	91	157	122	158	172
5	DO	mg/l	7.3	7.1	7.2	6.9	7.1
6	BOD	mg/l	2.3	2.1	1.9	1.4	2.4
7	COD	mg/l	9.6	8.8	6.4	7.2	10
8	Turbidity	NTU	2.2	2.8	1.9	3.7	4.2
9	Total Hardness as CaCO ₃	mg/l	37	55	46	86	86
10	Total Alkalinity as CaCO ₃	mg/l	30	50	40	70	80
11	Calcium as Ca	mg/l	9.5	12.7	11.4	20.5	18.6
12	Magnesium as Mg	mg/l	3.2	5.6	4.3	8.4	9.7
13	Chlorides as Cl	mg/l	25.3	41.7	34.3	21.6	25.4
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.01	0.05	0.03	0.08	0.09
16	Sulphates as SO ₄	mg/l	8.5	16.8	14.6	12.2	13.5
17	Fluorides as F	mg/l	0.218	0.265	0.324	0.294	0.312
18	Nitrates as NO ₃	mg/l	0.8	2.1	1.8	2.7	1.9
19	Sodium as Na	mg/l	12.5	26.2	14.8	21	19.7
20	Potassium as K	mg/l	0.7	1.5	0.3	1.6	2.3
21	Total Boron as B	mg/l	0.011	0.028	0.031	0.025	0.018
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.029	0.068	0.043	0.057	0.063
30	Chromium as Cr ⁺⁶	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.084	0.069	0.112	0.056	0.068
33	Aluminum as Al	mg/l	0.026	0.037	0.022	0.018	0.035
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.90	1.54	0.95	0.99	0.92
36	Insecticides	mg/l	Absent	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	170	190	180	210	280

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Signature and Designation of Authorized Signatory

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(Manager – Environment)

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Driven by Quality. Inspired by Science.

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M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/04458/001
Issued Date : 2025-06-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Samples Details : SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Baigiri Basti, SW3-Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco.

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.48	7.26	7.52	7.40
2	Colour	Hazen	<1.0	2	1	2
3	Conductivity	µS/cm	120	365	150	210
4	TDS	mg/l	75	233	95	130
5	DO	mg/l	7.5	6.8	7.3	7.1
6	BOD	mg/l	1.4	2.7	1.7	2.3
7	COD	mg/l	16.4	24.8	16.0	23.6
8	Turbidity	NTU	2.7	3.5	2.4	2.3
9	Total Hardness as CaCO ₃	mg/l	38	106	44	54
10	Total Alkalinity as CaCO ₃	mg/l	30	110	40	45
11	Calcium as Ca	mg/l	8.6	24.5	10	12.7
12	Magnesium as Mg	mg/l	3.9	10.8	4.7	5.4
13	Chlorides as Cl	mg/l	14.2	28.5	17.6	28.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.02	0.08	0.03	0.07
16	Sulphates as SO ₄	mg/l	6.3	15.8	7.1	9.2
17	Fluorides as F	mg/l	0.092	0.418	0.346	0.503
18	Nitrates as NO ₃	mg/l	0.3	1.1	0.7	1.6
19	Sodium as Na	mg/l	10.2	34.3	13.2	21.8
20	Potassium as K	mg/l	0.4	1.8	0.9	2.3
21	Total Boron as B	mg/l	0.012	0.034	0.011	0.163
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
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	0.072	0.097	0.018	0.023
30	Chromium as Cr ⁶⁺	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	0.076	0.098	0.095	0.065
33	Aluminum as Al	mg/l	0.017	0.035	0.012	0.034
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.72	1.45	0.86	1.29
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	90	160	140	240

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/06982/001
Issued Date : 2025-07-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.49	6.95	6.93	6.84
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	5	2	2	1
6	Total dissolved solids at 180°C	mg/l	500(2000)	272	175	245	286
7	Total Hardness as CaCO ₃	mg/l	200(600)	167	103	145	160
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	140	90	125	150
9	Calcium as Ca	mg/l	75(200)	41.6	23.2	35.5	43.8
10	Magnesium as Mg	mg/l	30(100)	15.3	11	13.5	12.2
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.054	0.041	0.033	0.021
13	Chlorides as Cl	mg/l	250(1000)	36.4	23.3	33.2	37.1
14	Sulphate as SO ₄	mg/l	200(400)	15.3	10.2	14.7	13.1
15	Fluorides as F	mg/l	1.0(1.5)	0.243	0.189	0.185	0.147
16	Nitrates as NO ₃	mg/l	45(NR)	2.5	1.6	1.8	2.4
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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VIMTA LABS
REGD. No. DL 3100456
Sr. No. 3
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M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/06982/001
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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada D/W
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	<0.005	0.013	0.021	0.035
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.005	<0.005	0.009	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.049	0.084	0.036	0.023
29	Total Chromium as Cr	mg/l	0.05(NR)	0.007	0.005	0.011	0.007
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.013	0.021	0.034	0.019
32	Aluminum as Al	mg/l	0.03(0.2)	0.027	0.015	0.037	0.028
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.013	0.021	0.032	0.048
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1(NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
(Manager - Environment)

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CIN : L24110TG1990PLC011977

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/06982/001
Issued Date : 2025-07-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

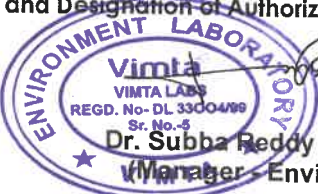
Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
1	pH value	-	6.5-8.5 (NR)	6.98	6.75	6.62	7.18
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	1	1	3	2
6	Total dissolved solids at 180°C	mg/l	500(2000)	482	265	495	296
7	Total Hardness as CaCO ₃	mg/l	200(600)	225	148	220	175
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	240	130	250	160
9	Calcium as Ca	mg/l	75(200)	54.3	37.5	58.2	45.5
10	Magnesium as Mg	mg/l	30(100)	21.6	13.2	18.7	14.6
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.028	0.013	0.019	0.034
13	Chlorides as Cl	mg/l	250(1000)	69.6	38.8	65.3	33.4
14	Sulphate as SO ₄	mg/l	200(400)	25.8	17.1	27.4	13.7
15	Fluorides as F	mg/l	1.0(1.5)	0.147	0.160	0.352	0.321
16	Nitrates as NO ₃	mg/l	45(NR)	2.9	1.7	3.2	2.1
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


VIMTA LABS
REGD. No- DL 3300498
Sr. No.-5
Dr. Subba Reddy Mallampati
(Manager - Environment)

Vimta Labs Limited

Registered Office

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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/06982/001
Issued Date : 2025-07-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.011	0.005	0.007	0.019
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.006	<0.005	<0.005	0.005
28	Iron as Fe	mg/l	0.3(NR)	0.127	0.048	0.154	0.074
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	0.005	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.019	0.010	0.015	0.023
32	Aluminum as Al	mg/l	0.03(0.2)	0.029	0.017	0.035	0.038
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.024	0.036	0.018	0.047
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
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**M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh**

Report Number : VLL/VLS/25-26/06982/001
Issued Date : 2025-07-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 3 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1(NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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Chhattisgarh

Report Number : VLL/VLS/25-26/06982/001
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P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS**GROUND WATER SAMPLES (BALCO PLANT)**

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1 (NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0 (NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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(Manager - Environment)

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ISSUED TO:

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BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/06982/001
Issued Date : 2025-07-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-24
Samples Details : SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Bailgiri Basti, SW3-Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco.

SAMPLE COLLECTED BY VIMTA LABS LTD.

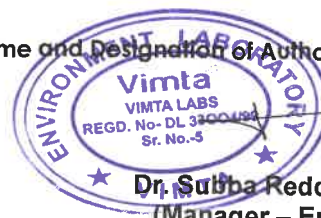
TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.23	7.25	7.23	7.24
2	Colour	Hazen	1	2	1	2
3	Conductivity	µS/cm	157	204	184	290
4	TDS	mg/l	98	124	117	182
5	DO	mg/l	6.3	6.1	6.4	5.9
6	BOD	mg/l	1.2	2.7	1.9	2.8
7	COD	mg/l	5	12	6	10
8	Turbidity	NTU	15.0	8.0	20.0	9.0
9	Total Hardness as CaCO ₃	mg/l	44	87	63	74
10	Total Alkalinity as CaCO ₃	mg/l	40	75	50	60
11	Calcium as Ca	mg/l	10.0	21	13.5	15
12	Magnesium as Mg	mg/l	4.7	8.4	7.2	8.9
13	Chlorides as Cl	mg/l	20.5	35.1	22.3	43.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.06	0.02	0.04
16	Sulphates as SO ₄	mg/l	7.4	14.3	8.4	18.2
17	Fluorides as F	mg/l	0.218	0.353	0.252	0.306
18	Nitrates as NO ₃	mg/l	0.7	1.4	1.3	1.6
19	Sodium as Na	mg/l	14.8	29.2	12.7	31.5
20	Potassium as K	mg/l	1.1	1.6	0.9	1.7
21	Total Boron as B	mg/l	0.007	0.019	0.010	0.141
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
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	0.023	0.098	0.037	0.016
30	Chromium as Cr ⁶⁺	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	0.065	0.143	0.097	0.129
33	Aluminum as Al	mg/l	0.010	0.017	0.010	0.035
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.97	1.36	0.69	1.59
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	70	140	90	160

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



Dr. Subha Reddy Mallampati
(Manager – Environment)

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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/06982/002
Issued Date : 2025-07-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS

SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-24
Samples Details : SW5- Hasdeo river near Ramgarh (U/S) SW6- Hasdeo river near Gerwaghat, SW7- Hasdeo river near kohariya, SW8- Hasdeo river near kobra(D/S)-1, SW9- Hasdeo River near Kobra (D/S)-2.
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW5	SW6	SW7	SW8	SW9
1	pH	-	7.33	7.88	7.56	7.40	7.70
2	Colour	Hazen	1	2	1	3	3
3	Conductivity	µS/cm	175	316	254	295	214
4	TDS	mg/l	82	142	95	170	168
5	DO	mg/l	7.2	7.1	7.3	7.4	7.2
6	BOD	mg/l	2.6	3.1	2.4	2.8	2.4
7	COD	mg/l	6.6	7.2	7.4	7.9	7.7
8	Turbidity	NTU	3	2	2	2	3
9	Total Hardness as CaCO ₃	mg/l	37	55	46	86	80
10	Total Alkalinity as CaCO ₃	mg/l	30	40	35	65	75
11	Calcium as Ca	mg/l	9.5	12.7	11.4	20.5	18.6
12	Magnesium as Mg	mg/l	3.2	5.6	4.3	8.4	9.7
13	Chlorides as Cl	mg/l	19.7	38.6	22.5	32.1	26.4
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.02	0.06	0.04	0.07	0.08
16	Sulphates as SO ₄	mg/l	5.2	14.2	9.5	16.3	14.4
17	Fluorides as F	mg/l	0.415	0.421	0.408	0.432	0.426
18	Nitrates as NO ₃	mg/l	0.75	2.2	1.2	3.2	1.9
19	Sodium as Na	mg/l	12.5	26.2	14.8	21	19.7
20	Potassium as K	mg/l	0.7	1.5	0.3	1.6	2.3
21	Total Boron as B	mg/l	0.01	0.015	0.021	0.026	0.017
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.015	0.064	0.042	0.025	0.061
30	Chromium as Cr ⁺⁶	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.087	0.043	0.087	0.052	0.094
33	Aluminum as Al	mg/l	0.014	0.019	0.016	0.022	0.021
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.90	1.54	0.95	0.99	0.92
36	Insecticides	mg/l	Absent	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	90	110	110	130	120

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

- END OF THE REPORTS -

Signature and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager – Environment)

ISSUED TO:

**M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh**

**Report Number : VLL/VLS/25-26/09740/001
Issued Date : 2025-08-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29**

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

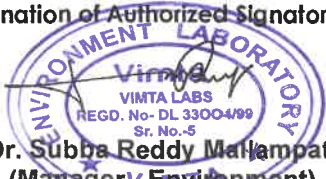
Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
1	pH value	-	6.5-8.5 (NR)	6.82	6.95	6.93	7.04
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	2	2	1	1
6	Total dissolved solids at 180°C	mg/l	500(2000)	458	242	455	277
7	Total Hardness as CaCO ₃	mg/l	200(600)	216	133	214	159
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	227	118	233	147
9	Calcium as Ca	mg/l	75(200)	41.6	28.4	51.7	41.3
10	Magnesium as Mg	mg/l	30(100)	18.7	11.9	15.3	12.4
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.021	0.011	0.016	0.027
13	Chlorides as Cl	mg/l	250(1000)	54.8	34.1	59.3	27.4
14	Sulphate as SO ₄	mg/l	200(400)	24.1	15.3	22.2	11.6
15	Fluorides as F	mg/l	1.0(1.5)	0.128	0.114	0.286	0.247
16	Nitrates as NO ₃	mg/l	45(NR)	2.4	1.6	2.7	1.8
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager, Environment)

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/09740/001
Issued Date : 2025-08-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.008	0.002	0.005	0.012
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.004	<0.005	<0.005	0.003
28	Iron as Fe	mg/l	0.3(NR)	0.114	0.032	0.106	0.069
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	<0.005	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.014	0.018	0.019	0.021
32	Aluminum as Al	mg/l	0.03(0.2)	0.018	0.015	0.018	0.022
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.018	0.031	0.015	0.037
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
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KORBA
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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1(NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

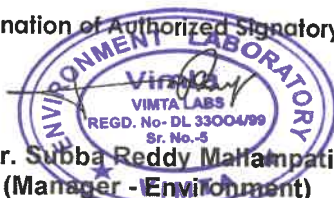
Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.31	6.94	6.97	6.96
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	3	2	1	2
6	Total dissolved solids at 180°C	mg/l	500(2000)	259	162	221	248
7	Total Hardness as CaCO ₃	mg/l	200(600)	152	89	133	143
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	127	72.4	117	137
9	Calcium as Ca	mg/l	75(200)	35.7	19.3	31.2	35.4
10	Magnesium as Mg	mg/l	30(100)	13.6	9.3	10.2	11.8
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.043	0.034	0.031	0.019
13	Chlorides as Cl	mg/l	250(1000)	31.5	20.4	30.4	36.8
14	Sulphate as SO ₄	mg/l	200(400)	13.7	8.9	12.4	11.8
15	Fluorides as F	mg/l	1.0(1.5)	0.393	0.168	0.172	0.124
16	Nitrates as NO ₃	mg/l	45(NR)	2.2	1.4	1.9	2.1
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS. (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.002	0.009	0.016	0.028
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	0.002	0.004	0.007	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.037	0.061	0.029	0.018
29	Total Chromium as Cr	mg/l	0.05(NR)	0.003	0.004	0.009	0.006
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.011	0.018	0.029	0.02
32	Aluminum as Al	mg/l	0.03(0.2)	0.021	0.019	0.021	0.022
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.015	0.016	0.027	0.042
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1(NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager, Environment)

ISSUED TO:

**M/s. Bharat Aluminum Company Limited,
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Chhattisgarh**

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P.O. Date : 2022-06-29**

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)


Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


Dr. Subha Reddy Mallampati
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Driven by Quality. Inspired by Science.

ISSUED TO:

M/s. Bharat Aluminum Company Limited,

BALCO

KORBA

Chhattisgarh

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Issued Date : 2025-08-05

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P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
 Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-22
 Samples Details : SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Baigiri Basti, SW3-Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco.

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.14	7.18	7.22	7.18
2	Colour	Hazen	1	2	2	3
3	Conductivity	µS/cm	144	284	181	271
4	TDS	mg/l	89	176	93	166
5	DO	mg/l	7.1	6.5	6.9	7.1
6	BOD	mg/l	1.1	1.8	1.3	1.4
7	COD	mg/l	6	10	8	9
8	Turbidity	NTU	18.0	10.0	24.0	12.0
9	Total Hardness as CaCO ₃	mg/l	37	78	53	64
10	Total Alkalinity as CaCO ₃	mg/l	36	65	44	51
11	Calcium as Ca	mg/l	8.1	17	10.1	11
12	Magnesium as Mg	mg/l	4.2	7.8	6.4	7.2
13	Chlorides as Cl	mg/l	17.4	31.4	18.4	38.6
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.02	0.04	0.03	0.02
16	Sulphates as SO ₄	mg/l	6.9	10.2	8.1	15.2
17	Fluorides as F	mg/l	0.254	0.384	0.318	0.342
18	Nitrates as NO ₃	mg/l	0.9	1.1	1.0	1.3
19	Sodium as Na	mg/l	12.3	25.3	10	26.7
20	Potassium as K	mg/l	1.2	1.4	0.8	1.5
21	Total Boron as B	mg/l	0.006	0.014	0.009	0.120
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
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	0.021	0.084	0.028	0.011
30	Chromium as Cr ⁶⁺	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	0.057	0.127	0.087	0.114
33	Aluminum as Al	mg/l	0.009	0.015	0.008	0.027
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.91	1.21	0.57	1.44
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	90	110	175	336

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

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CIN : L24110TG1990PLC011977

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/09740/002
Issued Date : 2025-08-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

SAMPLE PARTICULARS

: **SURFACE WATER SAMPLE (BALCO PLANT)**
Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-22
Samples Details : SW5- Hasdeo river near Ramgarh (U/S) SW6- Hasdeo river near Gerwaghat, SW7- Hasdeo river near kohariya, SW8- Hasdeo river near kobra(D/S)-1, SW9- Hasdeo River near Kobra (D/S)-2.
SAMPLE COLLECTED BY VIMTA LABS LTD.

Page 1 of 1

TEST REPORT

Sr. No.	Parameters	Unit	SW5	SW6	SW7	SW8	SW9
1	pH	-	7.18	7.64	7.47	7.18	7.54
2	Colour	Hazen	2	2	2	2	1
3	Conductivity	µS/cm	266	294	237	284	198
4	TDS	mg/l	127	132	82	158	147
5	DO	mg/l	6.8	6.7	7.2	6.8	6.6
6	BOD	mg/l	1.4	1.8	1.4	1.8	1.6
7	COD	mg/l	4.3	4.8	3.6	3.8	3.4
8	Turbidity	NTU	11	10	10	11	11
9	Total Hardness as CaCO ₃	mg/l	31	47	38	74	69
10	Total Alkalinity as CaCO ₃	mg/l	24	32	29	5.8	67
11	Calcium as Ca	mg/l	8.4	9.4	8.9	16.7	14.3
12	Magnesium as Mg	mg/l	3.1	4.7	3.7	7.4	8.4
13	Chlorides as Cl	mg/l	15.6	32.4	16.9	28.1	19.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.04	0.05	0.06	0.05
16	Sulphates as SO ₄	mg/l	4.5	9.8	8.6	14.3	10.2
17	Fluorides as F	mg/l	0.378	0.409	0.329	0.427	0.414
18	Nitrates as NO ₃	mg/l	0.62	1.7	1.1	2.7	1.8
19	Sodium as Na	mg/l	10.1	21.3	11.7	19.1	16.4
20	Potassium as K	mg/l	0.8	1.3	0.4	1.4	2.1
21	Total Boron as B	mg/l	0.02	0.019	0.024	0.018	0.014
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.029	0.051	0.038	0.019	0.052
30	Chromium as Cr ⁶⁺	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.063	0.052	0.074	0.043	0.079
33	Aluminum as Al	mg/l	0.011	0.021	0.014	0.017	0.022
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.81	1.33	0.88	0.94	0.89
36	Insecticides	mg/l	Absent	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	495	525	480	510	490

Method of Testing: As per APHA 23rd edition and IS: 3025.
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

Vimta
VIMTA LABS
Dr. Subba Reddy Mallampati
(Manager - Environment)
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Driven by Quality. Inspired by Science.

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/11867/001
Issued Date : 2025-09-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
1	pH value	-	6.5-8.5 (NR)	6.96	6.91	6.84	6.98
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	2	1	2	2
6	Total dissolved solids at 180°C	mg/l	500(2000)	181	270	357	287
7	Total Hardness as CaCO ₃	mg/l	200(600)	106	174	205	183
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	50	65	110	104
9	Calcium as Ca	mg/l	75(200)	25.6	44.8	52.4	50.8
10	Magnesium as Mg	mg/l	30(100)	10.2	15.1	18.0	13.5
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.2	<0.2	<0.2	<0.2
12	Boron as B	mg/l	0.5(1.0)	0.017	0.023	0.016	0.021
13	Chlorides as Cl	mg/l	250(1000)	45.3	81.1	93.5	62.8
14	Sulphate as SO ₄	mg/l	200(400)	29.4	38.5	39.1	29.9
15	Fluorides as F	mg/l	1.0(1.5)	0.174	0.166	0.387	0.318
16	Nitrates as NO ₃	mg/l	45(NR)	1.8	2.3	3.7	1.9
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

VIMTA LABS
REGD. No- DL 33004/99
Sr. No.-5
Dr. Subba Reddy Mallampati
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Driven by Quality. Inspired by Science.

ISSUED TO:

**M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh**

Report Number : VLL/VLS/25-26/11867/001
Issued Date : 2025-09-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
 Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
 Test Required : Water Analysis as per IS 10500 : 2012

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.008	<0.01	0.012	0.011
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	<0.005	<0.005	<0.005	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.095	0.037	0.076	0.054
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	<0.005	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.008	0.024	0.011	0.006
32	Aluminum as Al	mg/l	0.03(0.2)	0.017	0.012	0.028	0.024
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.021	0.028	0.009	0.034
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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CIN : L24110TG1990PLC011977

ISSUED TO:

**M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh**

Report Number : VLL/VLS/25-26/11867/001
Issued Date : 2025-09-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1(NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/11867/001
Issued Date : 2025-09-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 4 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1 (NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0 (NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

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BALCO
KORBA
Chhattisgarh

Report Number : **VLL/VLS/25-26/11867/001**
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P.O. No. : **8500005780**
P.O. Date : **2022-06-29**

Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.36	6.86	6.85	6.84
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	2	2	2	1
6	Total dissolved solids at 180°C	mg/l	500(2000)	268	160	240	254
7	Total Hardness as CaCO ₃	mg/l	200(600)	162	102	158	164
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	95	45	70	60
9	Calcium as Ca	mg/l	75(200)	37.6	25.0	43.2	41.5
10	Magnesium as Mg	mg/l	30(100)	16.5	9.5	12.2	14.6
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.2	<0.2	<0.2	<0.2
12	Boron as B	mg/l	0.5(1.0)	0.036	0.028	0.022	0.018
13	Chlorides as Cl	mg/l	250(1000)	59.7	43.0	65.8	89.5
14	Sulphate as SO ₄	mg/l	200(400)	27.5	21.2	29.1	21.1
15	Fluorides as F	mg/l	1.0(1.5)	0.362	0.219	0.201	0.106
16	Nitrates as NO ₃	mg/l	45(NR)	5.6	1.2	2.3	3.5
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada D/W
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	<0.01	0.012	0.016	0.035
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	<0.005	<0.005	<0.005	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.032	0.035	0.024	0.019
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	<0.005	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.017	0.013	0.023	0.011
32	Aluminum as Al	mg/l	0.03(0.2)	0.016	0.011	0.026	0.015
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.007	0.015	0.028	0.031
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


Vimta
VIMTA LABS
REGD. No. DL 330/1553
Dr. Subba Reddy Mallampati
(Manager - Environment)
VIMTA

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CIN : L24110TG1990PLC011977

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/11867/001
Issued Date : 2025-09-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 3 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)


Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1 (NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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Driven by Quality. Inspired by Science.

ISSUED TO:

M/s. Bharat Aluminum Company Limited,

BALCO

KORBA

Chhattisgarh

Report Number : VLL/VLS/25-26/11867/001

Issued Date : 2025-09-04

P.O. No. : 8500005780

P.O. Date : 2022-06-29

Page 4 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-30
Test Required : Water Analysis as per IS 10500 : 2012

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1 (NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0 (NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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KORBA

Chhattisgarh

Report Number : VLL/VLS/25-26/11867/001

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P.O. No. : 8500005780

P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS

SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-08-13 Sampling Date : 2025-08-07
Analysis Starting Date : 2025-08-13 Analysis Completion Date : 2025-08-26
Samples Details : SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Bailgiri Basti,
SW3- Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.21	7.26	7.22	7.28
2	Colour	Hazen	2	3	2	3
3	Conductivity	$\mu\text{S}/\text{cm}$	125	268	140	196
4	TDS	mg/l	80	170	88	120
5	DO	mg/l	6.2	5.8	6.3	5.9
6	BOD	mg/l	1.0	2.2	1.4	2.1
7	COD	mg/l	3.2	7.8	5.6	6.4
8	Turbidity	NTU	7.0	11.0	8.0	12.0
9	Total Hardness as CaCO_3	mg/l	36	70	48	68
10	Total Alkalinity as CaCO_3	mg/l	35.0	68.0	40	45.0
11	Calcium as Ca	mg/l	8.5	17.8	10	12.5
12	Magnesium as Mg	mg/l	3.6	6.2	5.6	8.9
13	Chlorides as Cl	mg/l	14.4	32.2	16.2	26.9
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.04	0.05	0.03	0.06
16	Sulphates as SO_4	mg/l	6.2	12.4	5.3	10.5
17	Fluorides as F	mg/l	0.163	0.258	0.229	0.217
18	Nitrates as NO_3	mg/l	0.3	0.8	0.7	1.3
19	Sodium as Na	mg/l	12.2	28.7	9.6	13.5
20	Potassium as K	mg/l	0.7	1.2	0.5	0.5
21	Total Boron as B	mg/l	0.012	0.021	0.013	0.087
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
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	0.019	0.078	0.045	0.012
30	Chromium as Cr^{+6}	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	0.047	0.121	0.079	0.098
33	Aluminum as Al	mg/l	0.023	0.011	0.010	0.023
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.88	1.49	0.60	0.71
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	180	340	220	380

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/11867/002
Issued Date : 2025-09-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS

: SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date

: 2025-08-13

Sampling Date

: 2025-08-07

Analysis Starting Date

: 2025-08-13

Analysis Completion Date

: 2025-08-26

Samples Details

: SW5- Hasdeo river near Ramgarh (U/S) SW6- Hasdeo river near Gerwaghat, SW7- Hasdeo river near kohariya, SW8- Hasdeo river near kobra(D/S)-1, SW9- Hasdeo River near Kobra (D/S)-2.

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW5	SW6	SW7	SW8	SW9
1	pH	-	7.49	7.64	7.26	7.42	7.68
2	Colour	Hazen	2	3	2	3	3
3	Conductivity	$\mu\text{S}/\text{cm}$	129	178	135	184	168
4	TDS	mg/l	83	112	85	122	110
5	DO	mg/l	7.2	7.4	7.6	7.7	7.5
6	BOD	mg/l	2.7	2.1	2.5	2.9	3.2
7	COD	mg/l	9.6	11.2	10.4	11.2	12
8	Turbidity	NTU	11.0	9.0	11.0	10.0	9.0
9	Total Hardness as CaCO_3	mg/l	44	55	50	66	57
10	Total Alkalinity as CaCO_3	mg/l	35	40	30	55	50
11	Calcium as Ca	mg/l	11.5	13.3	12.5	16.7	15.8
12	Magnesium as Mg	mg/l	3.7	5.4	4.6	5.8	4.4
13	Chlorides as Cl	mg/l	16.8	24.8	19.4	21.2	18.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.04	0.08	0.03	0.06	0.05
16	Sulphates as SO_4	mg/l	4.3	9.6	8.2	6.3	5.1
17	Fluorides as F	mg/l	0.436	0.452	0.418	0.563	0.528
18	Nitrates as NO_3	mg/l	1.1	1.6	0.9	1.8	0.8
19	Sodium as Na	mg/l	9.4	14.6	8.3	12.8	11.3
20	Potassium as K	mg/l	0.7	1.5	0.3	1.6	2.3
21	Total Boron as B	mg/l	<0.01	0.011	0.034	0.019	0.013
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.011	0.058	0.036	0.019	0.034
30	Chromium as Cr^{+6}	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.154	0.082	0.076	0.087	0.114
33	Aluminum as Al	mg/l	0.011	0.023	0.019	0.018	0.024
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.62	0.85	0.51	0.69	0.65
36	Insecticides	mg/l	Absent	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	260	340	320	490	480

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

- END OF THE REPORTS -

Name and Designation of Authorized Signatory

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ISSUED TO:**M/s. Bharat Aluminum Company Limited,****BALCO****KORBA****Chhattisgarh****Report Number****Issued Date****P.O. No.****P.O. Date****VLL/VLS/25-26/14073/001****2025-10-04****8500005780****2022-06-29****SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)**

Page 1 of 4

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
 Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
 Test Required : Water Analysis as per IS 10500 : 2012
 SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
1	pH value	-	6.5-8.5 (NR)	6.89	6.82	6.82	7.02
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	2	2	2	3
6	Total dissolved solids at 180°C	mg/l	500(2000)	195	220	331	290
7	Total Hardness as CaCO ₃	mg/l	200(600)	128	145	221	193
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	55	60	90	95
9	Calcium as Ca	mg/l	75(200)	31.2	42.0	65.2	55.0
10	Magnesium as Mg	mg/l	30(100)	12.1	9.7	14.2	13.5
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.021	0.019	0.015	0.037
13	Chlorides as Cl	mg/l	250(1000)	48.2	55.0	89.4	74.0
14	Sulphate as SO ₄	mg/l	200(400)	31.4	37.2	46.8	29.3
15	Fluorides as F	mg/l	1.0(1.5)	0.186	0.149	0.394	0.263
16	Nitrates as NO ₃	mg/l	45(NR)	2.1	1.7	2.9	1.7
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited,
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KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/14073/001
Issued Date : 2025-10-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	<0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	0.01	0.013	0.009	0.021
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	<0.005	<0.005	<0.005	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.056	0.033	0.064	0.038
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	<0.005	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.012	0.018	0.026	0.009
32	Aluminum as Al	mg/l	0.03(0.2)	0.013	0.021	0.017	0.028
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.017	0.021	0.015	0.026
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

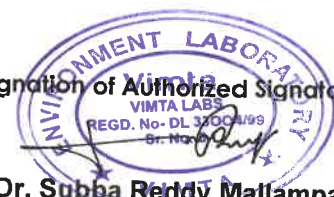
Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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**ISSUED TO:**

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/14073/001
Issued Date : 2025-10-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001(NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1(NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06(NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2(NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/14073/001
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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

**M/s. Bharat Aluminum Company Limited,
BALCO
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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.38	6.94	6.89	6.96
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5	Turbidity	NTU	1(5)	3	2	1	2
6	Total dissolved solids at 180°C	mg/l	500(2000)	310	198	268	243
7	Total Hardness as CaCO ₃	mg/l	200(600)	186	130	190	180
8	Total Alkalinity as CaCO ₃	mg/l	200(600)	110	60	85	60
9	Calcium as Ca	mg/l	75(200)	50.4	33.6	53.7	46.8
10	Magnesium as Mg	mg/l	30(100)	14.6	11.0	13.2	15.1
11	Free Residual chlorine	mg/l	0.2(1.0)	<0.1	<0.1	<0.1	<0.1
12	Boron as B	mg/l	0.5(1.0)	0.043	0.016	0.056	0.031
13	Chlorides as Cl	mg/l	250(1000)	70.0	51.0	69.7	84.5
14	Sulphate as SO ₄	mg/l	200(400)	33.6	25.9	29.7	22.5
15	Fluorides as F	mg/l	1.0(1.5)	0.482	0.238	0.187	0.112
16	Nitrates as NO ₃	mg/l	45(NR)	3.6	1.4	2.8	1.7
17	Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada D/W)
19	Anionic detergents as MBAS	mg/l	0.2(1.0)	<0.02	<0.02	<0.02	<0.02
20	Mineral oil	mg/l	0.5(NR)	Absent	Absent	Absent	Absent
21	Cadmium as Cd	mg/l	0.003(NR)	<0.003	<0.003	<0.003	<0.003
22	Total Arsenic as As	mg/l	0.01(0.05)	<0.01	<0.01	<0.01	<0.01
23	Copper as Cu	mg/l	0.05(1.5)	<0.01	<0.01	0.01	<0.01
24	Lead as Pb	mg/l	0.01(NR)	<0.01	<0.01	<0.01	<0.01
25	Manganese as Mn	mg/l	0.1(0.3)	<0.01	0.016	0.021	0.011
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.01	<0.01	<0.01	<0.01
27	Nickel as Ni	mg/l	0.02(NR)	<0.005	<0.005	<0.005	<0.005
28	Iron as Fe	mg/l	0.3(NR)	0.026	0.041	0.037	0.023
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.005	<0.005	<0.005	<0.005
30	Selenium as Se	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
31	Zinc as Zn	mg/l	5.0(15)	0.022	0.015	0.028	0.013
32	Aluminum as Al	mg/l	0.03(0.2)	0.013	0.021	0.019	0.011
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H ₂ S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl ₂	mg/l	4.0(NR)	<0.05	<0.05	<0.05	<0.05
36	Ammonia (as total ammonia-N)	mg/l	0.5(NR)	<0.05	<0.05	<0.05	<0.05
37	Barium as Ba	mg/l	0.7(NR)	0.009	0.021	0.018	0.025
38	Silver as Ag	mg/l	0.1(NR)	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
39	Polychlorinated biphenyls	mg/l	0.0005(NR)	Absent	Absent	Absent	Absent
40	Polynuclear aromatic hydrocarbon as PAH	mg/l	0.0001 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
41	Bromoform	mg/l	0.1 (NR)	<0.0001	<0.0001	<0.0001	<0.0001
42	Dibromochloromethane	mg/l	0.1 (NR)	<0.01	<0.01	<0.01	<0.01
43	Bromodichloromethane	mg/l	0.06 (NR)	<0.01	<0.01	<0.01	<0.01
44	Chloroform	mg/l	0.2 (NR)	<0.001	<0.001	<0.001	<0.001
(A)	Pesticides						
45	Alachlor	µg/l	20	<0.01	<0.01	<0.01	<0.01
46	Atrazine	µg/l	2	<0.01	<0.01	<0.01	<0.01
47	Aldrin	µg/l	0.03	<0.01	<0.01	<0.01	<0.01
48	Alpha HCH	µg/l	0.01	<0.01	<0.01	<0.01	<0.01
49	Beta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
50	Butachlor	µg/l	125	<0.01	<0.01	<0.01	<0.01
51	Chlorpyrifos	µg/l	30	<0.01	<0.01	<0.01	<0.01
52	Delta HCH	µg/l	0.04	<0.01	<0.01	<0.01	<0.01
53	2,4-Dichlorophenoxyacetic acid	µg/l	30	<0.01	<0.01	<0.01	<0.01
54	DDT	µg/l	1	<0.01	<0.01	<0.01	<0.01
55	Endosulfan (alpha, beta and Sulphate)	µg/l	0.4	<0.01	<0.01	<0.01	<0.01
56	Ethion	µg/l	3	<0.01	<0.01	<0.01	<0.01
57	Gamma HCH	µg/l	2	<0.01	<0.01	<0.01	<0.01
58	Isoproturon	µg/l	9	<0.01	<0.01	<0.01	<0.01

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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BALCO
KORBA
Chhattisgarh

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies(B/W)	Bhadrapada D/W)
59	Malathion	µg/l	190	BDL	BDL	BDL	BDL
60	Methyl parathion	µg/l	0.3	BDL	BDL	BDL	BDL
61	Monocrotophos	µg/l	1	BDL	BDL	BDL	BDL
62	Phorate	µg/l	2	BDL	BDL	BDL	BDL
63	E.coli	Per 100 ml	Absent	Absent	Absent	Absent	Absent
64	Total Coliforms	MPN/100ml	Absent	Absent	Absent	Absent	Absent
(B)	Radioactive						
65	Alpha emitters	Bq/l	0.1(NR)	BDL	BDL	BDL	BDL
66	Beta emitters	Bq/l	1.0(NR)	BDL	BDL	BDL	BDL

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)
Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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M/s. Bharat Aluminum Company Limited,

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Report Number

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VLL/VLS/25-26/14073/001

2025-10-04

8500005780

2022-06-29

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SAMPLE PARTICULARS**: SURFACE WATER SAMPLE (BALCO PLANT)**

Sample Registration Date	: 2025-09-15	Sampling Date	: 2025-09-09
Analysis Starting Date	: 2025-09-15	Analysis Completion Date	: 2025-09-30
Samples Details	: SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Bailgiri Basti, SW3- Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco		

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.34	7.21	7.25	7.31
2	Colour	Hazen	1	2	1	4
3	Conductivity	$\mu\text{S}/\text{cm}$	150	273	180	230
4	TDS	mg/l	99	173	113	144
5	DO	mg/l	6.4	6.3	6.8	6.4
6	BOD	mg/l	0.7	2.4	1.2	2.6
7	COD	mg/l	2.4	8.8	4.8	11.2
8	Turbidity	NTU	8	7.0	16.0	13
9	Total Hardness as CaCO_3	mg/l	45	82	64	82
10	Total Alkalinity as CaCO_3	mg/l	40	65.0	50	55
11	Calcium as Ca	mg/l	11.5	22.4	13	18.2
12	Magnesium as Mg	mg/l	3.87	6.32	7.76	8.78
13	Chlorides as Cl	mg/l	18.3	36.5	21.8	32.3
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.03	0.04	0.04	0.05
16	Sulphates as SO_4	mg/l	9.8	13.7	7.4	10.8
17	Fluorides as F	mg/l	0.105	0.168	0.174	0.209
18	Nitrates as NO_3	mg/l	0.6	1.3	0.9	1.8
19	Sodium as Na	mg/l	14.6	24.4	11.3	15.5
20	Potassium as K	mg/l	0.5	1.1	0.5	0.7
21	Total Boron as B	mg/l	0.010	0.018	0.011	0.065
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
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	0.008	0.081	0.064	0.024
30	Chromium as Cr^{+6}	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	0.037	0.098	0.098	0.087
33	Aluminum as Al	mg/l	0.031	0.024	0.017	0.028
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.95	1.17	0.61	0.75
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	140	170	150	210

Method of Testing: As per APHA 23rd edition and IS: 3025

Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

**Dr. Subba Reddy Mallampati**
(Manager – Environment)

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**ISSUED TO:**

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SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Samples Details : SW5- Hasdeo river near Ramgarh (U/S) SW6- Hasdeo river near Gerwaghat, SW7- Hasdeo river near kohariya, SW8- Hasdeo river near kobra(D/S)-1, SW9- Hasdeo River near Kobra (D/S)-2.

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW5	SW6	SW7	SW8	SW9
1	pH	-	7.46	7.53	7.28	7.38	7.51
2	Colour	Hazen	2	2	3	4	3
3	Conductivity	µS/cm	115	160	141	155	173
4	TDS	mg/l	73	100	90	101	110
5	DO	mg/l	7.6	7.3	7.8	7.5	7.6
6	BOD	mg/l	2.5	1.8	1.7	2.7	2.6
7	COD	mg/l	8.8	9.6	7.2	10.4	9.6
8	Turbidity	NTU	12.0	8.0	11.0	10.0	9.0
9	Total Hardness as CaCO ₃	mg/l	38	50	49	55	57
10	Total Alkalinity as CaCO ₃	mg/l	30	38	35	50	55
11	Calcium as Ca	mg/l	10.2	12.5	13.5	14.3	16.2
12	Magnesium as Mg	mg/l	3.1	4.3	3.8	4.6	3.9
13	Chlorides as Cl	mg/l	15.2	22.3	18.4	15.4	17.3
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.06	0.02	0.05	0.03
16	Sulphates as SO ₄	mg/l	3.7	6.8	7.3	4.2	4.9
17	Fluorides as F	mg/l	0.429	0.418	0.473	0.494	0.417
18	Nitrates as NO ₃	mg/l	0.9	1.1	1.2	0.6	0.7
19	Sodium as Na	mg/l	8.5	13.4	9.7	10.2	12.7
20	Potassium as K	mg/l	0.6	1.1	0.5	1.3	1.9
21	Total Boron as B	mg/l	<0.01	0.025	0.041	0.023	0.018
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.016	0.046	0.031	0.022	0.029
30	Chromium as Cr ⁺⁶	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.121	0.063	0.054	0.075	0.098
33	Aluminum as Al	mg/l	0.013	0.037	0.015	0.021	0.031
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.60	0.83	0.60	0.60	0.74
36	Insecticides	mg/l	Absent	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	230	330	410	450	490

Method of Testing: As per APHA 23rd edition and IS: 3025
Instrument Used: ICP-OES (Perkin-Elmer) & ICP-MS (agilent)

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager – Environment)

Bharat Aluminium Company Limited (BALCO)

HSE&S

POLICY No: BALCO/POLICY/01

ISSUE No. 6

ISSUE Date: 20/02/2023

At BALCO, we are committed to achieving excellence in Occupational Health, Safety, Environment & Sustainability (HSE&S) management.

The policy applies to BALCO operations and managed sites, including new acquisitions, corporate offices and research facilities and to all new and existing employees and contractor employees, business partners suppliers and consultants who should be required to comply with the policy when they act on behalf of BALCO. This Policy is applicable to the entire operational lifecycle (including exploration and planning, evaluation, operation, and closure) as well as applicable to downstream operations (including distribution, logistics, and sale of products & services up to the customer).

BALCO will:

- Comply with applicable national, regional, and local HSE regulations and statutory obligations, in the absence (or lack) of appropriate legislation, industry best practices and applicable international standards will be used;
- Develop, implement, and improve HSE management systems, with our commitments and beliefs and consistent with world-class standards;
- Set targets and objectives to avoid, reduce or mitigate HSE related impacts on people and planet;
- Continuously monitor performance, identify, prioritize, assess and take actions to mitigate HSE risks and opportunities;
- Drive continuous HSE improvement through setting and reviewing targets using appropriate best available practices and providing all employees with appropriate training to understand the impacts of their work activities on the environment;
- Promote a positive HSE culture through effective communication, participation and consultation with employees and business partners;
- Communicate with all our stakeholders on the progress and performance of Health, Safety, Environment and Sustainability management;
- Prevent injury and ill-health to employees and business partners by eliminating hazards and providing a safe and healthy work environment and minimizing the risks associated with occupational hazards;
- Drive positive healthcare outcomes for our employees, business partners and the local community;
- Implement regular health surveillance and risk-based exposure monitoring of employees and ensure the participation and consultation of workers, and their representatives (when applicable) in the decision-making process for Occupational Health and Safety matters;
- Conserve natural resources by adopting environment-friendly and energy-efficient technologies and through process improvements;
- Commit to take responsibility when conducting our business by integrating environmental, social and governance (ESG) factors into our operational processes;
- Manage waste from our operations and adopt the principles of waste avoidance, reuse, recycling and beneficial utilization to minimize discharge and disposal to the environment;
- Consistently assess our climate-related risk, manage our emissions, take appropriate mitigation and adaptation measures and communicate our climate strategy to our stakeholders;
- Ensure that all tailings storage facilities are designed, constructed, operated and closed in compliance with all applicable laws and regulations and in alignment with accepted international practice;
- Work with employees and local community representatives to educate them on the nature of our impacts, how we manage them, our environmental obligations, and our performance;
- Raise awareness and train employees, business partners, suppliers and other stakeholders to adopt principles and practices in alignment with our policies.

Business leaders will be held accountable for HSE&S performance and line managers are responsible for the full implementation of the HSE&S related standards. We will measure and report performance on a periodic basis to ensure on-going management of health, safety, and environment including the sharing of good practices throughout the organization. The content and implementation of this policy will be reviewed periodically.

Environment, Forest and Climate Change, GoI (MoEF&CC) has accorded Environment Clearance (EC Identification No. EC22A008CG177331) with specific and general conditions to Bharat Aluminium Company Limited on 22.04.2022 for the expansion project of Aluminium Smelter from 5.75 LTPA to 10.85 LTPA under the provisions of EIA Notification 2006 and amendments/circulars issued thereunder. A copy of the EC letter along with Environmental conditions & safeguards is available at MoEF & CC website and is also displayed on our website:

Central Chronicle

7:43 AM

जन सूचना

सर्वसाधारण को यह सूचित किया जाता है कि पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार ने भारत एल्यूमिनियम कंपनी लिमिटेड, कोरबा, छ.ग. को स्मेल्टर संयंत्र की क्षमता विस्तार 5.75 एलटीपीए से 10.85 एलटीपीए करने हेतु पर्यावरण प्रभाव आंकलन अधिसूचना 2006 (यथा संशोधित / परिपत्र अनुसार) के प्रावधानों के अधीन विशिष्ट एवं सामान्य शर्तों के साथ पर्यावरणीय स्वीकृति (EC Identification No. EC22A008CG177331) प्रदान की है।

पर्यावरणीय स्वीकृति पत्र पर्यावरणीय शर्तों एवं सेफगार्ड के साथ पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय तथा कंपनी वेबसाइट Link: <https://www.balcoindia.com/sustainability/environment-compliance/aluminium-smelters/> पर उपलब्ध है।

कृते :-

भारत एल्यूमिनियम कंपनी लिमिटेड
कोरबा, छ.ग.

9:04 AM

Amritsandesh

9:04 AM

BALCO/Sm-5.1(A-01)/Env/2022

28 April 2022

प्रति,

श्रीमान सरपंच / ग्राम सचिव महोदय,

ग्राम पंचायत ... सोनपुरी

विषय : मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु जारी पर्यावरणीय स्वीकृति पत्र जमा करने बाबत

सन्दर्भ : पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा प्रदत्त पर्यावरण स्वीकृति पत्र - EC22A008CG177331 (File (फाइल नं - # J-11011/123/2007/-IA-II(I)) दिनांक 22 अप्रैल 2022

महोदय,

विषयान्तर्गत, आपको सहर्ष सूचित किया जाता है, कि मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार द्वारा उपरोक्त संदर्भित पत्र के माध्यम से पर्यावरणीय स्वीकृति प्रदान की गयी है। उक्त पर्यावरणीय स्वीकृति की कंडिका क्रमांक- 10 (विविध शर्त क्रमांक 2) के पालनार्थ आपसे निवेदन हैं कि, मंत्रालय द्वारा प्रदत्त इस स्वीकृति की प्रति (संलग्न) आपके कार्यालय में पत्र प्राप्ति से 30 दिनों तक कृपया अवलोकनार्थ प्रदर्शित कर अनुग्रहित करें।

उक्त के परिपालनार्थ आपसे सहयोग अपेक्षित है।

धन्यवाद,

कृते,

भारत एल्यूमिनियम कंपनी लिमिटेड (बालको)



अरुण के सिंह

मुख्य प्रचालन अधिकारी - मेटाल

सी.ना.कं. 42

सदस्य

ग्राम पंचायत सोनपुरी
जनपद पंचायत सोनपुरी
जिला कारवा (छ.ग.)

संलग्न : पर्यावरणीय स्वीकृति

BALCO/Sm-5.1(A-01)/Envr/2022

28 April 2022

प्रति,

श्रीमान सरपंच / ग्राम सचिव महोदय,

ग्राम पंचायत सोनगुड़ा

विषय : मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु जारी पर्यावरणीय स्वीकृति पत्र जमा करने बाबत

सन्दर्भ : पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा प्रदत्त पर्यावरण स्वीकृति पत्र - EC22A008CG177331 (File फाइल नं - # J-11011/123/2007/-IA-II(I)) दिनांक 22 अप्रैल 2022

महोदय,

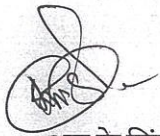
विषयान्तर्गत, आपको सहर्ष सूचित किया जाता है, कि मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार द्वारा उपरोक्त संदर्भित पत्र के माध्यम से पर्यावरणीय स्वीकृति प्रदान की गयी है। उक्त पर्यावरणीय स्वीकृति की कंडिका क्रमांक- 10 (विविध शर्त क्रमांक 2) के पालनार्थ आपसे निवेदन हैं कि, मंत्रालय द्वारा प्रदत्त इस स्वीकृति की प्रति (संलग्न) आपके कार्यालय में पत्र प्राप्ति से 30 दिनों तक कृपया अवलोकनार्थ प्रदर्शित कर अनुग्रहित करें।

उक्त के परिपालनार्थ आपसे सहयोग अपेक्षित है।

धन्यवाद,

कृते,

भारत एल्यूमिनियम कंपनी लिमिटेड (बालको)



आर के सिंह

मुख्य प्रचालन अधिकारी - मेटाल

संलग्न : पर्यावरणीय स्वीकृति

Laxmi Singh
सरपंच,
ग्राम पंचायत सोनगुड़ा,
जनपद पंचायत कोरबा,
जिला कोरबा CG

BALCO/Sm-5.1(A-01)/Envr/2022

28 April 2022

प्रति,

श्रीमान सरपंच / ग्राम सचिव महोदय,

ग्राम पंचायत दोंदरो

विषय : मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु जारी पर्यावरणीय स्वीकृति पत्र जमा करने बाबत

सन्दर्भ : पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा प्रदत्त पर्यावरण स्वीकृति पत्र - EC22A008CG177331 (File (फाइल नं - # J-11011/123/2007/-IA-II(I)) दिनांक 22 अप्रैल 2022

महोदय,

विषयान्तर्गत, आपको सहर्ष सूचित किया जाता है, कि मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार द्वारा उपरोक्त संदर्भित पत्र के माध्यम से पर्यावरणीय स्वीकृति प्रदान की गयी है। उक्त पर्यावरणीय स्वीकृति की कंडिका क्रमांक- 10 (विविध शर्त क्रमांक 2) के पालनार्थ आपसे निवेदन है कि, मंत्रालय द्वारा प्रदत्त इस स्वीकृति की प्रति (संलग्न) आपके कार्यालय में पत्र प्राप्ति से 30 दिनों तक कृपया अवलोकनार्थ प्रदर्शित कर अनुग्रहित करें।

उक्त के परिपालनार्थ आपसे सहयोग अपेक्षित है।

धन्यवाद,

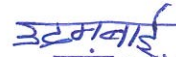
कृते,

भारत एल्यूमिनियम कंपनी लिमिटेड (बालको)



आर के सिंह

मुख्य प्रचालन अधिकारी - मेटाल



सरपंच 28/4/22

ग्राम पंचायत दोंदरो

जनपद पंचायत - कोरबा

जिला-कोरबा (छ.ग.)

संलग्न : पर्यावरणीय स्वीकृति

BALCO/Sm-5.1(A-01)/Envr/2022

28 April 2022

प्रति,

श्रीमान सरपंच / ग्राम सचिव महोदय,

ग्राम पंचायत जामबहार

विषय : मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु जारी पर्यावरणीय स्वीकृति पत्र जमा करने बाबत
सन्दर्भ : पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा प्रदत्त पर्यावरण स्वीकृति पत्र - EC22A008CG177331 (File फाइल नं - # J-11011/123/2007/-IA-II(I)) दिनांक 22 अप्रैल 2022

महोदय,

विषयान्तर्गत, आपको सहर्ष सूचित किया जाता है, कि मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार द्वारा उपरोक्त संदर्भित पत्र के माध्यम से पर्यावरणीय स्वीकृति प्रदान की गयी है। उक्त पर्यावरणीय स्वीकृति की कंडिका क्रमांक- 10 (विविध शर्त क्रमांक 2) के पालनार्थ आपसे निवेदन है कि, मंत्रालय द्वारा प्रदत्त इस स्वीकृति की प्रति (संलग्न) आपके कार्यालय में पत्र प्राप्ति से 30 दिनों तक कृपया अवलोकनार्थ प्रदर्शित कर अनुग्रहित करें।

उक्त के परिपालनार्थ आपसे सहयोग अपेक्षित है।

धन्यवाद,

कृते,

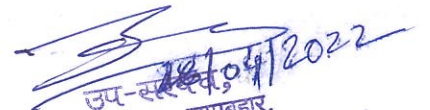
भारत एल्यूमिनियम कंपनी लिमिटेड (बालको)



आर के सिंह

मुख्य प्रचालन अधिकारी - मेटाल

संलग्न : पर्यावरणीय स्वीकृति


उप-सरपंच,
ग्राम पंचायत - जामबहार,
जनपद पंचायत - कोरबा,
जिला - कोरबा (छ. ग.)

BALCO/Sm-5.1(A-01)/Env/2022

28 April 2022

प्रति,

श्रीमान सरपंच / ग्राम सचिव महोदय,

ग्राम पंचायत चुहिया

विषय : मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु जारी पर्यावरणीय स्वीकृति पत्र जमा करने बाबत

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उक्त के परिपालनार्थ आपसे सहयोग अपेक्षित है।

धन्यवाद,

कृते,

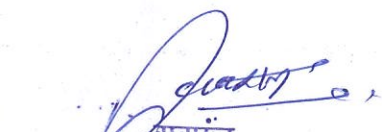
भारत एल्यूमिनियम कंपनी लिमिटेड (बालको)



आर के सिंह

मुख्य प्रचालन अधिकारी - मेटाल

संलग्न : पर्यावरणीय स्वीकृति


सरपंच
ग्राम पंचायत-चुहिया
ज.पं.-कोरबा, जिला-कोरबा (छ.ग.)

BALCO/Sm-5.1(A-01)/Envr/2022

28 April 2022

प्रति,

श्रीमान सरपंच / ग्राम सचिव महोदय,

ग्राम पंचायत बेला

विषय : मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु जारी पर्यावरणीय स्वीकृति पत्र जमा करने बाबत

सन्दर्भ : पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय द्वारा प्रदत्त पर्यावरण स्वीकृति पत्र - EC22A008CG177331 (File फाइल नं - # J-11011/123/2007/-IA-II(I)) दिनांक 22 अप्रैल 2022

महोदय,

विषयान्तर्गत, आपको सहर्ष सूचित किया जाता है, कि मेसर्स भारत एल्यूमिनियम कंपनी लिमिटेड को स्मेल्टर क्षमता विस्तार 5.75 LTPA से 10.85 LTPA हेतु पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार द्वारा उपरोक्त संदर्भित पत्र के माध्यम से पर्यावरणीय स्वीकृति प्रदान की गयी है। उक्त पर्यावरणीय स्वीकृति की कंडिका क्रमांक- 10 (विविध शर्त क्रमांक 2) के पालनार्थ आपसे निवेदन है कि, मंत्रालय द्वारा प्रदत्त इस स्वीकृति की प्रति (संलग्न) आपके कार्यालय में पत्र प्राप्ति से 30 दिनों तक कृपया अवलोकनार्थ प्रदर्शित कर अनुग्रहित करें।

उक्त के परिपालनार्थ आपसे सहयोग अपेक्षित है।

धन्यवाद,

कृते,

भारत एल्यूमिनियम कंपनी लिमिटेड (बालको)



आर के सिंह

मुख्य प्रचालन अधिकारी - मेटाल

संलग्न : पर्यावरणीय स्वीकृति



सरपंच

ग्राम पंचायत - बेला

जनपद पंचायत - कोरबा

जिला - कोरबा (छ.ग.)