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

BALCO/ENV/A-02(A)/2026/207

Date: 15.05.2026

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

Sub: Half yearly compliance status (October 2025 to March 2026) for Alumina refinery and Aluminium Smelter Plant (Potline-1)- BALCO, Korba (CG).

Respected Sir,

Please find enclosed herewith, the half yearly compliance report of the Environmental Clearance No. J-11011/34/2003-IA II (I) dated 05.11.2003 for Alumina refinery and Aluminium smelter plant of Bharat Aluminium Company Limited.

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

Yours truly,
On behalf of Bharat Aluminum Company Ltd.

(Authorized Signatory)

Encl: a/a

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

COMPLIANCE STATUS OF EXPANSION OF ALUMINA REFINERY AND ALUMINIUM SMELTER PLANT BY M/s BHARAT ALUMINIUM COMPANY LIMITED (BALCO) AT KORBA,(C.G.)

No. J-11011/34/2003-IA II (I) MOEF – 5 Nov. 2003

Duration: October 2025 to March 2026

A. SPECIFIC CONDITION

Sl. No	Conditions	Compliance status
i	The gaseous emissions from various process units should confirm to the standard prescribed from time to time. The State board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry, its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency. Ambient air quality monitoring stations should be set up in consultation with the Chhattisgarh Environment Conservation Board. Data should be regularly monitored, and records maintained, and report submitted to the Ministry/CPCB/CECB once in six months.	The gaseous emissions from various process units are within the prescribed standard. CEMS has been installed in the stacks of all units and connected with CPCB and CECB servers for real-time continuous data monitoring. Ambient air quality monitoring stations have been set up in consultation with the Chhattisgarh Environment Conservation Board (CECB) and data is regularly monitored and records are maintained. Reports are submitted to CECB every month and to the Ministry/CPCB once every six months. (Copy of stack emission reports are attached as **Annexure–I** and copy of ambient air quality reports are attached as **Annexure– II).**
Ii	There should be no discharge of process effluent as reflected in the EIA/EMP report. The proposed refinery and smelter plant shall be designed for zero discharge. In addition, efforts shall be made to reuse wastewater from the existing plant. The domestic wastewater after treatment in Sewage Treatment Plant should be used for green belt development.	The Smelter unit has been designed for zero effluent discharge and best efforts are made so that there is no discharge of process effluent from Smelter unit. Efforts are made to reuse the wastewater from smelter after treatment. The domestic wastewater is treated in Sewage Treatment Plant and the treated water is being used for Horticulture/ Greenbelt development purposes.
Iii	In plant control measures for checking fugitive emission from spillage/ raw materials handling should be provided. Fluoride emissions should be monitored from the existing pot room, proposed pot and in the forage around the smelter complex. Further, a dry scrubbing system to control the emissions from the pot lines should be provided. The fluoride emissions	A fume treatment plant along with proper pot hoods is in place to check fugitive emissions. Fluoride emissions from pot rooms and forage fluoride around the smelter complex are monitored regularly. (Copy of fugitive emission reports are attached as **Annexure –III** and copy of forage fluoride monitoring reports attached as **Annexure – IV**).

	shall not exceed 0.8 Kg/t of aluminium produced.	Dry scrubbing system has been provided in the Pre-baked Smelter. Fluoride emissions are well within the norms of 0.8 kg/t of Aluminium produced.
Iv	The particulate emissions from the new calciner shall be controlled by installation of electrostatic precipitator. The particulate emissions shall not exceed 150 mg/Nm^3. All the boiler stacks shall be provided with stack height as per the CPCB guidelines. The boiler and calciner stacks should be equipped with continuous monitoring devise to check SPM emission levels. The Nox emission from boiler and calciner stacks shall be less than 50 ppm as guaranteed by the manufacturers. Low Nox burners should be installed to control the NOx emissions.	The Alumina plant operation has been stopped since September 2009 and we have submitted the letter of intimation for the same to CECB via letter no. No. Kb/Safety/2013/112.
V	The poly-aromatic hydrocarbons from the carbon plant (anode bake oven) should not exceed 2 mg/Nm^3.	The poly-aromatic hydrocarbons from the carbon plant (anode bake oven) is within 2 mg/Nm^3. (Copy of stack emission monitoring reports attached as **Annexure – I**)
vi	The company should adopt a dry disposal (High concentration slurry disposal) system for red mud disposal. The ground water quality should be monitored around the red mud ponds by providing piezometric holes.	The Alumina plant operation has been stopped since September 2009 and we have submitted the letter of intimation for the same to CECB via letter no. No. Kb/Safety/2013/112. The existing red mud ponds have been converted into ash dyke for disposal of fly ash generated from power plants as per approval granted in Environment Clearances received for BALCO Power plants. Ground water quality is being monitored regularly around these ponds/dyke and copy of monitoring reports are submitted to CECB and MoEF&CC. (Copy of groundwater quality monitoring reports attached as **Annexure – V**).
vii	The spent pot lining generated from the smelter should be utilized for cement/steel manufacturing, alternatively to be disposed off in a secured landfill constructed as per the design of CPCB. The location of the landfill site should be approved by the Chhattisgarh Environment Conservation Board.	For utilizing the Spent Pot Lining (SPL) generated from the Smelter, BALCO has entered into an agreement with authorized co-processors for detoxification and further usage in cement/steel plants as per Central Pollution Control Board (CPCB) guidelines.

		Captive SLF for storage of Hazardous Waste is approved by the CECB as per Hazardous and Other Wastes' (Management and Transboundary Movement) Rules 2016. The approved design of captive SLF is attached as **Annexures VI (Colly) & VII.**
viii	A green belt of adequate width and density should be developed in an area of 90 acre within and around the plant premises as per the CPCB guidelines.	Plantation is carried out in and around the plant premises on a regular basis as per the CPCB guidelines to comply with the conditions. CECB approved 3rd party verification has also been completed and report has been submitted to CECB office. (Copy of 3rd party verification report attached as **Annexure–VIII** and copy of greenbelt details attached as **Annexure–IX).**
ix	Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act.	Regular PME of employees is being conducted and records are maintained as per the Factories Act.
x	All the recommendations of the Charter for Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector should be strictly implemented.	The compliance status of the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) is attached as **Annexure – X.**
General Conditions		
i	The project authorities must strictly adhere to the stipulation made by the Chhattisgarh Environment Conservation Board and the State Government.	Complied with.
ii	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment and Forests.	No further expansion or modifications in the plant is carried out without prior approval of the Ministry of Environment and Forests.
iii	Adequate ambient air quality-monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO2 and NOx are anticipated in consultation with the State Pollution Control Board. Data on ambient air quality, fugitive emission and stack emissions should be regularly submitted to this ministry including its Regional Office at Bhopal and the State Pollution Control Board/Central Pollution Control Board once in six months.	Ambient air quality monitoring stations have been established in consultation with Chhattisgarh Environment Conservation Board. The data of stack emission monitoring (**Annexure–I),** ambient air quality monitoring (**Annexure–II)** and fugitive emission monitoring (**Annexure–III)** are being submitted to MoEFCC/CECB on regular basis.

iv	Industrial wastewater should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 December, 1993 or as amended from time to time. The treated wastewater should be utilized for plantation purpose.	All the wastewater generated is properly collected and treated in the ETP with RO system and the treated water is reused/recycled in the plant.
v	The overall noise levels in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measured including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under Rules, 1989 viz. 75 dBA (Day time) and 70 dBA (Nighttime).	Noise prone equipment has been provided with acoustic enclosures and noise level kept below 85 dBA. Moreover, noise level is being regularly monitored and personal protective equipment like earplugs and earmuffs have been provided to people working in high noise prone areas. The ambient noise is also being monitored regularly, and all records observed well within the norms. Copy of Ambient noise monitoring report is attached as **Annexure–XI.**
vi	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further the company must undertake socio-economic development-activities in the surrounding villages like community development programs, educational programs, drinking water supply and health care etc.	All environmental protection measures have been implemented. Socio-economic developmental projects like setting up regular Health Camps and Cancer Hospital, watershed development, upgradation of schools, Mother-Child Care programs have been taken up.
vii	The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Separate funds are allocated for the implementation of environmental protection measures and not diverted for any other use.
viii	The Regional Office of this Ministry at Bhopal/Central pollution Control Board/State Pollution Control Board will monitor stipulated conditions. A six monthly compliance report and the monitored data along with Statistical interpretation should be submitted to them regularly.	Complied with. Last report was submitted vide: Letter No. BALCO/ENV/A-02(A)/2025/492 Dated 16th October 2025. Copy of last submitted report attached as **Annexure–XII.**
ix	The project proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with	Complied with.

	the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http:/envfor.nic.in. ; This should be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional office.	We had advertised in three newspapers. Please refer to **Annexure–XIII.**
x	The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	The expansion project was approved by MoEFCC vide EC letter No. J-11011/34/2003-IA-II (I) MoEF dated 05.11.2003 and Consent to Establish vide letter No. 4332/TS/CECB/2003 dated 25.11.2003. We have commenced the land development work as per the Consent to Establish and final approval i.e. Consent to Operate vide letter No. 121/TS/CECB/2005 dated 06.01.2005 and letter No. 123/TS/CECB/2005 dated 06.01.2005 **.**
3.0	The Ministry may revoke or suspend the clearance if implementation of any of the above conditions is not satisfactory.	Noted
4.0	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner will implement these conditions	Noted
5.0	The above conditions will be forced, inter-alia under the provisions of the water (Prevention& Control of Pollution) Act 1974, the Air (Prevention &Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 1989/2003 and the Public Liability insurance Act, 1991 along with their amendments and rules.	Noted

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited	Report No:	VLL/VLS/25-26/15704/PL-1
KORBA (C.G.)	Issue Date:	2025-11-05
	P.O No:	8500005780
	P.O Date:	2022-06-29

Sample Particular:- STACK EMISSION MONITORING AT POTLINE - 1

Analysis starting date :- 2025-10-11 **Analysis Completion date :- 2025-10-23**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, SO2;

TEST RESULTS

POTLINE - 1					POTLINE - 1 FTP - 1	POTLINE - 1 FTP - 2	POTLINE - 1 FTP - 3	POTLINE - 1 FTP - 4	Method
S No.	Location	Parameter	Limits	Units	2025-10-10	2025-10-22	2025-10-10	2025-10-22	
1	POTLINE - 1	Height of the stack	-	m	80	80	80	80	-
2		Diameter	-	m	6.7	6.7	6.7	6.7	-
3		Area of Cross section	-	m^2	35.271	35.271	35.271	35.271	-
4		Stack Temperature	-	°C	107	108	106	109	-
5		Stack Pressure	-	mmHg	728	731	731	730	-
6		Velocity	-	m/s	9.5	9.9	10.0	10.2	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	906138	945694	960287	970471	
8		Particulate Matter (PM)	30	mg/Nm^3	3.21	2.61	3.45	3.26	USEPA M-5
9		Particulate Fluoride	-	mg/Nm^3	0.085	0.069	0.076	0.087	USEPA M-13B
10		Gaseous Fluoride	-	mg/Nm^3	0.239	0.204	0.250	0.232	
11		Sulphur Dioxide as SO_2	-	mg/Nm^3	123	109	137	120	Measured by Portable Combustion Analyser

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

ENVIRONMENT LABORATORY
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REGD. No- DL 3300/99
Sr. No.-5

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M/s. Bharat Aluminium Company Limited	Issue Date:	2025-11-05
KORBA (C.G.)	P.O No:	8500005780
	P.O Date:	2022-06-29

Sample Particular:- STACK EMISSION MONITORING AT GAP - 1

Analysis starting date :- 2025-10-19 **Analysis Completion date :- 2025-10-28**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, SO_2, NO_X, HC, VOC and PAH;

TEST RESULTS

GAP - 1					GAP - 1 D 6	GAP - 1 D 7	GAP - 1 D 8	GAP - 1 D 9	Method
S No.	**Location**	**Parameter**	**Limits**	**Units**	**2025-10-18**	**2025-10-18**	**2025-10-18**	**2025-10-18**	
1	GAP - 1	Height of the stack	-	m	60	60	60	60	-
2		Diameter	-	m	1.8	0.36	0.36	1.8	-
3		Area of Cross section	-	m^2	2.546	0.102	0.102	2.546	-
4		Stack Temperature	-	°C	42	62	40	59	-
5		Stack Pressure	-	mmHg	728	726	728	728	-
6		Velocity	-	m/s	8.3	8.6	6.3	7.6	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	68939	2683	2110	59892	
8		Particulate Matter (PM)	30	mg/Nm^3	16.8	13.2	7.7	10.3	USEPA M-5
9		Gaseous Fluoride	-	mg/Nm^3	0.046	0.054	0.036	0.061	USEPA M-13B
10		Sulphur Dioxide as SO_2	-	mg/Nm^3	8.6	25.7	11.4	5.7	Measured by Portable Combustion Analyser
11		Oxides of Nitrogen NO_X as NO_2	-	mg/Nm^3	ND	4.1	2.1	ND	
12		Hydrocarbon as HC	-	PPM	ND	ND	ND	ND	
13		VOC	-	mg/Nm^3	<0.001	<0.001	<0.001	<0.001	USEPA M-30/31
14		PAH	2	mg/Nm^3	0.012	0.015	0.011	0.014	CARB 429

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM limit as per the CTE No. 2207/TS/CECB/2022**

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited	Report No:	VLL/VLS/25-26/18084/PL-1
KORBA (C.G.)	Issue Date:	2025-12-05
	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT POTLINE - 1

Analysis starting date :- 2025-11-12 **Analysis Completion date :- 2025-11-19**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, SO2;

TEST RESULTS

POTLINE - 1					POTLINE - 1 FTP - 1	POTLINE - 1 FTP - 2	POTLINE - 1 FTP - 3	POTLINE - 1 FTP - 4	Method
S No.	Location	Parameter	Limits	Units	2025-11-15	2025-11-15	2025-11-11	2025-11-11	
1	POTLINE - 1	Height of the stack	-	m	80	80	80	80	-
2		Diameter	-	m	6.7	6.7	6.7	6.7	-
3		Area of Cross section	-	m^2	35.271	35.271	35.271	35.271	-
4		Stack Temperature	-	°C	108	109	108	110	-
5		Stack Pressure	-	mmHg	735	734	733	731	-
6		Velocity	-	m/s	10.3	9.6	10.1	10.8	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	989288	918389	967438	1026279	
8		Particulate Matter (PM)	30	mg/Nm^3	4.14	2.93	3.05	2.61	USEPA M-5
9		Particulate Fluoride	-	mg/Nm^3	0.066	0.071	0.070	0.087	USEPA M-13B
10		Gaseous Fluoride	-	mg/Nm^3	0.211	0.290	0.272	0.256	
11		Sulphur Dioxide as SO_2	-	mg/Nm^3	137	109	134	117	Measured by Portable Combustion Analyser

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND – Not Deducted

*USD – Unit Under Shut Down

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M/s. Bharat Aluminium Company Limited	Issue Date:	2025-12-05
KORBA (C.G.)	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT GAP - 1

Analysis starting date :- 2025-11-22 **Analysis Completion date :- 2025-12-04**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, SO_2, NO_X, HC, VOC and PAH;

TEST RESULTS

GAP - 1					GAP - 1 D 6	GAP - 1 D 7	GAP - 1 D 8	GAP - 1 D 9	Method
S No.	**Location**	**Parameter**	**Limits**	**Units**	**2025-11-21**	**2025-11-21**	**2025-11-21**	**2025-11-21**	
1	GAP - 1	Height of the stack	-	m	60	60	60	60	-
2		Diameter	-	m	1.8	0.36	0.36	1.8	-
3		Area of Cross section	-	m^2	2.546	0.102	0.102	2.546	-
4		Stack Temperature	-	°C	45	62	42	68	-
5		Stack Pressure	-	mmHg	734	735	735	735	-
6		Velocity	-	m/s	6.9	7.0	6.7	7.7	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	57238	2211	2251	59647	
8		Particulate Matter (PM)	30	mg/Nm^3	14.0	23.2	26.8	17.2	USEPA M-5
9		Gaseous Fluoride	-	mg/Nm^3	0.053	0.047	0.041	0.057	USEPA M-13B
10		Sulphur Dioxide as SO_2	-	mg/Nm^3	9.7	34.3	17.2	8.6	Measured by Portable Combustion Analyser
11		Oxides of Nitrogen NO_X as NO_2	-	mg/Nm^3	ND	4.1	4.1	2.1	
12		Hydrocarbon as HC	-	PPM	ND	ND	ND	ND	
13		VOC	-	mg/Nm^3	<0.001	<0.001	<0.001	<0.001	USEPA M-30/31
14		PAH	2	mg/Nm^3	0.015	0.012	0.017	0.016	CARB 429

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM limit as per the CTE No. 2207/TS/CECB/2022**

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited	Report No:	VLL/VLS/25-26/20775/PL-1
KORBA (C.G.)	Issue Date:	2026-01-05
	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT POTLINE - 1

Analysis starting date :- 2025-12-06 **Analysis Completion date :- 2025-12-22**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, Total Fluoride;

TEST RESULTS

POTLINE - 1					POTLINE - 1 FTP - 1	POTLINE - 1 FTP - 2	POTLINE - 1 FTP - 3	POTLINE - 1 FTP - 4	Method
S No.	Location	Parameter	Limits (Max)	Units	2025-12-11	2025-12-06	2025-12-05	2025-12-18	
1	POTLINE - 1	Height of the stack	-	m	80	80	80	80	-
2		Diameter	-	m	6.7	6.7	6.7	6.7	-
3		Area of Cross section	-	m^2	35.271	35.271	35.271	35.271	-
4		Stack Temperature	-	°C	103	104	106	112	-
5		Stack Pressure	-	mmHg	735	735	736	732	-
6		Velocity	-	m/s	10.3	9.3	9.9	9.8	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	1002435	902710	957179	927675	
8		Particulate Matter (PM)	30	mg/Nm^3	3.61	2.57	3.95	3.94	USEPA M-5
9		Particulate Fluoride	0.65	mg/Nm^3	0.066	0.072	0.059	0.081	USEPA M-13B
10		Gaseous Fluoride	-	mg/Nm^3	0.247	0.298	0.234	0.340	
11		Total Fluoride as F	0.8	kg/ton of Al	0.036	0.038	0.032	0.045	

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM & TF limit as per the CTO No. 7398/TS/CECB/2025**

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

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M/s. Bharat Aluminium Company Limited	Issue Date:	2026-01-05
KORBA (C.G.)	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT GAP - 1

Analysis starting date :- 2025-12-22 **Analysis Completion date :- 2025-12-30**

Test Required :- PM;

TEST RESULTS

GAP - 1					GAP - 1 D 6	GAP - 1 D 7	GAP - 1 D 8	GAP - 1 D 9	Method
S No.	Location	Parameter	Limits (Max)	Units	2025-12-20	2025-12-20	2025-12-20	2025-12-20	
1	GAP - 1	Height of the stack	-	m	60	60	60	60	-
2		Diameter	-	m	1.8	0.36	0.36	1.8	-
3		Area of Cross section	-	m^2	2.546	0.102	0.102	2.546	-
4		Stack Temperature	-	°C	45	52	49	62	-
5		Stack Pressure	-	mmHg	733	733	733	733	-
6		Velocity	-	m/s	7.9	6.0	8.5	8.4	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	65444	1948	2786	66054	
8		Particulate Matter (PM)	30	mg/Nm^3	12.7	17.2	18.0	13.8	USEPA M-5

***Instrument Used - Vayubodhan Stack Sampler Kit**
***ND – Not Deducted**
***USD – Unit Under Shut Down**
***PM limit as per the CTO No. 7397/TS/CECB/2025**

ENVIRONMENT LABORATORY Vimta VIMTA LABS Sr. No.-5

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited	Report No:	VLL/VLS/25-26/23223/PL-1
KORBA (C.G.)	Issue Date:	2026-02-05
	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT POTLINE - 1

Analysis starting date :- 2026-01-03 **Analysis Completion date :- 2026-01-17**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, Total Fluoride;

TEST RESULTS

POTLINE - 1					POTLINE - 1 FTP - 1	POTLINE - 1 FTP - 2	POTLINE - 1 FTP - 3	POTLINE - 1 FTP - 4	Method
S No.	Location	Parameter	Limits (Max)	Units	2026-01-14	2026-01-02	2026-01-02	2026-01-03	
1	POTLINE - 1	Height of the stack	-	m	80	80	80	80	-
2		Diameter	-	m	6.7	6.7	6.7	6.7	-
3		Area of Cross section	-	m^2	35.271	35.271	35.271	35.271	-
4		Stack Temperature	-	°C	101	103	98	100	-
5		Stack Pressure	-	mmHg	731	733	733	736	-
6		Velocity	-	m/s	9.7	9.0	9.2	9.5	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	943924	873530	904977	933280	
8		Particulate Matter (PM)	30	mg/Nm^3	4.00	2.83	4.59	3.18	USEPA M-5
9		Particulate Fluoride	0.65	mg/Nm^3	0.062	0.069	0.073	0.079	USEPA M-13B
10		Gaseous Fluoride	-	mg/Nm^3	0.295	0.272	0.357	0.369	
11		Total Fluoride as F	0.8	kg/ton of Al	0.038	0.033	0.044	0.047	

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM & TF limit as per the CTO No. 7398/TS/CECB/2025**

ENVIRONMENT LABORATORY VIMTA LABS REGD. No- DL 3300/99 VIMTA

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited	Report No:	VLL/VLS/25-26/23223/GAP-1
KORBA (C.G.)	Issue Date:	2026-02-05
	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT GAP - 1

Analysis starting date :- 2026-01-15 **Analysis Completion date :- 2026-01-15**

Test Required :- PM;

TEST RESULTS

GAP - 1					GAP - 1 D 6	GAP - 1 D 7	GAP - 1 D 8	GAP - 1 D 9	Method
S No.	**Location**	**Parameter**	**Limits (Max)**	**Units**	**2026-01-14**	**2026-01-14**	**2026-01-14**	**2026-01-14**	
1	GAP - 1	Height of the stack	-	m	60	60	60	60	-
2		Diameter	-	m	1.8	0.36	0.36	1.8	-
3		Area of Cross section	-	m^2	2.546	0.102	0.102	2.546	-
4		Stack Temperature	-	°C	47	39	37	57	-
5		Stack Pressure	-	mmHg	734	734	735	734	-
6		Velocity	-	m/s	8.4	6.2	8.8	11.7	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	69245	2100	3004	93526	
8		Particulate Matter (PM)	30	mg/Nm^3	8.4	6.6	10.0	14.1	USEPA M-5

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM limit as per the CTO No. 7397/TS/CECB/2025**

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ISSUED TO:	Report No:	VLL/VLS/25-26/24935/PL-1
M/s. Bharat Aluminium Company Limited	Issue Date:	2026-03-05
KORBA (C.G.)	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT POTLINE - 1

Analysis starting date :- 2026-02-13 **Analysis Completion date :- 2026-02-27**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, Total Fluoride;

TEST RESULTS

POTLINE - 1					POTLINE - 1 FTP - 1	POTLINE - 1 FTP - 2	POTLINE - 1 FTP - 3	POTLINE - 1 FTP - 4	Method
S No.	Location	Parameter	Limits (Max)	Units	2026-02-26	2026-02-12	2026-02-12	2026-02-25	
1	POTLINE - 1	Height of the stack	-	m	80	80	80	80	-
2		Diameter	-	m	6.7	6.7	6.7	6.7	-
3		Area of Cross section	-	m^2	35.271	35.271	35.271	35.271	-
4		Stack Temperature	-	°C	106	109	102	103	-
5		Stack Pressure	-	mmHg	730	736	734	732	-
6		Velocity	-	m/s	10.1	9.1	8.7	9.3	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	968555	872922	847820	901417	
8		Particulate Matter (PM)	30	mg/Nm^3	4.63	5.88	4.15	4.99	USEPA M-5
9		Particulate Fluoride	0.65	mg/Nm^3	0.074	0.084	0.079	0.078	USEPA M-13B
10		Gaseous Fluoride	-	mg/Nm^3	0.319	0.320	0.300	0.267	
11		Total Fluoride as F	0.8	kg/ton of Al	0.050	0.046	0.042	0.041	

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM & TF limit as per the CTO No. 7398/TS/CECB/2025**

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ISSUED TO:	Report No:	VLL/VLS/25-26/24935/GAP-1
M/s. Bharat Aluminium Company Limited	Issue Date:	2026-03-05
KORBA (C.G.)	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT GAP - 1

Analysis starting date :- 2026-02-10 **Analysis Completion date :- 2026-02-11**

Test Required :- PM;

TEST RESULTS

GAP - 1					GAP - 1 D 6	GAP - 1 D 7	GAP - 1 D 8	GAP - 1 D 9	Method
S No.	Location	Parameter	Limits (Max)	Units	2026-02-09	2026-02-09	2026-02-09	2026-02-09	
1	GAP - 1	Height of the stack	-	m	60	60	60	60	-
2		Diameter	-	m	1.8	0.36	0.36	1.8	-
3		Area of Cross section	-	m^2	2.546	0.102	0.102	2.546	-
4		Stack Temperature	-	°C	31	55	40	58	-
5		Stack Pressure	-	mmHg	734	733	733	732	-
6		Velocity	-	m/s	8.8	6.4	7.3	7.0	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	76360	2059	2461	55635	
8		Particulate Matter (PM)	30	mg/Nm^3	7.5	8.3	6.9	7.1	USEPA M-5

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM limit as per the CTO No. 7397/TS/CECB/2025**

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ISSUED TO:	Report No:	VLL/VLS/25-26/28724/PL-1
M/s. Bharat Aluminium Company Limited	Issue Date:	2026-04-04
KORBA (C.G.)	P.O No:	3402001553
	P.O Date:	2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT POTLINE - 1

Analysis starting date :- 2026-03-11 **Analysis Completion date :- 2026-03-23**

Test Required :- PM, Particulate Fluoride, Gaseous Fluoride, Total Fluoride;

TEST RESULTS

POTLINE - 1					POTLINE - 1 FTP - 1	POTLINE - 1 FTP - 2	POTLINE - 1 FTP - 3	POTLINE - 1 FTP - 4	Method
S No.	Location	Parameter	Limits (Max)	Units	2026-03-11	2026-03-21	2026-03-10	2026-03-17	
1	POTLINE - 1	Height of the stack	-	m	80	80	80	80	-
2		Diameter	-	m	6.7	6.7	6.7	6.7	-
3		Area of Cross section	-	m^2	35.271	35.271	35.271	35.271	-
4		Stack Temperature	-	°C	106	110	101	108	-
5		Stack Pressure	-	mmHg	732	731	732	730	-
6		Velocity	-	m/s	9.3	9.6	8.4	9.5	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	894282	912240	818537	906235	
8		Particulate Matter (PM)	30	mg/Nm^3	4.60	2.87	4.80	3.58	USEPA M-5
9		Particulate Fluoride	0.65	mg/Nm^3	0.117	0.067	0.098	0.080	USEPA M-13B
10		Gaseous Fluoride	-	mg/Nm^3	0.376	0.270	0.383	0.302	
11		Total Fluoride as F	0.8	kg/ton of Al	0.058	0.040	0.052	0.045	

***Instrument Used - Vayubodhan Stack Sampler Kit**

***ND – Not Deducted**

***USD – Unit Under Shut Down**

***PM & TF limit as per the CTO No. 7398/TS/CECB/2025**

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ISSUED TO: **M/s. Bharat Aluminium Company Limited** **KORBA (C.G.)**	Report No: VLL/VLS/25-26/28724/GAP-1 Issue Date: 2026-04-04 P.O No: 3402001553 P.O Date: 2025-10-01

Sample Particular:- STACK EMISSION MONITORING AT GAP - 1

Analysis starting date :- 2026-03-09

Analysis Completion date :- 2026-03-09

Test Required :- PM;

TEST RESULTS

GAP - 1					GAP - 1 D 6	GAP - 1 D 7	GAP - 1 D 8	GAP - 1 D 9	Method
S No.	**Location**	**Parameter**	**Limits (Max)**	**Units**	**2026-03-07**	**2026-03-07**	**2026-03-07**	**2026-03-07**	
1	GAP - 1	Height of the stack	-	m	60	60	60	60	-
2		Diameter	-	m	1.8	0.36	0.36	1.8	-
3		Area of Cross section	-	m^2	2.546	0.102	0.102	2.546	-
4		Stack Temperature	-	°C	46	62	47	65	-
5		Stack Pressure	-	mmHg	731	730	729	730	-
6		Velocity	-	m/s	8.0	6.7	6.5	9.4	USEPA M-2
7		Volumetric Flow Rate	-	Nm^3/Hr	65884	2102	2132	72962	
8		Particulate Matter (PM)	30	mg/Nm^3	8.4	6.8	7.6	8.0	USEPA M-5

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND – Not Deducted

*USD – Unit Under Shut Down

*PM limit as per the CTO No. 7397/TS/CECB/2025

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No- DL 33... Sr. No.

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/15704/002
	Issue Date:	2025-11-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-10-02

Analysis Completion date :- 2025-11-04

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : NEW ETP									
Sampling Date			2025-10-01	2025-10-04	2025-10-07	2025-10-09	2025-10-13	2025-10-15	2025-10-19	2025-10-21	2025-10-27	Method
Sulphur Dioxide as SO_2	µg/m³	80	29.6	33.4	23.8	33.1	21.8	34.9	25.0	36.6	31.9	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	10.6	12.8	15.5	13.4	16.3	18.4	14.7	17.0	15.4	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	53.9	48.2	51.2	55.8	49.3	57.6	55.7	46.5	52.3	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	18.4	14.7	17.2	21.7	19.1	22.8	25.3	26.1	22.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.5	2.1	1.8	1.5	1.8	1.3	1.2	1.0	1.3	APHA 401
Benzene as C_6H_6	µg/m³	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	4.6	5.8	5.2	7.3	6.8	5.1	5.9	7.7	6.1	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	0.296	0.342	0.361	0.418	0.339	0.372	0.307	0.446	0.384	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	3.4	7.1	2.2	4.8	5.5	7.6	8.4	10.9	6.8	IS 5182 (PART-9) 2019

- Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.
- Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No- DL 3300/99 Sr. No.-5

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ISSUED TO:
M/s. Bharat Aluminium Company Limited,
KORBA (C.G.)

Report No.:	VLL/VLS/25-26/15704/003
Issue Date:	2025-11-05
P.O.No:	8500005780
P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT GAP & BAKE OVEN ROAD (BALCO)

Analysis starting date :- 2025-10-02

Analysis Completion date :- 2025-11-04

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : GAP & BAKE OVEN									
Sampling Date			2025-10-01	2025-10-04	2025-10-07	2025-10-09	2025-10-13	2025-10-15	2025-10-19	2025-10-21	2025-10-27	Method
Sulphur Dioxide as SO_2	µg/m^3	80	28.7	32.7	38.6	41.6	43.3	40.4	34.3	39.1	35.1	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m^3	80	13.8	19.4	17.1	15.5	22.0	24.4	12.1	13.9	18.5	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m^3	100	52.5	57.9	53.7	59.4	64.1	54.6	60.7	59.0	56.8	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m^3	60	18.1	21.7	19.1	25.1	25.2	20.6	26.0	25.7	23.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m^3	400	1.9	2.9	2.2	1.9	2.6	1.8	1.0	1.1	1.2	APHA 401
Benzene as C_6H_6	µg/m^3	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	6.2	5.7	5.3	7.1	5.9	6.2	6.5	7.4	6.2	USEPA IO 3.4
Lead as Pb	µg/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m^3	2000	0.325	0.268	0.493	0.342	0.359	0.409	0.317	0.456	0.362	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m^3	100	5.7	9.4	4.0	6.8	6.3	6.4	7.3	8.6	9.7	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/15704/006
M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-11-05
KORBA (C.G.)	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-10-02 **Analysis Completion date :- 2025-11-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COAL GATE									
Sampling Date			**2025-10-01**	**2025-10-04**	**2025-10-07**	**2025-10-09**	**2025-10-13**	**2025-10-15**	**2025-10-19**	**2025-10-21**	**2025-10-27**	**Method**
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	40.7	29.3	41.0	37.6	34.8	38.2	34.5	39.7	43.7	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	12.8	18.3	20.2	17.1	20.5	22.5	15.3	18.0	17.8	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	54.8	52.6	58.5	58.5	51.7	59.3	60.9	51.7	56.0	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	19.5	18.0	26.2	24.9	22.0	28.0	27.2	26.8	26.0	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	1.3	2.6	2.4	2.0	2.4	2.2	1.4	1.5	1.4	APHA 401
Benzene as C_6H_6	$\mu g/m^3$	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.9	7.3	6.2	5.9	4.6	5.4	6.3	7.8	6.4	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	0.319	0.264	0.378	0.299	0.252	0.283	0.359	0.436	0.371	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	3.8	8.4	4.6	6.5	5.0	8.6	8.9	10.3	7.6	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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

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ISSUED TO:	Report No.:	VLL/VLS/25-26/18084/001
M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-12-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT PARSABHATA GATE (BALCO)

Analysis starting date :- 2025-11-03 **Analysis Completion date :- 2025-12-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : PARSABHATA GATE									
Sampling Date			**2025-11-01**	**2025-11-06**	**2025-11-08**	**2025-11-12**	**2025-11-14**	**2025-11-18**	**2025-11-20**	**2024-11-24**	**2025-11-26**	**Method**
Sulphur Dioxide as SO_2	µg/m^3	80	32.5	34.7	30.4	36.9	31.2	14.8	21.0	30.9	28.8	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m^3	80	13.3	13.0	12.0	14.9	12.5	10.7	11.2	10.0	11.6	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m^3	100	48.7	52.1	45.9	56.5	53.2	57.0	54.2	58.9	54.3	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m^3	60	14.2	18.3	16.5	23.1	17.9	23.1	20.9	24.3	19.0	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m^3	400	1.3	0.9	1.1	0.9	1.1	0.6	0.7	1.2	1.5	APHA 401
Benzene as C_6H_6	µg/m^3	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.6	5.7	4.2	6.6	5.2	4.9	4.1	6.8	5.1	USEPA IO 3.4
Lead as Pb	µg/m^3	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	USEPA IO 3.4
Carbon Monoxide as CO	µg/m^3	2000	0.274	0.327	0.284	0.239	0.294	0.301	0.244	0.286	0.315	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m^3	100	3.7	3.4	3.6	3.9	3.4	4.1	5.0	5.7	3.6	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

ENVIRONMENT LABORATORY Vimta REGD. No- DL 33004/99 VIMTA

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ISSUED TO:	Report No.:	VLL/VLS/25-26/18084/003
M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-12-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT COMPRESSOR HOUSE (BALCO)

Analysis starting date :- 2025-11-03 **Analysis Completion date :- 2025-12-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COMPRESSOR HOUSE									
Sampling Date			2025-11-01	2025-11-06	2025-11-08	2025-11-12	2025-11-14	2025-11-18	2025-11-20	2024-11-24	2025-11-26	Method
Sulphur Dioxide as SO_2	µg/m³	80	29.7	21.8	33.5	36.8	30.8	22.7	20.9	31.3	27.4	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	14.3	18.5	15.1	16.2	17.6	14.4	16.1	13.9	15.8	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	50.9	47.6	54.9	63.9	58.7	51.9	55.3	57.8	60.5	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	18.6	16.8	19.9	25.3	22.8	19.2	21.5	23.9	24.8	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.5	1.3	1.1	1.2	1.2	1.1	1.4	1.2	1.0	APHA 401
Benzene as C_6H_6	µg/m³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	USEPA IO 3.4
Nickel as Ni	ng/m³	20	5.3	5.4	6.1	6.4	5.9	5.5	4.6	7.2	6.8	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	0.241	0.219	0.263	0.378	0.282	0.301	0.329	0.257	0.283	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	8.0	5.9	6.6	4.8	6.0	2.9	3.4	4.1	3.6	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-12-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT ETP SMELTER (BALCO)

Analysis starting date :- 2025-11-03 **Analysis Completion date :- 2025-12-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : ETP SMELTER									
Sampling Date			**2025-11-01**	**2025-11-06**	**2025-11-08**	**2025-11-12**	**2025-11-14**	**2025-11-18**	**2025-11-20**	**2024-11-24**	**2025-11-26**	**Method**
Sulphur Dioxide as SO_2	µg/m³	80	38.7	34.2	32.3	30.5	36.4	30.1	34.5	29.5	33.6	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	12.8	14.8	12.2	17.5	18.5	14.0	15.3	14.3	18.0	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	46.3	57.2	49.3	54.9	52.3	55.8	57.2	51.3	56.4	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	16.3	23.5	17.1	21.9	20.7	22.8	24.3	20.7	24.1	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.1	1.4	1.2	1.5	1.2	1.6	1.0	1.1	1.4	APHA 401
Benzene as C_6H_6	µg/m³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	5.7	5.2	6.7	6.4	5.5	4.9	6.3	5.8	5.1	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	0.268	0.351	0.324	0.303	0.258	0.273	0.268	0.324	0.295	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	4.5	3.1	5.6	4.7	5.3	7.2	3.7	3.9	5.3	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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	Issue Date:	2025-12-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT RAILWAY CONTROL ROOM (BALCO)

Analysis starting date :- 2025-11-03

Analysis Completion date :- 2025-12-04

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : RAILWAY CONTROL ROOM									
Sampling Date			**2025-11-01**	**2025-11-06**	**2025-11-08**	**2025-11-12**	**2025-11-14**	**2025-11-18**	**2025-11-20**	**2024-11-24**	**2025-11-26**	**Method**
Sulphur Dioxide as SO_2	µg/m³	80	19.8	24.0	18.7	27.4	26.1	11.0	12.6	21.6	18.2	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	11.0	12.5	11.0	13.0	12.2	8.2	9.7	10.1	9.5	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	53.2	48.9	55.4	58.7	46.2	56.3	50.9	54.8	57.4	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	18.7	16.3	19.3	23.3	20.6	21.8	21.7	24.6	22.8	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.0	0.8	0.9	0.6	1.0	1.2	1.0	0.9	1.1	APHA 401
Benzene as C_6H_6	µg/m³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2	USEPA IO 3.4
Nickel as Ni	ng/m³	20	4.4	4.4	5.6	4.2	3.8	5.7	6.2	4.9	5.3	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	0.193	0.282	0.256	0.238	0.275	0.242	0.267	0.31	0.269	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	5.2	2.7	3.2	2.5	1.8	3.1	2.7	3.1	3.2	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-12-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT 540MW, DM PLANT (BALCO)

Analysis starting date :- 2025-11-03 **Analysis Completion date :- 2025-12-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : 540MW, DM PLANT									
Sampling Date			**2025-11-01**	**2025-11-06**	**2025-11-08**	**2025-11-12**	**2025-11-14**	**2025-11-18**	**2025-11-20**	**2024-11-24**	**2025-11-26**	**Method**
Sulphur Dioxide as SO_2	µg/m³	80	26.9	37.4	21.8	38.5	31.2	25.4	22.8	34.2	41.1	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	18.8	20.6	17.1	15.5	20.9	11.7	14.0	16.0	18.5	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	54.8	51.3	66.8	62.9	56.4	60.6	58.2	52.1	67.8	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	20.3	18.1	24.2	26.7	22.3	24.5	23.1	21.6	28.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.8	1.3	1.4	1.6	1.5	0.9	1.2	1.5	1.0	APHA 401
Benzene as C_6H_6	µg/m³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	USEPA IO 3.4
Nickel as Ni	ng/m³	20	6.7	5.9	5.4	6.3	5.8	5.3	6.6	5.9	6.1	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	0.236	0.297	0.314	0.342	0.328	0.276	0.241	0.337	0.265	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	8.2	7.6	6.4	8.0	4.8	5.6	6.2	5.9	5.7	IS 5182 (PART-9) 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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KORBA (C.G.)	Issue Date:	2026-01-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT PARSABHATA GATE (BALCO)

Analysis starting date :- 2025-12-05 **Analysis Completion date :- 2026-01-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : PARSABHATA GATE									
Sampling Date			**2025-12-04**	**2025-12-06**	**2025-12-10**	**2025-12-12**	**2025-12-16**	**2025-12-18**	**2025-12-22**	**2025-12-24**	**2025-12-28**	**Method**
Sulphur Dioxide as SO_2	µg/m^3	80	19.1	16.9	27.7	24.8	39.1	26.7	35.8	31.0	37.6	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m^3	80	10.9	12.8	15.3	8.1	13.2	12.7	16.4	13.1	14.9	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m^3	100	57.2	65.4	63.9	58.7	65.1	67.4	61.3	64.5	59.2	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m^3	60	21.8	27.1	24.9	23.4	26.3	28.6	25.4	28.1	24.2	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m^3	400	1.1	0.6	1.3	0.8	1.2	1.0	0.4	0.6	0.9	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m^3	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	6.3	6.8	5.4	5.9	5.2	6.6	4.8	6.1	5.5	USEPA IO 3.4
Lead as Pb	µg/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m^3	2000	152	196	171	214	125	163	185	142	175	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m^3	100	3.8	4.0	3.3	3.6	1.3	7.2	1.9	2.1	2.4	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/20775/003
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-01-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT COMPRESSOR HOUSE (BALCO)

Analysis starting date :- 2025-12-05 **Analysis Completion date :- 2026-01-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COMPRESSOR HOUSE									
Sampling Date			**2025-12-04**	**2025-12-06**	**2025-12-10**	**2025-12-12**	**2025-12-16**	**2025-12-18**	**2025-12-22**	**2025-12-24**	**2025-12-28**	**Method**
Sulphur Dioxide as SO_2	µg/m^3	80	34.5	28.3	36.8	30.0	27.8	31.4	27.4	40.6	37.8	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m^3	80	15.8	13.5	14.2	10.3	17.7	15.7	20.8	22.0	19.3	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m^3	100	64.6	69.1	53.6	56.9	60.5	61.8	63.3	58.4	62.9	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m^3	60	24.4	27.0	21.7	22.9	25.4	27.6	24.0	21.0	23.3	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m^3	400	1.0	0.6	0.8	1.1	0.5	0.9	0.5	0.9	0.7	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m^3	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	6.2	5.8	6.7	6.4	4.9	5.3	6.8	5.9	5.4	USEPA IO 3.4
Lead as Pb	µg/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m^3	2000	194	231	268	159	187	219	206	174	242	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m^3	100	3.1	1.5	5.1	2.9	4.1	4.0	8.7	7.0	5.7	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/20775/002
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-01-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT ETP SMELTER (BALCO)

Analysis starting date :- 2025-12-05 **Analysis Completion date :- 2026-01-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : ETP SMELTER									
Sampling Date			**2025-12-04**	**2025-12-06**	**2025-12-10**	**2025-12-12**	**2025-12-16**	**2025-12-18**	**2025-12-22**	**2025-12-24**	**2025-12-28**	**Method**
Sulphur Dioxide as SO_2	µg/m³	80	32.4	25.7	37.0	29.6	32.6	25.2	33.3	26.3	34.8	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	14.9	13.0	15.6	12.8	16.2	14.3	16.5	19.8	17.1	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	60.9	64.2	57.9	63.0	59.2	66.6	68.4	56.9	64.1	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	24.1	26.5	23.3	24.0	22.2	27.8	30.8	21.6	25.0	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.8	1.1	1.0	1.4	0.6	1.2	0.5	1.3	1.2	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	7.4	5.8	6.3	6.9	7.1	6.5	5.4	6.9	6.2	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	181	274	169	308	256	287	242	157	285	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	3.6	2.2	4.7	3.0	2.3	5.5	0.7	4.5	3.4	IS 5182 (PART-9) RA 2019

- PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.
- C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited,	Report No.:	VLL/VLS/25-26/20775/004
KORBA (C.G.)	Issue Date:	2026-01-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT RAILWAY CONTROL ROOM (BALCO)

Analysis starting date :- 2025-12-05 **Analysis Completion date :- 2026-01-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : RAILWAY CONTROL ROOM									
Sampling Date			**2025-12-04**	**2025-12-06**	**2025-12-10**	**2025-12-12**	**2025-12-16**	**2025-12-18**	**2025-12-22**	**2025-12-24**	**2025-12-28**	**Method**
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	25.7	20.5	27.6	19.5	27.0	22.4	37.1	25.0	34.7	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	9.7	12.2	9.8	9.7	10.5	11.4	23.2	17.2	14.4	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	54.9	63.7	58.6	52.8	60.3	50.8	55.1	57.7	62.1	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	20.7	29.2	23.5	21.4	26.4	20.4	23.1	25.2	28.0	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	1.3	0.9	0.0	0.0	0.8	0.6	0.6	0.8	0.4	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.6	4.3	5.4	6.1	4.8	5.2	4.9	5.5	6.3	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	174	196	214	172	213	145	191	168	205	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	2.5	3.8	15.7	15.4	2.4	2.2	1.6	2.1	2.4	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/20775/005
	Issue Date:	2026-01-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT 540MW, DM PLANT (BALCO)

Analysis starting date :- 2025-12-05

Analysis Completion date :- 2026-01-04

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : 540MW, DM PLANT									
Sampling Date			2025-12-04	2025-12-06	2025-12-10	2025-12-12	2025-12-16	2025-12-18	2025-12-22	2025-12-24	2025-12-28	Method
Sulphur Dioxide as SO_2	µg/m³	80	20.4	14.7	21.5	18.2	40.6	36.3	24.9	28.8	30.2	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	12.4	15.5	13.3	17.5	12.5	16.3	11.4	18.3	18.8	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	58.3	67.1	52.3	60.5	64.8	71.8	59.3	63.4	66.5	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	23.0	29.4	21.5	24.5	26.7	30.5	23.6	25.2	26.9	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.3	0.9	0.7	1.1	1.7	1.2	0.4	0.5	0.9	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	5.6	3.8	6.2	4.4	5.7	5.1	6.8	4.2	7.3	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	278	341	309	256	179	212	309	194	214	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	4.8	2.6	4.1	3.4	3.8	2.5	3.8	2.7	4.2	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.
Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No- DL 33004/93 Sr. No.-5

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ISSUED TO:	Report No.:	VLL/VLS/25-26/23223/001
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-02-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT PARSABHATA GATE (BALCO)

Analysis starting date :- 2026-01-05 **Analysis Completion date :- 2026-02-05**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : PARSABHATA GATE									
Sampling Date			2026-01-02	2026-01-08	2026-01-10	2026-01-14	2026-10-16	2026-01-20	2026-01-22	2026-01-26	2026-01-28	Method
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	15.3	22.0	26.8	33.6	30.8	32.2	18.7	20.8	24.9	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	15.1	14.7	13.6	15.0	13.4	22.0	17.6	14.7	15.9	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	61.6	57.1	53.9	64.2	58.5	63.1	56.9	57.2	63.5	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	24.2	22.0	19.0	27.5	23.8	25.6	21.2	24.6	26.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	0.9	0.7	1.0	1.0	1.0	0.9	1.0	0.9	0.8	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.4	4.8	6.3	4.1	3.9	6.2	5.4	5.2	4.9	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	186	251	237	312	208	226	185	164	243	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	5.4	2.5	2.3	3.8	3.1	2.5	2.4	1.9	2.7	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/23223/003
	Issue Date:	2026-02-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT COMPRESSOR HOUSE (BALCO)

Analysis starting date :- 2026-01-05

Analysis Completion date :- 2026-02-05

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COMPRESSOR HOUSE									
Sampling Date			2026-01-02	2026-01-08	2026-01-10	2026-01-14	2026-10-16	2026-01-20	2026-01-22	2026-01-26	2026-01-28	Method
Sulphur Dioxide as SO_2	µg/m³	80	39.6	27.7	22.2	29.1	27.9	35.7	33.3	26.3	31.6	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	16.1	10.0	9.3	11.9	13.1	14.9	16.1	11.9	15.4	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	61.2	56.4	59.7	66.1	58.9	47.3	53.4	60.9	64.8	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	25.0	21.7	23.6	27.8	23.9	19.4	20.7	25.4	28.9	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.9	0.6	0.8	0.8	0.8	0.6	3.8	1.3	1.0	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	6.1	5.9	6.3	6.9	4.7	5.2	5.8	6.9	5.4	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	172	189	219	238	252	183	228	191	264	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	8.4	5.0	4.4	3.3	3.7	3.2	4.0	2.7	4.5	IS 5182 (PART-9) RA 2019

- Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.
- Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/23223/002
	Issue Date:	2026-02-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT ETP SMELTER (BALCO)

Analysis starting date :- 2026-01-05

Analysis Completion date :- 2026-02-05

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : ETP SMELTER									
Sampling Date			2026-01-02	2026-01-08	2026-01-10	2026-01-14	2026-10-16	2026-01-20	2026-01-22	2026-01-26	2026-01-28	Method
Sulphur Dioxide as SO_2	µg/m³	80	37.0	30.4	35.4	38.1	21.9	34.1	22.4	33.7	20.7	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	18.6	16.0	18.3	12.8	14.2	13.0	15.0	13.9	18.8	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	54.9	59.1	71.3	61.9	65.0	57.8	62.4	54.1	58.6	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	22.7	24.1	29.4	25.3	26.9	23.1	25.7	21.1	25.8	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.8	0.5	0.7	0.9	1.2	0.3	0.9	1.1	0.7	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	4.7	6.3	7.1	6.8	5.9	5.3	6.4	5.3	4.9	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	164	245	344	146	173	261	183	237	191	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	7.1	1.6	3.4	2.0	4.3	1.7	3.6	5.5	3.1	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/23223/004
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-02-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT RAILWAY CONTROL ROOM (BALCO)

Analysis starting date :- 2026-01-05 **Analysis Completion date :- 2026-02-05**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : RAILWAY CONTROL ROOM									
Sampling Date			**2026-01-02**	**2026-01-08**	**2026-01-10**	**2026-01-14**	**2026-10-16**	**2026-01-20**	**2026-01-22**	**2026-01-26**	**2026-01-28**	**Method**
Sulphur Dioxide as SO_2	µg/m³	80	23.0	24.2	20.6	22.2	31.6	11.5	18.4	21.7	28.1	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	18.2	15.4	12.8	12.8	11.2	14.9	12.2	10.1	13.5	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	57.2	63.1	54.8	51.1	62.9	59.5	56.7	49.6	60.3	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	25.9	31.6	22.7	20.1	29.5	26.2	21.7	17.3	27.1	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.6	0.4	0.6	0.8	1.0	0.3	0.9	0.6	0.8	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	4.9	5.3	5.7	6.2	4.9	5.8	6.4	4.7	5.1	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	147	193	164	214	177	184	159	136	109	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	2.1	4.8	3.6	5.2	3.4	2.9	3.1	4.5	2.7	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/23223/005
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-02-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT 540MW, DM PLANT (BALCO)

Analysis starting date :- 2026-01-05 **Analysis Completion date :- 2026-02-05**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : 540MW, DM PLANT									
Sampling Date			**2026-01-02**	**2026-01-08**	**2026-01-10**	**2026-01-14**	**2026-10-16**	**2026-01-20**	**2026-01-22**	**2026-01-26**	**2026-01-28**	**Method**
Sulphur Dioxide as SO_2	µg/m³	80	21.3	35.8	32.9	25.0	20.7	16.0	26.8	31.9	24.9	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	15.6	11.1	10.5	11.5	14.4	15.8	15.1	10.5	17.2	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	58.7	63.2	67.9	51.1	66.3	54.2	56.7	60.3	64.9	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	22.9	26.2	31.0	21.9	27.7	20.1	22.7	24.2	27.5	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.5	0.6	0.9	1.0	1.2	0.4	0.8	0.7	0.9	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	6.3	5.8	5.2	6.6	4.9	5.1	6.4	4.8	5.3	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	173	158	192	214	167	139	185	142	207	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	5.4	1.0	1.9	1.7	2.8	3.4	3.8	2.5	3.6	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:
M/s. Bharat Aluminium Company Limited,
KORBA (C.G.)

Report No.:	VLL/VLS/25-26/24935/001
Issue Date:	2026-03-05
P.O.No:	3402001553
P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT PARSABHATA GATE (BALCO)

Analysis starting date :- 2026-02-06

Analysis Completion date :- 2026-03-04

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : PARSABHATA GATE								
Sampling Date			2026-02-05	2026-02-07	2026-02-11	2026-02-13	2026-02-17	2026-02-19	2026-02-23	2026-02-25	Method
Sulphur Dioxide as SO_2	µg/m³	80	39.1	37.2	24.4	32.8	34.6	22.4	28.2	25.7	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	21.9	15.8	12.5	36.8	26.8	22.8	19.9	10.8	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	57.9	61.3	53.7	58.3	56.1	64.7	60.3	54.5	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	22.5	24.1	21.6	23.4	22.1	25.7	23.4	21.0	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.8	0.9	0.8	1.6	1.1	0.8	3.0	0.8	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	6.3	4.8	5.6	7.3	6.8	6.1	5.9	6.6	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	195	239	264	178	147	195	226	182	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	5.0	3.8	4.2	4.8	1.8	3.8	3.7	6.1	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-03-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT COMPRESSOR HOUSE (BALCO)

Analysis starting date :- 2026-02-06 **Analysis Completion date :- 2026-03-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COMPRESSOR HOUSE								
Sampling Date			**2026-02-05**	**2026-02-07**	**2026-02-11**	**2026-02-13**	**2026-02-17**	**2026-02-19**	**2026-02-23**	**2026-02-25**	**Method**
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	27.7	24.2	28.7	40.1	31.3	42.8	38.1	32.3	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	13.6	11.0	12.1	28.9	13.5	20.1	17.1	9.1	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	53.1	59.7	66.2	52.5	63.1	58.4	52.9	61.5	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	21.9	23.6	29.1	20.7	26.4	22.7	19.5	24.9	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	1.7	0.7	0.9	0.5	0.8	0.5	1.5	1.4	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.3	7.8	5.2	6.1	4.6	5.8	6.7	6.4	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	291	186	237	248	195	176	219	163	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	6.4	5.8	6.2	4.4	5.0	5.5	1.2	8.2	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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KORBA (C.G.)	Issue Date:	2026-03-05
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT ETP SMELTER (BALCO)

Analysis starting date :- 2026-02-06

Analysis Completion date :- 2026-03-04

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : ETP SMELTER								
Sampling Date			**2026-02-05**	**2026-02-07**	**2026-02-11**	**2026-02-13**	**2026-02-17**	**2026-02-19**	**2026-02-23**	**2026-02-25**	**Method**
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	37.3	31.1	38.8	39.0	36.8	34.6	38.1	35.4	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	16.7	12.7	16.7	18.6	12.7	13.1	13.6	12.0	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	54.8	58.2	50.4	59.6	65.8	53.7	61.1	63.9	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	20.6	24.8	28.7	23.7	25.4	19.2	25.1	27.3	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	0.7	0.8	0.5	0.7	0.9	0.6	1.2	1.3	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	6.8	5.1	6.4	4.9	5.7	5.4	6.3	5.9	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	159	203	192	185	163	231	171	149	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	5.7	4.2	5.1	5.3	3.4	2.4	4.0	9.6	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-03-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT RAILWAY CONTROL ROOM (BALCO)

Analysis starting date :- 2026-02-06 **Analysis Completion date :- 2026-03-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : RAILWAY CONTROL ROOM								
Sampling Date			2026-02-05	2026-02-07	2026-02-11	2026-02-13	2026-02-17	2026-02-19	2026-02-23	2026-02-25	Method
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	29.3	35.3	37.8	24.7	31.2	27.7	25.2	30.3	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	13.6	12.5	10.5	14.0	17.6	17.2	20.3	8.8	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	48.5	53.7	51.9	58.1	54.2	52.4	60.8	65.3	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	19.4	21.7	20.5	23.2	21.8	19.6	24.3	26.3	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	0.7	0.7	0.6	0.6	0.4	0.4	1.0	1.1	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	4.1	5.7	5.4	5.9	6.3	4.8	5.1	4.9	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	158	139	183	167	197	228	164	149	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	6.4	7.2	2.7	8.9	6.5	2.2	3.7	6.3	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/24935/005
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-03-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT 540MW, DM PLANT (BALCO)

Analysis starting date :- 2026-02-06 **Analysis Completion date :- 2026-03-04**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : 540MW, DM PLANT								
Sampling Date			2026-02-05	2026-02-07	2026-02-11	2026-02-13	2026-02-17	2026-02-19	2026-02-23	2026-02-25	Method
Sulphur Dioxide as SO_2	µg/m³	80	34.9	35.5	27.4	40.0	21.6	26.7	32.7	32.9	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	11.6	9.6	13.7	16.4	13.5	14.8	15.5	11.1	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	52.9	60.7	66.8	59.3	63.1	57.4	61.7	56.2	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	21.8	25.3	29.2	23.6	26.9	22.8	24.7	23.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	0.9	0.9	0.9	0.6	0.9	0.7	1.4	0.5	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	6.2	5.8	5.2	4.7	5.4	6.2	4.9	5.1	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	182	249	161	159	177	215	183	154	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	12.1	5.4	4.1	10.3	3.3	2.8	3.9	5.7	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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M/s. Bharat Aluminium Company Limited,	Report No.:	VLL/VLS/25-26/28724/001
KORBA (C.G.)	Issue Date:	2026-04-04
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT PARSABHATA GATE (BALCO)

Analysis starting date :- 2026-03-06 **Analysis Completion date :- 2026-04-03**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : PARSABHATA GATE								
Sampling Date			**2026-03-05**	**2026-03-07**	**2026-03-11**	**2026-03-13**	**2026-03-17**	**2026-03-19**	**2026-03-25**	**2026-03-27**	**Method**
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	31.9	45.8	36.4	39.7	37.8	33.5	27.1	35.7	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	23.2	20.4	19.1	16.7	18.7	17.3	15.6	17.5	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	65.9	72.3	63.7	57.2	56.8	61.4	52.6	59.1	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	25.3	30.8	24.4	22.5	20.7	27.0	19.5	23.2	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	3.6	2.9	1.6	3.2	2.2	3.7	3.8	2.3	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.6	7.2	4.9	6.1	4.4	5.7	7.2	5.9	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	229	154	196	206	191	242	163	147	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	17.3	8.7	13.8	20.7	9.2	11.0	20.6	15.7	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/28724/003
	Issue Date:	2026-04-04
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT COMPRESSOR HOUSE (BALCO)

Analysis starting date :- 2026-03-06

Analysis Completion date :- 2026-04-03

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COMPRESSOR HOUSE								
Sampling Date			2026-03-05	2026-03-07	2026-03-11	2026-03-13	2026-03-17	2026-03-19	2026-03-25	2026-03-27	Method
Sulphur Dioxide as SO_2	µg/m³	80	34.7	30.2	24.2	25.1	33.4	26.5	31.3	28.5	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	10.0	14.2	13.1	12.9	26.1	26.8	12.5	14.7	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	56.7	77.5	64.2	58.4	61.7	66.9	70.2	63.9	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	22.1	31.4	25.8	23.2	24.6	27.5	30.2	23.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.2	2.1	1.2	0.9	1.0	1.3	1.1	1.4	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	6.2	5.8	7.7	6.4	5.7	4.2	5.9	5.3	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	152	194	171	231	165	148	192	186	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	15.7	12.6	8.7	24.3	27.0	17.8	9.3	11.8	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-04-04
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT ETP SMELTER (BALCO)

Analysis starting date :- 2026-03-06 **Analysis Completion date :- 2026-04-03**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : ETP SMELTER								
Sampling Date			2026-03-05	2026-03-07	2026-03-11	2026-03-13	2026-03-17	2026-03-19	2026-03-25	2026-03-27	Method
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	29.2	40.6	32.5	37.2	32.5	34.3	23.7	31.8	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	18.9	21.6	15.6	17.5	20.7	22.2	21.1	23.6	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	62.3	68.7	55.2	67.9	60.2	64.1	59.7	61.9	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	23.9	28.4	22.6	27.6	24.3	26.5	23.8	25.1	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	1.6	2.0	0.9	1.1	1.7	1.3	1.6	2.0	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	5.5	7.2	5.7	7.6	5.3	6.8	4.6	5.1	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	184	247	181	190	142	164	256	167	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	3.6	5.3	9.6	15.8	17.7	14.1	5.5	10.5	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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Report No.:	VLL/VLS/25-26/28724/004
Issue Date:	2026-04-04
P.O.No:	3402001553
P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT RAILWAY CONTROL ROOM (BALCO)

Analysis starting date :- 2026-03-06 **Analysis Completion date :- 2026-04-03**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : RAILWAY CONTROL ROOM								
Sampling Date			2026-03-05	2026-03-07	2026-03-11	2026-03-13	2026-03-17	2026-03-19	2026-03-25	2026-03-27	Method
Sulphur Dioxide as SO_2	µg/m³	80	22.7	27.7	21.9	15.6	28.3	12.8	25.9	38.3	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	µg/m³	80	9.7	16.3	11.4	14.6	15.2	15.3	15.5	13.0	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	µg/m³	100	65.4	60.8	58.1	54.7	57.3	68.5	53.2	62.9	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	µg/m³	60	27.2	25.7	23.8	20.9	22.4	28.6	19.7	26.1	IS 5182 (PART-24) 2019
Ammonia as NH_3	µg/m³	400	1.2	1.3	0.9	1.1	1.7	1.1	1.0	1.1	APHA 3rd Edition - 401
Benzene as C_6H_6	µg/m³	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m³	20	3.8	5.2	4.4	5.8	6.2	4.1	3.4	5.6	USEPA IO 3.4
Lead as Pb	µg/m³	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	µg/m³	2000	166	131	104	128	163	108	159	172	IS 5182 (PART-10) RA 2019
Ozone as O_3	µg/m³	100	9.8	4.8	5.9	18.9	9.8	14.9	3.7	4.9	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:		
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KORBA (C.G.)	Issue Date:	2026-04-04
	P.O.No:	3402001553
	P.O. Date:	2025-10-01

AMBIENT AIR QUALITY MONITORING AT 540MW, DM PLANT (BALCO)

Analysis starting date :- 2026-03-06 **Analysis Completion date :- 2026-04-03**

Tests required: Sulphur Dioxide (SO_2), Nitrogen Dioxide (NOx), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH_3), Benzene (C_6H_6), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : 540MW, DM PLANT								
Sampling Date			**2026-03-05**	**2026-03-07**	**2026-03-11**	**2026-03-13**	**2026-03-17**	**2026-03-19**	**2026-03-25**	**2026-03-27**	**Method**
Sulphur Dioxide as SO_2	$\mu g/m^3$	80	31.8	38.7	15.9	36.0	25.4	23.9	30.5	27.5	IS 5182 (PART-2) RA 2017
Oxides of Nitrogen as NO_2	$\mu g/m^3$	80	10.5	14.9	16.7	15.2	13.6	13.1	12.6	15.7	IS 5182 (PART-6) RA 2017
Particulate Matter (PM10)	$\mu g/m^3$	100	60.8	68.5	54.3	59.1	64.7	71.1	56.2	69.3	IS 5182 (PART-23) RA 2017
Particulate Matter (PM2.5)	$\mu g/m^3$	60	26.2	30.2	22.7	24.6	28.6	32.1	24.2	28.4	IS 5182 (PART-24) 2019
Ammonia as NH_3	$\mu g/m^3$	400	1.3	1.8	1.9	0.9	1.2	1.6	1.5	1.6	APHA 3rd Edition - 401
Benzene as C_6H_6	$\mu g/m^3$	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	IS 5182 (PART-11) RA 2017
Benzo(a) Pyrene in particulate phase	ng/m^3	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	IS 5182 (PART-12) RA 2019
Arsenic as As	ng/m^3	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	USEPA IO 3.4
Nickel as Ni	ng/m^3	20	4.7	6.1	5.5	5.8	4.7	5.2	5.8	6.4	USEPA IO 3.4
Lead as Pb	$\mu g/m^3$	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	USEPA IO 3.4
Carbon Monoxide as CO	$\mu g/m^3$	2000	170	158	197	131	214	168	142	183	IS 5182 (PART-10) RA 2019
Ozone as O_3	$\mu g/m^3$	100	17.5	12.9	9.4	6.6	7.2	6.9	5.6	5.3	IS 5182 (PART-9) RA 2019

Ø PM2.5, PM10, SO_2, NO_2 and NH_3 is monitored on 24 hrs. Basis &CO, O_3 is monitored on 8 hrs basis.

Ø C_6H_6, B (a) P & Heavy Metals (As, Ni, Pb) is monitored on 24 hrs basis.

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ISSUED TO:		
M/s. Bharat Aluminium Company Limited,	Report No.:	VLL/VLS/25-26/15704/PL-F
KORBA (C.G.)	Issue Date:	2025-11-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FUGITIVE EMISSION MONITORING AT POT LINE - 1

Registration Date: 2025-10-15 **Sampling Date:** 2025-10-14
Analysis starting date : 2025-10-15 **Analysis Completion date:** 2025-10-15

Test Required :- PM, Fluoride;

TEST RESULTS

S. No.	Parameter	Units	POT LINE -1			
			Section 1	Section 2	Section 7	Section 8
			20256-10-14	2025-10-15	2025-10-15	2025-10-15
1	PM	$\mu g/m^3$	460	469	472	475
2	Fluoride	$\mu g/m^3$	386	441	409	367

Remarks: Instrument Used – Handy Sampler & APM 460 BL Respirable Dust Sampler.

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

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-12-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FUGITIVE EMISSION MONITORING AT POT LINE - 1

Registration Date: **2025-11-18** **Sampling Date:** **2025-11-17**

Analysis starting date : **2025-11-18** **Analysis Completion date:** **2025-11-25**

Test Required :- PM, Fluoride;

TEST RESULTS

S. No.	Parameter	Units	POT LINE -1			
			Section 1	Section 2	Section 7	Section 8
			2025-11-17	2025-11-24	2025-11-24	2025-11-17
1	PM	$\mu g/m^3$	437	468	493	484
2	Fluoride	$\mu g/m^3$	317	352	321	337

Remarks: Instrument Used – Handy Sampler & APM 460 BL Respirable Dust Sampler.

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-01-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FUGITIVE EMISSION MONITORING AT POT LINE - 1

Registration Date: 2025-12-11 **Sampling Date:** 2025-12-10

Analysis starting date : 2025-12-11 **Analysis Completion date:** 2025-12-15

Test Required :- Particulate Fluoride;

TEST RESULTS

S. No.	Parameter	Units	Limits (Max)	POT LINE -1			
				Section 1	Section 2	Section 7	Section 8
				2025-12-13	2025-12-10	2025-12-10	2025-12-13
1	Particulate Fluoride	mg/Nm^3	1.85	0.168	0.185	0.197	0.185

Remarks: Instrument Used – Handy Sampler & APM 460 BL Respirable Dust Sampler.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/23223/PL-F
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-02-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FUGITIVE EMISSION MONITORING AT POT LINE - 1

Registration Date: 2026-01-03 **Sampling Date:** 2026-01-02

Analysis starting date : 2026-01-03 **Analysis Completion date:** 2026-01-05

Test Required :- Particulate Fluoride;

TEST RESULTS

S. No.	Parameter	Units	Limits (Max)	POT LINE -1			
				Section 1	Section 2	Section 7	Section 8
				2026-01-03	2026-01-02	2026-01-02	2026-01-03
1	Particulate Fluoride	mg/Nm^3	1.85	0.158	0.176	0.183	0.179

Remarks: Instrument Used – Handy Sampler & APM 460 BL Respirable Dust Sampler.

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KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FUGITIVE EMISSION MONITORING AT POT LINE - 1

Registration Date: 2026-02-12 **Sampling Date:** 2026-02-11
Analysis starting date : 2026-02-12 **Analysis Completion date:** 2026-02-14

Test Required :- Particulate Fluoride;

TEST RESULTS

S. No.	Parameter	Units	Limits (Max)	POT LINE -1			
				Section 1	Section 2	Section 7	Section 8
				2026-02-11	2026-02-12	2026-02-12	2026-02-11
1	Particulate Fluoride	mg/Nm^3	1.85	0.043	0.058	0.064	0.047

Remarks: Instrument Used – Handy Sampler & APM 460 BL Respirable Dust Sampler.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/28724/PL-F
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-04-04
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FUGITIVE EMISSION MONITORING AT POT LINE - 1

Registration Date: 2026-03-11 **Sampling Date:** 2026-03-10
Analysis starting date : 2026-03-11 **Analysis Completion date:** 2026-03-13

Test Required :- Particulate Fluoride;

TEST RESULTS

S. No.	Parameter	Units	Limits (Max)	POT LINE -1			
				Section 1	Section 2	Section 7	Section 8
				2026-03-10	2026-03-11	2026-03-11	2026-03-10
1	Particulate Fluoride	mg/Nm^3	1.85	0.426	0.302	0.341	0.396

Remarks: Instrument Used – Handy Sampler & APM 460 BL Respirable Dust Sampler.

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ISSUED TO:	Report No.:	VLL/VLS/25-26/15704/Forage
M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-11-05
KORBA (C.G.)	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FORAGE FLUORIDE

Registration Date: 2025-10-07 **Sampling Date:** 2025-10-04
Analysis starting date: 2025-10-07 **Analysis Completion date:** 2025-10-10

Test Required :- Fluoride;

TEST RESULTS

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	39
2	Near Parsabhata	PPM	80	16
3	Near Lal ghat	PPM	80	23
4	Near check post	PPM	80	18
5	Near Sharma petrol pump	PPM	80	25
6	Bhadrapara	PPM	80	19
7	Risdi	PPM	80	16
8	Rampur	PPM	80	9
9	Manikpur	PPM	80	12
10	jambahar	PPM	80	11
11	Rumgarha	PPM	80	18
12	Gerwan	PPM	80	13

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No- DL-20[illegible]/99 VIMTA

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M/s. Bharat Aluminium Company Limited,	Issue Date:	2025-12-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FORAGE FLUORIDE

Registration Date: **2025-11-10** **Sampling Date:** **2025-11-04**

Analysis starting date: **2025-11-10** **Analysis Completion date:** **2025-11-14**

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	18
3	Near Lal ghat	PPM	80	27
4	Near check post	PPM	80	23
5	Near Sharma petrol pump	PPM	80	26
6	Bhadrapara	PPM	80	17
7	Risdi	PPM	80	18
8	Rampur	PPM	80	10
9	Manikpur	PPM	80	15
10	jambahar	PPM	80	12
11	Rumgarha	PPM	80	16
12	Gerwan	PPM	80	14

ENVIRONMENT LABORATORY Vimta REGD. No- DL 33004/99 VIMTA

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KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FORAGE FLUORIDE

Registration Date: **2025-12-08** **Sampling Date:** **2025-12-02**

Analysis starting date: **2025-12-08** **Analysis Completion date:** **2025-12-16**

Test Required :- Fluoride;

TEST RESULTS

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	35
2	Near Parsabhata	PPM	80	20
3	Near Lal ghat	PPM	80	27
4	Near check post	PPM	80	23
5	Near Sharma petrol pump	PPM	80	22
6	Bhadrapara	PPM	80	19
7	Risdi	PPM	80	17
8	Rampur	PPM	80	12
9	Manikpur	PPM	80	9
10	jambahar	PPM	80	14
11	Rumgarha	PPM	80	13
12	Gerwan	PPM	80	10

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

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KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FORAGE FLUORIDE

Registration Date: **2026-01-15** **Sampling Date:** **2026-01-13**
Analysis starting date: **2026-01-15** **Analysis Completion date:** **2026-01-20**

Test Required :- Fluoride;

TEST RESULTS

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	37
2	Near Parsabhata	PPM	80	19
3	Near Lal ghat	PPM	80	24
4	Near check post	PPM	80	25
5	Near Sharma petrol pump	PPM	80	20
6	Bhadrapara	PPM	80	16
7	Risdi	PPM	80	14
8	Rampur	PPM	80	13
9	Manikpur	PPM	80	10
10	jambahar	PPM	80	11
11	Rumgarha	PPM	80	12
12	Gerwan	PPM	80	9

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ISSUED TO:	Report No.:	VLL/VLS/25-26/24935/Forage
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-03-05
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FORAGE FLUORIDE

Registration Date: **2026-02-07** **Sampling Date:** **2026-02-05**
Analysis starting date: **2026-02-07** **Analysis Completion date:** **2026-02-14**

Test Required :- Fluoride;

TEST RESULTS

S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	41
2	Near Parsabhata	PPM	80	21
3	Near Lal ghat	PPM	80	19
4	Near check post	PPM	80	22
5	Near Sharma petrol pump	PPM	80	16
6	Bhadrapara	PPM	80	19
7	Risdi	PPM	80	13
8	Rampur	PPM	80	10
9	Manikpur	PPM	80	13
10	jambahar	PPM	80	15
11	Rumgarha	PPM	80	10
12	Gerwan	PPM	80	11

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ISSUED TO:	Report No.:	VLL/VLS/25-26/28724/Forage
M/s. Bharat Aluminium Company Limited,	Issue Date:	2026-04-04
KORBA (C.G.)	P.O.No:	3402001553
	P.O. Date:	2025-10-01

FORAGE FLUORIDE

Registration Date: **2026-03-09** **Sampling Date:** **2026-03-06**

Analysis starting date: **2026-03-09** **Analysis Completion date:** **2026-03-17**

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	17
3	Near Lal ghat	PPM	80	24
4	Near check post	PPM	80	18
5	Near Sharma petrol pump	PPM	80	14
6	Bhadrapara	PPM	80	20
7	Risdi	PPM	80	10
8	Rampur	PPM	80	12
9	Manikpur	PPM	80	14
10	jambahar	PPM	80	13
11	Rumgarha	PPM	80	11
12	Gerwan	PPM	80	8

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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)	6.91	6.96	6.82	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	3	2	4
6	Total dissolved solids at 180°C	mg/l	500(2000)	172	205	310	269
7	Total Hardness as $CaCO_3$	mg/l	200(600)	115	134	203	190
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	50	55	110	90
9	Calcium as Ca	mg/l	75(200)	30.0	37.6	61.0	58.4
10	Magnesium as Mg	mg/l	30(100)	9.8	9.7	12.3	10.5
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)	0.034	0.026	0.018	0.029
13	Chlorides as Cl	mg/l	250(1000)	40.0	51.2	69.3	72.2
14	Sulphate as SO_4	mg/l	200(400)	29.1	34.2	34.8	22.3
15	Fluorides as F	mg/l	1.0(1.5)	0.192	0.137	0.319	0.274
16	Nitrates as NO_3	mg/l	45(NR)	1.6	2.7	1.5	1.2
17	Phenolic Compounds as C_6H_5OH	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

ENVIRONMENT LABORATORY VIMTA LABS REGD. NO. DL-33004/99 VIMTA

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

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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	0.014	0.008	0.016
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)	0.043	0.028	0.052	0.031
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)	0.016	0.024	0.015	0.031
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.012	0.023	0.013	0.022
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

ENVIRONMENT LABORATORY VIMTA LABS REGD. NO. 3300/4/99

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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	Chlorpyriphos	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

ENVIRONMENT LABORATORY VIMTA LABS VIMTA

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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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Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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)	7.19	6.85	6.87	7.05
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	2	3
6	Total dissolved solids at 180°C	mg/l	500(2000)	279	201	250	230
7	Total Hardness as $CaCO_3$	mg/l	200(600)	186	138	166	150
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	85	75	80	70
9	Calcium as Ca	mg/l	75(200)	55.2	40.0	48.5	45
10	Magnesium as Mg	mg/l	30(100)	11.6	9.2	10.8	9.1
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)	0.036	0.014	0.043	0.037
13	Chlorides as Cl	mg/l	250(1000)	79.4	44.0	61.7	63.5
14	Sulphate as SO_4	mg/l	200(400)	25.4	23.5	29.5	23.5
15	Fluorides as F	mg/l	1.0(1.5)	0.359	0.256	0.174	0.118
16	Nitrates as NO_3	mg/l	45(NR)	2.6	1.3	2.1	1.3
17	Phenolic Compounds as C_6H_5OH	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

ENVIRONMENT LABORATORY Vimta REGD. No- DL 33004 Sr. No. VIMTA

Name and Designation of Authorized Signatory

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BALCO
KORBA
Chhattisgarh

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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	0.024	0.037	0.009
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)	0.024	0.036	0.041	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)	0.022	0.015	0.028	0.013
32	Aluminum as Al	mg/l	0.03(0.2)	0.017	0.025	0.014	0.008
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.008	0.011	0.017	0.019
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

ENVIRONMENT LABORATORY VIMTA LABS REGD. No. DL 33004/99 VIMTA

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Chhattisgarh

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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	Chlorpyriphos	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

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

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

Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-29
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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REGD. No- DL 33004/99
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Report Number	:	**VLL/VLS/25-26/15704/001**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-24
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	-	7.24	7.09	7.17	7.21
2	Colour	Hazen	1	3	1	3
3	Conductivity	µS/cm	125	174	145	193
4	TDS	mg/l	79	110	90	119
5	DO	mg/l	6.8	5.2	5.4	5.6
6	BOD	mg/l	0.7	1.9	0.8	2.2
7	COD	mg/l	2.4	7.2	3.2	9.6
8	Turbidity	NTU	7.0	13.0	15.0	11.0
9	Total Hardness as $CaCO_3$	mg/l	36	56	50	68
10	Total Alkalinity as $CaCO_3$	mg/l	30	40	35	42
11	Calcium as Ca	mg/l	8.5	15.6	11	16
12	Magnesium as Mg	mg/l	3.5	4.1	5.5	6.7
13	Chlorides as Cl	mg/l	19.4	21.8	22.6	28.5
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	<0.01	0.03	0.02	0.04
16	Sulphates as SO_4	mg/l	4.5	11	3.8	9.7
17	Fluorides as F	mg/l	0.094	0.172	0.153	0.116
18	Nitrates as NO_3	mg/l	0.5	0.9	0.6	1.1
19	Sodium as Na	mg/l	12.3	14	9.7	13
20	Potassium as K	mg/l	0.3	0.8	0.4	0.4
21	Total Boron as B	mg/l	0.007	0.024	0.012	0.054
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	0.020	0.078	0.052	0.038
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	0.024	0.160	0.074	0.043
33	Aluminum as Al	mg/l	0.014	0.019	0.022	0.023
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.90	0.82	0.60	0.69
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	210	220	180	290

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

ENVIRONMENT LABORATORY VIMTA LABS REGD. No. TL 33004/99 VIMTA

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Report Number	:	**VLL/VLS/25-26/15704/002**
Issued Date	:	**2025-11-05**
P.O. No.	:	**8500005780**
P.O. Date	:	**2022-06-29**

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

Sample Registration Date	:	2025-10-11	Sampling Date	:	2025-10-04
Analysis Starting Date	:	2025-10-11	Analysis Completion Date	:	2025-10-24
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	-	7.37	7.41	7.36	7.21	7.23
2	Colour	Hazen	1	2	2	3	2
3	Conductivity	µS/cm	148	160	152	174	168
4	TDS	mg/l	81	100	94	105	112
5	DO	mg/l	7.7	7.9	7.4	7.1	7.3
6	BOD	mg/l	1.6	1.5	1.7	2.3	2.2
7	COD	mg/l	5.6	8.0	7.2	8.8	8.0
8	Turbidity	NTU	7.0	9.0	6.0	12.0	10.0
9	Total Hardness as $CaCO_3$	mg/l	38	50	49	54	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	4.5	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	0.02	0.04	0.01	0.03	0.02
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	0.518	0.473	0.494	0.517
18	Nitrates as NO_3	mg/l	0.9	1.1	1.2	0.6	0.7
19	Sodium as Na	mg/l	15.8	13.8	12.7	14.3	11.6
20	Potassium as K	mg/l	1.6	0.9	1.2	1.1	1.4
21	Total Boron as B	mg/l	<0.01	0.013	0.037	0.019	0.015
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	0.017	0.032	0.028	0.034	0.017
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	0.150	0.097	0.058	0.073
33	Aluminum as Al	mg/l	0.014	0.028	0.026	0.019	0.027
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.11	0.86	0.79	0.84	0.67
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	220	580	370	490	610

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

ENVIRONMENT LABORATORY VIMTA LABS REGD. No. Sr. No.-5

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/18084/001**
Issued Date	:	**2025-12-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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	7.18	6.95	7.26
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)	2.3	1.2	1.6	1.9
6	Total dissolved solids at 180°C	mg/l	500(2000)	326	255	445	360
7	Total Hardness as $CaCO_3$	mg/l	200(600)	161	155	233	206
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	120	90	165	130
9	Calcium as Ca	mg/l	75(200)	35.6	42.6	58.0	52.5
10	Magnesium as Mg	mg/l	30(100)	17.4	11.8	21.4	18.2
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)	0.05	0.03	0.05	0.04
13	Chlorides as Cl	mg/l	250(1000)	67.8	55.4	97.5	85.3
14	Sulphate as SO_4	mg/l	200(400)	37.2	29.8	44	28.5
15	Fluorides as F	mg/l	1.0(1.5)	0.192	0.137	0.319	0.874
16	Nitrates as NO_3	mg/l	45(NR)	2.8	3.2	4.1	2.4
17	Phenolic Compounds as C_6H_5OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides	mg/l	0.05(NR)	<0.02	<0.02	<0.02	<0.02

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

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Issued Date	:	**2025-12-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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)	0.02	<0.01	0.02	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)	0.02	<0.01	0.01	0.01
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)	<0.01	<0.01	<0.01	<0.01
28	Iron as Fe	mg/l	0.3(NR)	0.07	0.04	0.12	0.06
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
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)	0.03	0.06	0.03	0.05
32	Aluminum as Al	mg/l	0.03(0.2)	0.02	0.01	0.02	0.02
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.014	0.021	0.015	0.011
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	:	**2025-10-01**

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

Sample Registration Date	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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	Chlorpyriphos	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

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

Sample Registration Date	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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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Issued Date : **2025-12-05**
P.O. No. : **3402001553**
P.O. Date : **2025-10-01**

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

Sample Registration Date : 2025-11-10 Sampling Date : 2025-11-03
Analysis Starting Date : 2025-11-10 Analysis Completion Date : 2025-11-26
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	7.41	7.11	7.29
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)	2.5	2.7	1.5	1.1
6	Total dissolved solids at 180°C	mg/l	500(2000)	298	285	434	285
7	Total Hardness as $CaCO_3$	mg/l	200(600)	173	130	205	176
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	95	110	140	85
9	Calcium as Ca	mg/l	75(200)	45.0	31.0	54.5	48.0
10	Magnesium as Mg	mg/l	30(100)	14.6	12.5	16.8	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)	0.09	0.03	0.11	0.08
13	Chlorides as Cl	mg/l	250(1000)	83.7	58.6	97.8	77.6
14	Sulphate as SO_4	mg/l	200(400)	24.3	26.8	56.9	31.6
15	Fluorides as F	mg/l	1.0(1.5)	0.459	0.256	0.174	0.118
16	Nitrates as NO_3	mg/l	45(NR)	3.2	2.1	3.9	2.9
17	Phenolic Compounds as C_6H_5OH	mg/l	0.001(0.002)	<0.001	<0.001	<0.001	<0.001
18	Cyanides as CN	mg/l	0.05(NR)	<0.02	<0.02	<0.02	<0.02

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	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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	0.02	0.03	0.02
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)	<0.01	<0.01	<0.01	<0.01
28	Iron as Fe	mg/l	0.3(NR)	0.17	0.19	0.08	0.06
29	Total Chromium as Cr	mg/l	0.05(NR)	<0.01	<0.01	<0.01	<0.01
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)	0.08	0.07	0.05	0.08
32	Aluminum as Al	mg/l	0.03(0.2)	0.03	0.02	0.01	0.02
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.027	0.038	0.029	0.024
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	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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	Chlorpyriphos	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/25-26/18084/001**
Issued Date	:	**2025-12-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-26
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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Report Number	:	**VLL/VLS/25-26/18084/001**
Issued Date	:	**2025-12-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-11-10	Sampling Date	:	2025-11-03
Analysis Starting Date	:	2025-11-10	Analysis Completion Date	:	2025-11-21
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	-	7.54	7.26	7.84	7.39
2	Colour	Hazen	1	2	1	2
3	Conductivity	µS/cm	175	210	160	220
4	TDS	mg/l	108	115	98	130
5	DO	mg/l	6.7	6.1	6.3	6.0
6	BOD	mg/l	0.5	2.1	0.9	2.3
7	COD	mg/l	2.6	7.5	3.5	10.7
8	Turbidity	NTU	3.6	4.7	3.3	5.6
9	Total Hardness as $CaCO_3$	mg/l	56	82	55	80
10	Total Alkalinity as $CaCO_3$	mg/l	40	55	40	50
11	Calcium as Ca	mg/l	10.5	17	12.5	18
12	Magnesium as Mg	mg/l	7.3	9.5	5.9	8.4
13	Chlorides as Cl	mg/l	29.3	43.5	23.2	54.3
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.01	0.03	0.02	0.06
16	Sulphates as SO_4	mg/l	5.2	8.6	4.8	7.5
17	Fluorides as F	mg/l	0.131	0.343	0.346	0.412
18	Nitrates as NO_3	mg/l	1.1	2.3	0.9	2.8
19	Sodium as Na	mg/l	14.4	21.5	10.5	26.6
20	Potassium as K	mg/l	0.5	1.1	0.9	1.8
21	Total Boron as B	mg/l	0.01	0.078	0.017	0.095
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	0.02	0.011
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.017	0.052	0.064	0.087
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	0.017	0.089	0.056	0.038
33	Aluminum as Al	mg/l	0.011	0.024	0.017	0.028
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.84	1.04	0.61	1.30
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	230	350	190	310

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

ENVIRONMENT LABORATORY Vimta VIMTA LABS Sr. No.-5 VIMTA

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/18084/002**
Issued Date	:	**2025-12-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	: 2025-11-10	Sampling Date	: 2025-11-03
Analysis Starting Date	: 2025-11-10	Analysis Completion Date	: 2025-11-21
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	-	7.48	7.56	7.28	7.65	7.51
2	Colour	Hazen	2	3	2	3	3
3	Conductivity	µS/cm	160	218	175	182	157
4	TDS	mg/l	104	135	110	120	103
5	DO	mg/l	6.9	7.2	7.3	6.8	6.7
6	BOD	mg/l	1.5	1.7	1.9	2.8	2.6
7	COD	mg/l	5.2	6.8	6.6	9.3	8.1
8	Turbidity	NTU	4.3	5.6	5.2	5.4	5.7
9	Total Hardness as $CaCO_3$	mg/l	40	60	50	52	45
10	Total Alkalinity as $CaCO_3$	mg/l	40	45	40	55	50
11	Calcium as Ca	mg/l	10.8	15.3	14.2	15.5	12.5
12	Magnesium as Mg	mg/l	3.5	5.2	4.1	3.2	3.1
13	Chlorides as Cl	mg/l	21.1	34.6	25.7	19.8	14.2
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	0.01	0.02
16	Sulphates as SO_4	mg/l	7.8	11.5	8.7	5.4	5.1
17	Fluorides as F	mg/l	0.436	0.384	0.534	0.413	0.521
18	Nitrates as NO_3	mg/l	1.5	2.3	1.1	1.5	1.3
19	Sodium as Na	mg/l	17.2	21.7	15.8	16.7	14.8
20	Potassium as K	mg/l	1.2	1.4	1.1	2.1	1.2
21	Total Boron as B	mg/l	0.01	0.026	0.021	0.037	0.028
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.02	<0.02	<0.02	<0.02	<0.02
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	0.035	0.073	0.041	0.053	0.067
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	0.021	0.096	0.072	0.084	0.049
33	Aluminum as Al	mg/l	0.013	0.026	0.018	0.015	0.021
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.16	1.22	0.95	1.01	0.97
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	210	340	280	320	330

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/25-26/20775/001**
Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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)	7.17	7.24	6.98	7.32
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	2	2	1
6	Total dissolved solids at 180°C	mg/l	500(2000)	375	245	450	334
7	Total Hardness as $CaCO_3$	mg/l	200(600)	180	150	220	197
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	140.0	85.0	170.0	120.0
9	Calcium as Ca	mg/l	75(200)	41.6	37.5	49.3	43.7
10	Magnesium as Mg	mg/l	30(100)	18.3	13.4	23.2	21.4
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)	0.027	0.019	0.021	0.017
13	Chlorides as Cl	mg/l	250(1000)	75.8	57.4	89.5	79.3
14	Sulphate as SO_4	mg/l	200(400)	43.8	26.7	47.4	31.9
15	Fluorides as F	mg/l	1.0(1.5)	0.231	0.156	0.341	0.375
16	Nitrates as NO_3	mg/l	45(NR)	3.1	2.5	3.9	2.8
17	Phenolic Compounds as C_6H_5OH	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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Chhattisgarh

Report Number : **VLL/VLS/25-26/20775/001**
Issued Date : **2026-01-05**
P.O. No. : **3402001553**
P.O. Date : **2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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)	0.007	0.012	0.009	0.013
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	0.021	0.045	0.029
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)	0.023	0.014	0.032	0.01
32	Aluminum as Al	mg/l	0.03(0.2)	0.017	0.022	0.013	0.028
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.014	0.019	0.023	0.016
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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Report Number	:	**VLL/VLS/25-26/20775/001**
Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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	Chlorpyriphos	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/25-26/20775/001**
Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
BALCO
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Chhattisgarh

Report Number	:	**VLL/VLS/25-26/20775/001**
Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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)	7.21	7.36	6.95	7.31
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	3	2
6	Total dissolved solids at 180°C	mg/l	500(2000)	320	270	470	275
7	Total Hardness as $CaCO_3$	mg/l	200(600)	200	125	221	166
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	90.0	95.0	160.0	80.0
9	Calcium as Ca	mg/l	75(200)	52.4	28.8	56.2	42.5
10	Magnesium as Mg	mg/l	30(100)	16.7	13.4	19.5	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)	0.024	0.013	0.035	0.018
13	Chlorides as Cl	mg/l	250(1000)	89.4	64.5	106.4	78.5
14	Sulphate as SO_4	mg/l	200(400)	37.5	24.7	53.8	29.4
15	Fluorides as F	mg/l	1.0(1.5)	0.323	0.282	0.195	0.137
16	Nitrates as NO_3	mg/l	45(NR)	4.8	1.9	4.1	2.3
17	Phenolic Compounds as C_6H_5OH	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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Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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	0.02	<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	0.018	0.021	0.007
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)	0.015	0.027	0.038	0.014
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	0.022	0.029	0.018
32	Aluminum as Al	mg/l	0.03(0.2)	0.016	0.023	0.017	0.011
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.012	0.021	0.015	0.021
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	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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	Chlorpyriphos	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. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-30
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

ENVIRONMENT LABORATORY Vimta VIMTA LABS Sr. No.-5

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Report Number	:	**VLL/VLS/25-26/20775/001**
Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-27
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	-	7.48	7.31	7.65	7.28
2	Colour	Hazen	1	2	1	2
3	Conductivity	µS/cm	154	232	146	261
4	TDS	mg/l	95	143	90	160
5	DO	mg/l	7.1	6.7	6.9	6.4
6	BOD	mg/l	0.5	1.6	0.7	1.8
7	COD	mg/l	2.1	6.3	2.9	8.7
8	Turbidity	NTU	3.4	7.4	4.6	7.5
9	Total Hardness as $CaCO_3$	mg/l	48	73	45	75
10	Total Alkalinity as $CaCO_3$	mg/l	35	50	30	45
11	Calcium as Ca	mg/l	11.6	15.5	10.8	16.5
12	Magnesium as Mg	mg/l	4.6	8.3	4.3	7.8
13	Chlorides as Cl	mg/l	25.6	38.7	26.6	52.2
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	<0.01	0.02	0.03	0.03
16	Sulphates as SO_4	mg/l	4.5	7.4	3.8	6.3
17	Fluorides as F	mg/l	0.156	0.197	0.184	0.212
18	Nitrates as NO_3	mg/l	0.8	1.7	1.1	3.2
19	Sodium as Na	mg/l	13.1	18.9	12.6	24.8
20	Potassium as K	mg/l	0.4	1.2	0.8	2.3
21	Total Boron as B	mg/l	<0.01	0.018	0.009	0.043
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	0.018	0.065	0.048	0.027
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	0.015	0.098	0.056	0.038
33	Aluminum as Al	mg/l	0.016	0.021	0.026	0.018
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.82	0.96	0.82	1.26
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	260	140	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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Report Number	:	**VLL/VLS/25-26/20775/002**
Issued Date	:	**2026-01-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2025-12-11	Sampling Date	:	2025-12-02
Analysis Starting Date	:	2025-12-11	Analysis Completion Date	:	2025-12-27
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	7.43	7.15	7.54	7.27
2	Colour	Hazen	1	3	3	2	2
3	Conductivity	µS/cm	139	205	170	195	175
4	TDS	mg/l	90	126	110	125	112
5	DO	mg/l	7.2	6.8	7.2	6.8	6.9
6	BOD	mg/l	1.4	1.6	1.6	2.0	1.8
7	COD	mg/l	5.2	7.6	6.8	7.8	7.4
8	Turbidity	NTU	7.8	8.3	5.3	11.3	9.7
9	Total Hardness as $CaCO_3$	mg/l	36	56	48	58	50
10	Total Alkalinity as $CaCO_3$	mg/l	35	40	38	50	45
11	Calcium as Ca	mg/l	9.7	14.6	13.2	16.3	13.8
12	Magnesium as Mg	mg/l	2.9	4.8	3.7	4.1	3.5
13	Chlorides as Cl	mg/l	18.5	35.8	26.4	27.3	22.5
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	0.03	0.02	0.04	0.03
16	Sulphates as SO_4	mg/l	5.9	7.8	6.4	7.3	8.4
17	Fluorides as F	mg/l	0.327	0.194	0.442	0.314	0.426
18	Nitrates as NO_3	mg/l	1.2	2.1	1.4	1.3	1.1
19	Sodium as Na	mg/l	14.6	19.8	16.2	17.5	16.8
20	Potassium as K	mg/l	0.9	1.2	0.8	1.8	1.5
21	Total Boron as B	mg/l	<0.01	0.018	0.024	0.023	0.031
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	0.014	0.023	0.036	0.022	0.015
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	0.071	0.087	0.104	0.063	0.082
33	Aluminum as Al	mg/l	0.012	0.031	0.022	0.017	0.021
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.06	1.15	1.02	1.00	1.05
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	110	160	120	140	190

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/25-26/23223/001**
Issued Date	:	**2026-02-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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)	6.95	6.81	6.80	7.27
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	3	2	2
6	Total dissolved solids at 180^{0}C	mg/l	500(2000)	490	258	480	427
7	Total Hardness as $CaCO_3$	mg/l	200(600)	172	144	148	154
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	190	110	185	170
9	Calcium as Ca	mg/l	75(200)	46.4	36.8	38.4	43.2
10	Magnesium as Mg	mg/l	30(100)	13.6	12.6	12.6	11.2
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)	0.021	0.015	0.017	0.023
13	Chlorides as Cl	mg/l	250(1000)	87.5	49.3	125.2	58.1
14	Sulphate as SO_4	mg/l	200(400)	30.1	18.7	40.9	27.8
15	Fluorides as F	mg/l	1.0(1.5)	0.128	0.106	0.360	0.271
16	Nitrates as NO_3	mg/l	45(NR)	4.6	2.8	5.9	3.8
17	Phenolic Compounds as C_6H_5OH	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:

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BALCO
KORBA
Chhattisgarh

Report Number	:	**VLL/VLS/25-26/23223/001**
Issued Date	:	**2026-02-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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	0.008	<0.01	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)	0.047	0.016	0.034	0.018
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)	0.016	0.008	0.024	<0.01
32	Aluminum as Al	mg/l	0.03(0.2)	0.014	0.011	0.018	0.023
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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	0.027	0.018
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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Report Number	:	**VLL/VLS/25-26/23223/001**
Issued Date	:	**2026-02-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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	Chlorpyriphos	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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Report Number	:	**VLL/VLS/25-26/23223/001**
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P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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

ENVIRONMENT LABORATORY VIMTA LABS REGD. No-CL-73004/99

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Report Number	:	**VLL/VLS/25-26/23223/001**
Issued Date	:	**2026-02-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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)	7.34	7.00	6.90	6.87
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	3	3
6	Total dissolved solids at 180ºC	mg/l	500(2000)	285	310	193	358
7	Total Hardness as $CaCO_3$	mg/l	200(600)	150	100	102	128
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	140	110	70	80
9	Calcium as Ca	mg/l	75(200)	32.8	20.8	25.6	30.4
10	Magnesium as Mg	mg/l	30(100)	16.5	11.7	9.2	12.6
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)	0.032	0.019	0.042	0.015
13	Chlorides as Cl	mg/l	250(1000)	42.5	74.8	38.6	131.2
14	Sulphate as SO_4	mg/l	200(400)	16.8	21.6	23.1	23.0
15	Fluorides as F	mg/l	1.0(1.5)	0.388	0.250	0.179	0.125
16	Nitrates as NO_3	mg/l	45(NR)	2.9	3.4	2.8	3.7
17	Phenolic Compounds as C_6H_5OH	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

ENVIRONMENT LABORATORY VIMTA LABS REGD. No. Sr. No. VIMTA

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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	0.019	0.008
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)	0.012	0.039	0.046	0.012
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)	0.015	0.026	0.031	0.013
32	Aluminum as Al	mg/l	0.03(0.2)	0.019	0.027	0.013	0.01
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.014	0.029	0.012	0.029
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

ENVIRONMENTAL LABORATORY Vimta VIMTA Labs Ltd. REGD. No- DL 33004/99 Sr. No.-5

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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	Chlorpyriphos	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

ENVIRONMENT LABORATORY Vimta VIMTA LABS LTD. REGD. No- DL-10008 Sr. No.-5

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P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-29
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

ENVIRONMENTAL TESTING LABORATORY
Vimta
VIMTA LABS
REGD. No- DL-XXXXXX
Sr. No.

Dr. Subba Reddy Mallampati
(Manager - Environment)

Vimta Labs Limited
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ISSUED TO:
M/s. Bharat Aluminum Company Limited,
BALCO
KORBA
Chhattisgarh

Report Number	:	**VLL/VLS/25-26/23223/001**
Issued Date	:	**2026-02-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-24
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	-	7.48	7.31	7.65	7.28
2	Colour	Hazen	1	2	1	2
3	Conductivity	µS/cm	134	210	150	100
4	TDS	mg/l	85	132	95	135
5	DO	mg/l	6.8	5.2	5.4	5.6
6	BOD	mg/l	0.6	1.9	0.8	2.0
7	COD	mg/l	2.4	7.2	3.2	9.6
8	Turbidity	NTU	5.0	8.0	7.0	9.0
9	Total Hardness as $CaCO_3$	mg/l	38	65	46	48
10	Total Alkalinity as $CaCO_3$	mg/l	30	50	40	42
11	Calcium as Ca	mg/l	9.6	12.8	11.2	10.4
12	Magnesium as Mg	mg/l	3.4	8.3	4.4	5.3
13	Chlorides as Cl	mg/l	16.0	22.5	16.0	28.8
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.01	0.04	0.02	0.05
16	Sulphates as SO_4	mg/l	13.0	18.8	10.5	19.9
17	Fluorides as F	mg/l	0.108	0.133	0.126	0.163
18	Nitrates as NO_3	mg/l	0.50	0.90	0.80	0.90
19	Sodium as Na	mg/l	12.6	16.5	12.6	24.8
20	Potassium as K	mg/l	1.1	1.6	0.8	2.3
21	Total Boron as B	mg/l	0.010	0.013	0.010	0.038
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	0.054	0.037	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	0.011	0.067	0.041	0.015
33	Aluminum as Al	mg/l	0.012	0.018	0.024	0.022
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.89	0.88	0.81	1.56
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	9.4	38	14	35

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

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No. DL-3302/97 Sr. No.-

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/23223/002**
Issued Date	:	**2026-02-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-01-09	Sampling Date	:	2026-01-03
Analysis Starting Date	:	2026-01-10	Analysis Completion Date	:	2026-01-24
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	-	7.31	7.37	7.42	7.39	7.27
2	Colour	Hazen	1	2	2	3	2
3	Conductivity	µS/cm	154	182	167	180	164
4	TDS	mg/l	97	115	104	110	103
5	DO	mg/l	7.7	7.9	7.4	7.1	7.3
6	BOD	mg/l	1.5	1.7	1.7	2.2	1.9
7	COD	mg/l	5.6	8.0	7.2	8.8	8.0
8	Turbidity	NTU	6.0	8.0	6.0	9.0	8.0
9	Total Hardness as $CaCO_3$	mg/l	50	57	50	52	46
10	Total Alkalinity as $CaCO_3$	mg/l	30	43	40	41	35
11	Calcium as Ca	mg/l	10.5	13.2	10.4	10.4	11.2
12	Magnesium as Mg	mg/l	5.3	5.8	5.8	6.3	4.4
13	Chlorides as Cl	mg/l	26.0	27.0	24.0	26.8	25.8
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	0.03	0.05	0.04
16	Sulphates as SO_4	mg/l	9.4	6.8	6.2	8.2	7.9
17	Fluorides as F	mg/l	0.442	0.587	0.523	0.608	0.537
18	Nitrates as NO_3	mg/l	0.8	1.7	1.1	1.2	0.9
19	Sodium as Na	mg/l	13.6	15.2	14.8	16.4	15.6
20	Potassium as K	mg/l	0.7	1.1	0.6	1.4	1.3
21	Total Boron as B	mg/l	<0.01	0.021	0.032	0.027	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	0.011	0.035	0.028	0.019	0.023
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	0.058	0.073	0.098	0.043	0.065
33	Aluminum as Al	mg/l	0.019	0.036	0.021	0.015	0.031
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.85	0.88	0.91	0.99	1.00
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	32	39	34	38	33

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/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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)	6.92	6.89	6.83	7.23
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	4	2	3
6	Total dissolved solids at 180°C	mg/l	500(2000)	395	265	421	410
7	Total Hardness as $CaCO_3$	mg/l	200(600)	172	150	128	156
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	160	100	140	158
9	Calcium as Ca	mg/l	75(200)	41.6	43.2	36.8	46.4
10	Magnesium as Mg	mg/l	30(100)	16.5	10.2	8.7	9.7
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)	0.037	0.019	0.023	0.015
13	Chlorides as Cl	mg/l	250(1000)	136.1	66.1	143.8	64.1
14	Sulphate as SO_4	mg/l	200(400)	27.1	18.9	39.1	26.1
15	Fluorides as F	mg/l	1.0(1.5)	0.131	0.098	0.342	1.450
16	Nitrates as NO_3	mg/l	45(NR)	3.6	2.1	4.7	4.1
17	Phenolic Compounds as C_6H_5OH	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/25-26/24935/001**
Issued Date : **2026-03-05**
P.O. No. : **3402001553**
P.O. Date : **2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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)	0.013	<0.01	0.008	<0.01
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)	0.038	0.012	0.027	0.011
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)	0.024	0.010	0.021	0.01
32	Aluminum as Al	mg/l	0.03(0.2)	0.013	0.023	0.015	0.018
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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	0.018	0.021	0.014
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	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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	Chlorpyriphos	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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Report Number	:	**VLL/VLS/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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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Report Number	:	**VLL/VLS/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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)	7.42	7.03	6.94	6.81
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	3	4	3
6	Total dissolved solids at 180°C	mg/l	500(2000)	212	310	202	360
7	Total Hardness as $CaCO_3$	mg/l	200(600)	124	136	106	102
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	95	110	80	95
9	Calcium as Ca	mg/l	75(200)	30.8	35.2	27.2	20.0
10	Magnesium as Mg	mg/l	30(100)	11.5	11.7	9.2	12.6
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)	0.045	0.012	0.035	0.017
13	Chlorides as Cl	mg/l	250(1000)	35.5	78.1	37.2	110.0
14	Sulphate as SO_4	mg/l	200(400)	18.4	21.6	21.9	33.2
15	Fluorides as F	mg/l	1.0(1.5)	0.369	0.287	0.164	0.131
16	Nitrates as NO_3	mg/l	45(NR)	2.2	3.9	2.1	3.2
17	Phenolic Compounds as C_6H_5OH	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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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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)	0.012	0.009	0.014	<0.01
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)	0.015	0.031	0.039	0.026
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	0.029	0.034	0.021
32	Aluminum as Al	mg/l	0.03(0.2)	0.013	0.016	0.024	0.021
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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	0.017	0.015	0.023
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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KORBA
Chhattisgarh

Report Number	:	**VLL/VLS/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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	Chlorpyriphos	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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Report Number	:	**VLL/VLS/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-26
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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Report Number	:	**VLL/VLS/25-26/24935/001**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-02-09	Sampling Date	:	2026-02-04
Analysis Starting Date	:	2026-02-09	Analysis Completion Date	:	2026-02-23
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	-	6.79	7.21	7.34	7.41
2	Colour	Hazen	1	3	2	4
3	Conductivity	µS/cm	185	142	84	114
4	TDS	mg/l	97	158	112	144
5	DO	mg/l	6.7	4.9	5.1	5.7
6	BOD	mg/l	0.8	1.7	1.0	1.8
7	COD	mg/l	3.2	6.4	4.0	8.8
8	Turbidity	NTU	4.0	7.0	8.0	6.0
9	Total Hardness as $CaCO_3$	mg/l	52	72	50	68
10	Total Alkalinity as $CaCO_3$	mg/l	33	58	38	48
11	Calcium as Ca	mg/l	12.0	19.2	12.0	18.4
12	Magnesium as Mg	mg/l	5.3	5.8	4.9	5.3
13	Chlorides as Cl	mg/l	16.0	22.5	16.0	28.8
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.02	0.035	0.03	0.046
16	Sulphates as SO_4	mg/l	16.6	29.8	19.7	21.6
17	Fluorides as F	mg/l	0.075	0.284	0.132	0.358
18	Nitrates as NO_3	mg/l	0.5	0.9	0.8	0.9
19	Sodium as Na	mg/l	12.6	16.5	12.6	24.8
20	Potassium as K	mg/l	1.1	1.6	0.8	2.3
21	Total Boron as B	mg/l	<0.01	0.012	0.008	0.026
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	0.017	0.048	0.026	0.031
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	0.023	0.054	0.038	0.018
33	Aluminum as Al	mg/l	0.011	0.021	0.018	0.034
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.76	0.85	0.78	1.31
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	11	36	18	42

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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Report Number	:	**VLL/VLS/25-26/24935/002**
Issued Date	:	**2026-03-05**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date : 2026-02-09 Sampling Date : 2026-02-04
Analysis Starting Date : 2026-02-09 Analysis Completion Date : 2026-02-23
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	-	7.35	7.36	7.58	7.24	7.22
2	Colour	Hazen	1	3	3	4	2
3	Conductivity	µS/cm	176	165	154	168	159
4	TDS	mg/l	110	98	90	105	102
5	DO	mg/l	7.2	7.6	7.3	7.4	7.6
6	BOD	mg/l	1.2	1.5	1.8	2.1	1.9
7	COD	mg/l	4.8	7.2	8.0	8.5	8.0
8	Turbidity	NTU	7.0	9.0	6.0	11.0	8.0
9	Total Hardness as $CaCO_3$	mg/l	50	54	51	52	50
10	Total Alkalinity as $CaCO_3$	mg/l	43	40	40	42	41
11	Calcium as Ca	mg/l	11.2	12.0	12.8	10.4	12.8
12	Magnesium as Mg	mg/l	5.3	5.8	4.7	6.3	4.4
13	Chlorides as Cl	mg/l	26.0	27.0	24.0	26.8	25.8
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	0.062	0.041	0.06	0.05
16	Sulphates as SO_4	mg/l	7.8	4.1	5.2	7.6	6.1
17	Fluorides as F	mg/l	0.407	0.564	0.502	0.589	0.542
18	Nitrates as NO_3	mg/l	1.1	1.8	1.6	1.4	1.2
19	Sodium as Na	mg/l	16.7	12.5	11.5	14.0	13.1
20	Potassium as K	mg/l	1.1	1.0	0.8	1.2	1.1
21	Total Boron as B	mg/l	<0.01	0.018	0.029	0.034	0.015
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	0.042	0.034	0.022	0.031
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	0.047	0.065	0.087	0.035	0.049
33	Aluminum as Al	mg/l	0.026	0.041	0.029	0.013	0.025
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.03	0.74	0.70	0.84	0.81
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	34	32	35	39	38

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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Report Number	:	**VLL/VLS/25-26/28724/001**
Issued Date	:	**2026-04-04**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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)	6.84	7.15	6.81	7.03
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	3	2	3
6	Total dissolved solids at 180°C	mg/l	500(2000)	604	262	624	403
7	Total Hardness as $CaCO_3$	mg/l	200(600)	294	118	267	231
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	180	90	230	195
9	Calcium as Ca	mg/l	75(200)	71.2	26.8	74.0	64.8
10	Magnesium as Mg	mg/l	30(100)	28.2	12.4	20.0	16.7
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)	0.026	0.012	0.037	0.023
13	Chlorides as Cl	mg/l	250(1000)	163.8	54	143.1	55.2
14	Sulphate as SO_4	mg/l	200(400)	65.8	34.1	46.8	29.7
15	Fluorides as F	mg/l	1.0(1.5)	0.246	0.404	0.680	1.070
16	Nitrates as NO_3	mg/l	45(NR)	4.9	3.2	5.2	3.5
17	Phenolic Compounds as C_6H_5OH	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-33OC-4/99 Sr. No.-5 ENVIRONMENT LABORATORY VIMTA

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ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/28724/001**
Issued Date	:	**2026-04-04**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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)	0.011	<0.005	0.012	<0.005
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.001	<0.001	<0.001	<0.001
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	0.01	0.019	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)	<0.001	<0.001	<0.001	<0.001
31	Zinc as Zn	mg/l	5.0(15)	0.034	0.013	0.027	0.016
32	Aluminum as Al	mg/l	0.03(0.2)	0.021	0.016	0.018	0.023
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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	0.019	0.028	0.017
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. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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	Chlorpyriphos	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 Date	:	**2026-04-04**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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

ENVIRONMENT LABORATORY Vimta VIMTA LABS Sr. No.-5

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P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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)	7.39	6.79	6.72	6.92
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	4	3	2
6	Total dissolved solids at 180°C	mg/l	500(2000)	300	147	174	335
7	Total Hardness as $CaCO_3$	mg/l	200(600)	144	50	90	146
8	Total Alkalinity as $CaCO_3$	mg/l	200(600)	120	50	60	60
9	Calcium as Ca	mg/l	75(200)	36.0	8.8	19.2	32.0
10	Magnesium as Mg	mg/l	30(100)	13.1	6.8	10.2	16.0
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)	0.034	0.011	0.028	0.031
13	Chlorides as Cl	mg/l	250(1000)	68.4	31	37.5	135
14	Sulphate as SO_4	mg/l	200(400)	17.5	16.5	21.1	27.1
15	Fluorides as F	mg/l	1.0(1.5)	0.960	0.428	0.232	0.309
16	Nitrates as NO_3	mg/l	45(NR)	1.9	3.1	3.5	2.9
17	Phenolic Compounds as C_6H_5OH	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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Issued Date	:	**2026-04-04**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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)	0.008	0.01	0.017	<0.005
26	Molybdenum as Mo	mg/l	0.07(NR)	<0.001	<0.001	<0.001	<0.001
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)	0.013	0.028	0.024	0.031
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)	<0.001	<0.001	<0.001	<0.001
31	Zinc as Zn	mg/l	5.0(15)	0.028	0.031	0.025	0.018
32	Aluminum as Al	mg/l	0.03(0.2)	0.027	0.015	0.029	0.014
33	Mercury as Hg	mg/l	0.001(NR)	<0.001	<0.001	<0.001	<0.001
34	Sulphide as H2S	mg/l	0.05(NR)	<0.05	<0.05	<0.05	<0.05
35	Chloramines as Cl2	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)	0.020	0.025	0.013	0.018
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 LABS REGD. No- DL 33004/99 Sr. No.-5

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P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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	Chlorpyriphos	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	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-11	Analysis Completion Date	:	2026-03-25
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

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

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P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-10	Analysis Completion Date	:	2026-03-23
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	-	7.03	7.69	7.68	6.19
2	Colour	Hazen	1	2	1	3
3	Conductivity	µS/cm	56	243	88	115
4	TDS	mg/l	60	150	75	72
5	DO	mg/l	6.3	4.4	5.8	5.2
6	BOD	mg/l	0.5	3.0	2.0	1.5
7	COD	mg/l	1.6	11.2	7.2	6.4
8	Turbidity	NTU	3.0	8.0	6.0	8.0
9	Total Hardness as $CaCO_3$	mg/l	18	68	32	42
10	Total Alkalinity as $CaCO_3$	mg/l	14	55	25	45
11	Calcium as Ca	mg/l	4.8	16.0	6.4	8.8
12	Magnesium as Mg	mg/l	1.5	6.8	3.9	4.9
13	Chlorides as Cl	mg/l	15.0	21.0	16.3	19.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.023	0.032	0.011	0.024
16	Sulphates as SO_4	mg/l	10.6	12.5	10.0	22.7
17	Fluorides as F	mg/l	0.186	0.284	0.351	0.399
18	Nitrates as NO_3	mg/l	0.3	1.1	1.0	1.2
19	Sodium as Na	mg/l	12.6	16.5	12.6	24.8
20	Potassium as K	mg/l	1.1	1.6	0.8	2.3
21	Total Boron as B	mg/l	<0.005	0.015	0.009	0.032
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	<0.005	<0.005	<0.005	<0.005
26	Arsenic as As	mg/l	<0.001	<0.001	<0.001	<0.001
27	Copper as Cu	mg/l	<0.005	<0.005	<0.005	<0.005
28	Lead as Pb	mg/l	<0.005	<0.005	<0.005	<0.005
29	Iron as Fe	mg/l	0.010	0.035	0.014	0.031
30	Chromium as Cr^{+6}	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.005	<0.005	<0.005	<0.005
32	Zinc as Zn	mg/l	0.017	0.048	0.021	0.032
33	Aluminum as Al	mg/l	0.008	0.031	0.010	0.025
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	1.29	0.87	0.97	1.67
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	13	42	26	38

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

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No. DL-33... Dr. No.-5

Dr. Subba Reddy Mallampati
(Manager – Environment)

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

Vimta
Driven by Quality. Inspired by Science.

ISSUED TO:

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

Report Number	:	**VLL/VLS/25-26/28724/002**
Issued Date	:	**2026-04-04**
P.O. No.	:	**3402001553**
P.O. Date	:	**2025-10-01**

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

Sample Registration Date	:	2026-03-10	Sampling Date	:	2026-03-03
Analysis Starting Date	:	2026-03-10	Analysis Completion Date	:	2026-03-23
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	7.31	7.46	7.21	7.26
2	Colour	Hazen	1	2	2	3	2
3	Conductivity	µS/cm	164	172	161	169	162
4	TDS	mg/l	105	108	103	110	105
5	DO	mg/l	7.6	7.4	7.1	7.5	7.7
6	BOD	mg/l	1.6	1.9	1.7	2.0	1.9
7	COD	mg/l	5.6	6.4	5.6	7.2	6.4
8	Turbidity	NTU	5.0	7.0	8.0	6.0	9.0
9	Total Hardness as $CaCO_3$	mg/l	50	52	56	54	52
10	Total Alkalinity as $CaCO_3$	mg/l	40	42	45	40	42
11	Calcium as Ca	mg/l	12.8	12	14.4	15.2	14.4
12	Magnesium as Mg	mg/l	4.8	5.3	4.8	3.9	4.0
13	Chlorides as Cl	mg/l	25.0	26.4	21.1	24.8	22.3
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.013	0.028	0.017	0.021	0.015
16	Sulphates as SO_4	mg/l	5.9	4.4	4.7	6.9	5.4
17	Fluorides as F	mg/l	0.623	0.594	0.576	0.621	0.619
18	Nitrates as NO_3	mg/l	0.5	0.9	0.6	1.2	1.1
19	Sodium as Na	mg/l	14.2	15.1	11.5	13.5	12.8
20	Potassium as K	mg/l	0.8	1.1	0.7	1.1	1.0
21	Total Boron as B	mg/l	<0.005	0.016	0.018	0.025	0.019
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	<0.005	<0.005	<0.005	<0.005	<0.005
26	Arsenic as As	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
27	Copper as Cu	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005
28	Lead as Pb	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005
29	Iron as Fe	mg/l	0.015	0.031	0.027	0.029	0.036
30	Chromium as Cr^{+6}	mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.005	<0.005	<0.005	<0.005	<0.005
32	Zinc as Zn	mg/l	0.039	0.051	0.041	0.036	0.031
33	Aluminum as Al	mg/l	0.028	0.036	0.024	0.019	0.027
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.86	0.91	0.67	0.80	0.77
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	47	52	44	72	67

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

ENVIRONMENT LABORATORY
VIMTA LABS
REGD. No- DL 33004/99
Sr No-6

Dr. Subba Reddy Mallampati
(Manager – Environment)

1000 WIDE PATH WAY OF INTER LOCKING PRECAST BLOCKS

6000

+2.950

PROTECTIVE SOIL COVER 450 THK

BENTOMAT ST - GEO TEXTILE - TOP LAYER

HDPE GEO MEMBRANE 1.5mm THK BOTTOM LAYER

EARTH PILLING

± 0.00 GL

-1.50

EXCAVATION LINE

2250

49000

FILTER MEDIUM

SECTION X-X

PROTECTIVE SOIL COVER 450 THK

STONE PITCHING

-2.00

300 THK DRAINAGE MATERIAL

IN FILLING OF TOP WIDTH MIN

1.5

3250

DRAIN PIPES

ERS

E COLLECTION SUMP

R

R

ϕ 10 @ 300 TOP AND BOT EACH WAY

PLAN AT P-P

2.00

150

2000

150

ϕ 8 @ 200 EACH WAY

450 WIDE MS LADDER

EXCAVATION SIZE

49.00 m X 30.00 m AT BASE

27.53.50 m X 24.50 m AT GROUND LEVEL.

GL 0.00

ϕ 10 @ 200 ON EACH FACE AT 25mm CLEAR COVER TO OUTER MOST LAYER

USE M:20 CONCRETE.

Construction Completed by civil deptt as per MOEF guidlines

Regional Officer
Regional Office
C.G. Environment
Conservation Board
Raipur, Korba (C.G.)

Civil Engineer
BALCO.

PERFORATED ϕ 75 PVC PIPE BRANCHES IN EACH LAYER @2000 C/C 50 PIECES X 10 m EACH

SLOPE

2250

-1.50

-2.00

150 ϕ PVC DRAIN PIPES IN TWO LAYERS 140 m APPROX

EXCAVATION LINE AT GROUND LEVEL

LEACHATE COLLECTION SUMP

EXCAVATION LINE AT BASE

49000

51000

1000 WIDE PATH WAY OF INTER LOCKING BLOCKS

PLAN

SECTION R-R

DETAILS OF SUMP

-3.50

ϕ 10 @ 300 TOP AND BOTTOM AT 25 mm CLEAR COVER TO OUTER MOST LAYER

600

600

300

NO	DATE	REVISION
2	15-03-07	LINERS IN SECTION X-X MENTIONED, LEVEL OF 150 ϕ PIPE NOTED, LADDER FOR SUMP SHOWN
1	27-02-07	DIMENSIONS ON PLAN AND SECTION ADDED AFTER DISCUSSIONS WITH BALCO AUTHORITIES

PROJECT

DEVELOPMENT OF HAZARDOUS WASTE DISPOSAL FACILITY

CLIENT

BHARAT ALUMINUM CO. LTD
BALCONAGAR, KORBA,
CHHATISGARH.

TITLE

DETAILS OF DOUBLE LINER SYSTEM FOR PROPOSED SECURED LANDFILL SITE.

DESIGNED

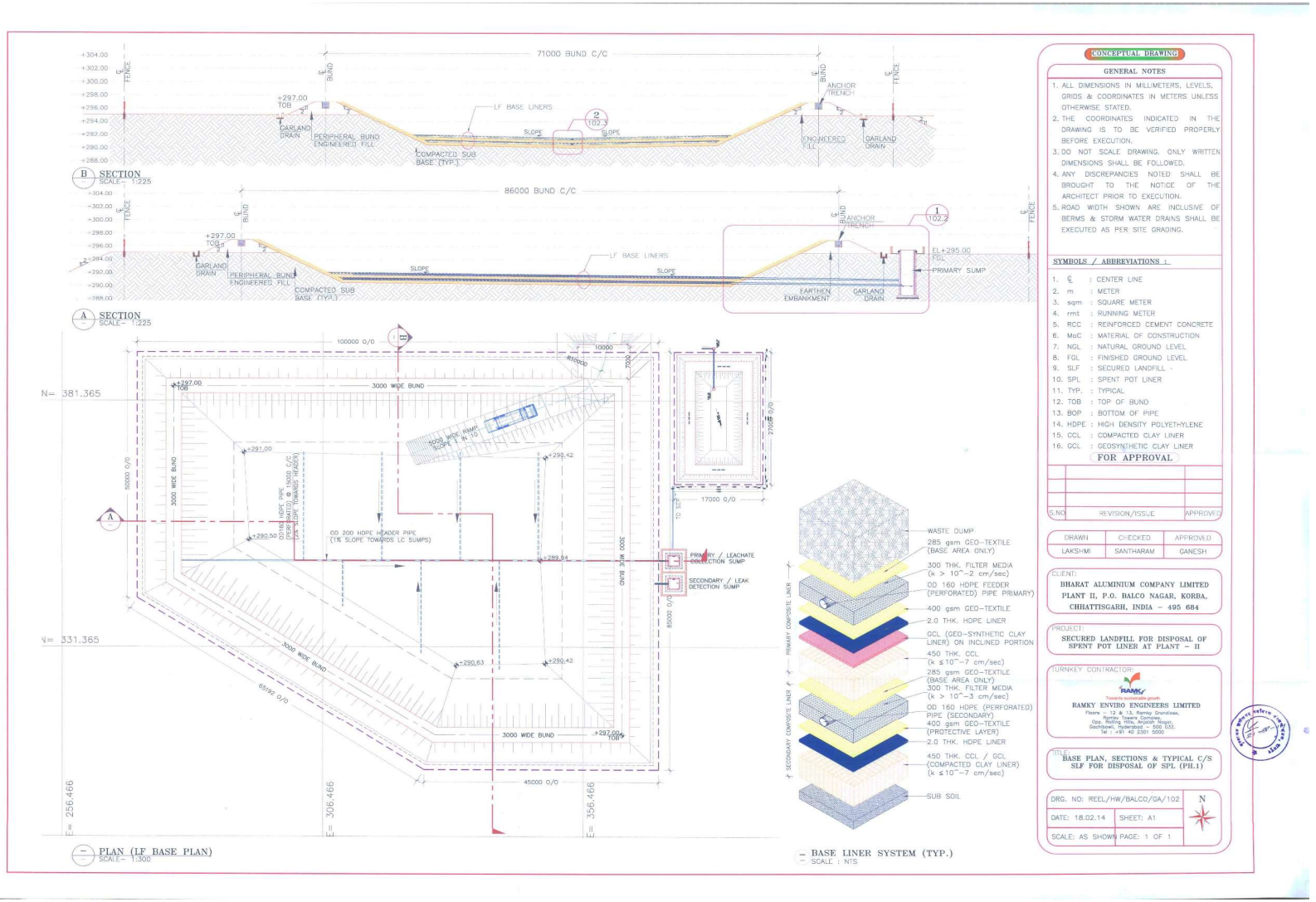
ANACON LABORATORIES PVT. LTD.
NAGPUR.

SCALE

DATE

DRG. NO. 1

REV. 2



CONCEPTUAL DRAWING

GENERAL NOTES

1. ALL DIMENSIONS IN MILLIMETERS, LEVELS, GRIDS & COORDINATES IN METERS UNLESS OTHERWISE STATED.
2. THE COORDINATES INDICATED IN THE DRAWING IS TO BE VERIFIED PROPERLY BEFORE EXECUTION.
3. DO NOT SCALE DRAWING. ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
4. ANY DISCREPANCIES NOTED SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT PRIOR TO EXECUTION.
5. ROAD WIDTH SHOWN ARE INCLUSIVE OF BERMS & STORM WATER DRAINS SHALL BE EXECUTED AS PER SITE GRADING.

SYMBOLS / ABBREVIATIONS :

1.	℄	: CENTER LINE
2.	m	: METER
3.	sqm	: SQUARE METER
4.	rmt	: RUNNING METER
5.	RCC	: REINFORCED CEMENT CONCRETE
6.	MoC	: MATERIAL OF CONSTRUCTION
7.	NGL	: NATURAL GROUND LEVEL
8.	FGL	: FINISHED GROUND LEVEL
9.	SLF	: SECURED LANDFILL
10.	SPL	: SPENT POT LINER
11.	TYP.	: TYPICAL
12.	TOB	: TOP OF BUND
13.	BOP	: BOTTOM OF PIPE
14.	HDPE	: HIGH DENSITY POLYETHYLENE
15.	CCL	: COMPACTED CLAY LINER
16.	GCL	: GEOSYNTHETIC CLAY LINER

FOR APPROVAL

S.NO	REVISION/ISSUE	APPROVED

DRAWN	CHECKED	APPROVED
LAKSHMI	SANTHARAM	GANESH

CLIENT:
BHARAT ALUMINIUM COMPANY LIMITED
PLANT II, P.O. BALCO NAGAR, KORBA, CHHATTISGARH, INDIA - 495 684

PROJECT:
SECURED LANDFILL FOR DISPOSAL OF SPENT POT LINER AT PLANT - II

TURNKEY CONTRACTOR:
RAMKY ENVIRO ENGINEERS LIMITED
Floors - 12 & 13, Ramky Grandeur, Ramky Towers Complex, Opp. Rolling Hills, Anjaiah Nagar, Gachibowli, Hyderabad - 500 032. Tel : +91 40 2301 5000

TITLE:
BASE PLAN, SECTIONS & TYPICAL C/S SLF FOR DISPOSAL OF SPL (PH.1)

DRG. NO: REEL/HW/BALCO/GA/102	N
DATE: 18.02.14	SHEET: A1
SCALE: AS SHOWN	PAGE: 1 OF 1

vedanta
transforming for good

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

BALCO/ENV/A-06(C)/2025/565

Date: 04.12.2025

To,
The Regional Officer
Chhattisgarh Environment Conservation Board
Korba (CG)

Sub: Submission of third-party report of plantation for FY 2024-25.

Dear Sir,

With reference to the abovementioned subject, Bharat Aluminium Company Limited (hereinafter referred to as "BALCO") is hereby submitting the third-party report of plantation for FY 2024-25 carried out by the CECB approved agency M/s Nav Astha Jan Vikas Seva Samiti (NAJVSS), Ambikapur (CG) for BALCO including BCPP (**Annexure-I**).

This is for submission and record please.

Yours Sincerely,
For Bharat Aluminium Company Limited (BALCO)

(Authorized Signatory)

C/c: The Member Secretary CECB Nava Raipur, Atal Nagar (CG)

REGIONAL OFFICE C.G. ENVIRONMENT CONSERVATION BOARD
No. 1045
Dt. 5/12/2025
KORBA (C.G.)

Registered Office : Aluminium Sadan, Core 6, Scope Complex, 7 Lodhi Road, New Delhi (India) - 110003
CIN : U74899DL1965PLC004518 | **Tel** : 011 49166200 | **Fax** : 011 24320177 | **Web** : www.vedantalimited.com | www.balcoindia.com

REPORT ON "MONITORING AND EVALUATION OF PLANTATION" AT

M/S. BHARAT ALUMINIUM COMPANY LIMITED

Balco Nagar, Korba, Chhattisgarh - 495684

October 2025

"NAV AASTHA JAN VIKAS SEVA SAMITI"
8/5, "JASMATI BHAWAN", NEAR OLD KATTHA FACTORY,
GODHANPUR, AMBIKAPUR – 497001
CONTACT – #99261-54460 #94255-80401
WEBSITE – www.navaastha.in Email – najvss@gmail.com

INDEX

WHO WE ARE?

NAV AASTHA JAN VIKAS SEVA SAMITI is a registered NGO under societies registration act. 1973 of Indian constitution, registered on 07th April 2005 at Raipur (C.G.). The working area of the organization is whole Chhattisgarh. Our main focus is towards the youth development as well as women and child empowerment of the state.

We have been working continuously in betterment of the people of Chhattisgarh *(chhattisgarhiya)* in educational, physical and many more sectors by the help of schemes of govt. The organization works under many schemes of the respectable govt. like – **Green India Mission** (GIM), **Bio-diversity Program, Integrated Watershed Management Program** (IWMP), **SGSY**, **SHG** forming, **JFMC** and many more. We are also engaged in **Monitoring and Evaluation** of plantations of government entities as well as private entities. We are also enlisted for the monitoring and evaluation of various entities working in Chhattisgarh by PCCF, Raipur under the ministry of Environment and Forest GoCG.

"New challenges new innovations..... "

CENTRAL POLLUTION CONTROL BOARD

The **Central Pollution Control Board (CPCB)**, statutory organization, was constituted in September, 1974 under the Water (Prevention and Control of Pollution) Act, 1974. It also provides technical services to the Ministry of Environment and Forests of the provisions of the Environment (Protection) Act, 1986.

CPCB along with its counterparts **State Pollution Control Boards (SPCBs)** are responsible for implementation of legislations relating to prevention and control of environmental pollution.

The Central Pollution Control Board (CPCB) and the Ministry of Environment and Forests (MoEF) have guidelines for green belt development. The guidelines state that **33% of the total land area should be kept as greenbelt**. The greenbelt should be developed along the boundary by planting tall, evergreen trees.

The guidelines also state that:

- The species selected should be capable of **growing fast, wind firm, and long lived.**
- The **width** of the 3 tier green belt should vary from **15m to 100m** depending on the type of project.
- The **density** of the green belt should be in the range **1500 to 2500 plants per ha.**
- The green belt species should be **native species.**
- Certain species of plants can **absorb pollutants** while others can **thrive** in polluted atmosphere.

INTRODUCTION TO GREENBELT DEVELOPMENT

For India's industrial and other developmental operations, environmental protection has been prioritized. The **Ministry of Environment & Forests (MoEF)** has advocated for the inclusion of environmental considerations in the development of projects through a number of policy& measures. According to the terms of the **Environment (Protection) Act of 1986**, one such initiative is the notification on **Environmental Impact Assessment (EIA)** of developmental projects, which was first issued in 1994 and then updated in 2006. Greenbelts are proactively discussed in the EIA Guidance Manual for building, construction, township, and area development projects.

The term "greenbelt" refers to a boundary established beyond of which industrial development is prohibited. Greenbelts are now present not only for the purpose of protecting sensitive areas to maintain ecological balance but are also found in urban areas so as to act as a sink for the harmful gases released by vehicles and industries operating in the city area. This idea has evolved through a long line of cases. The Central Pollution Control Board has created extensive Guidelines for Developing Greenbelts in this regard [Refer Probes/75/1999-2000].

The establishment of green belts is advantageous in many ways, contributing to biodiversity preservation, soil moisture retention, ground water recharging, and sustaining the region's pleasant microclimate. Additionally, the plants in a green belt can absorb environmental toxins and aid in efficient pollution control.

Green belts are designed open spaces that are protected against construction of new structures, factories, dams, etc. Safeguarded in the sense that only vegetation growth will be permitted on such designated locations, and no infrastructure development will be permitted there. The ecological health of any particular region depends on the presence of green belts in and around urban and industrial regions.

According to MoEF prerequisites, tall, evergreen trees must be planted all along the boundary to create a greenbelt. The overall green area, including the landscaping area, will make up 1/3rd (or around 33%) of the plant area. This will contain a lay-down space that will thereafter become a green area. Two rows of tall, evergreen plants must be planted at a rate of 600–1000 per Acre (1500–2500 per Hectare),

depending on the size, activity, and environmental effects of the industry; the amount of land available; and the agro-climatic conditions. Plants should be spaced apart from one another by around 10 meters for the road side. Trees having a lot of branches and a canopy, such as peepal, banyan, kadamb, neem, and Conocarpus lancefolius, should be grown as these kinds of avenue trees. Plantations must use gathered rainwater and treated effluent water.

A list of plants suitable for greenbelt and to the local agro climatic conditions is given in Table below:

S.No	Botanical Name	Family	Common Name	Habitat	Height (m)
1.	*Acacia auriculiformis A.cunn*	Mimoseae	Australian Wattle	Tree	16
2.	*Acacia nilotica (Linn) Wild*	Mimoseae	Indian gum	Tree	8
3.	*Albizia lebbeck Benth*	Mimoseae	Sirisha	Tree	15
4.	*Anthocephalus chinensis (Lamk.)*	Rubiaceae	Kadambama	Tree	20
5.	*Azadirachta indica*	Meliaceae	Neem	Tree	20
6.	*Bambusa arundinacia (Retz)Roxb*	Poaceae	Thorny Bamboo	Shrub	20
7.	*Bambusa vulgaris Schrad*	Poaceae	The Golden Bamboo	Shrub/ Tree	15
8.	*Bauhinia purpurea Linn*	Caesalpinaceae	Butterfly tree	Tree	7
9.	*Bauhinia varigata Linn*	Caesalpinaceae	Budhist bauhinia	Tree	5
10.	*Cassia fistula Linn*	Caesalpinaceae	Golden showers	Tree	12
11.	*Citrus aurantium Linn*	Rutaceae	Citrus tree	Tree	5
12.	*Cocos nucifera Linn*	Arecaceae	Coconut tree	Tree	15
13.	*Delonix regia (Boijer) Rafin.*	Caesalpinaceae	Flame tree	Tree	15
14.	*Emblica officinalis Gaertn.*	Euphorbiaceae	Gooseberry	Tree	5
15.	*Eucalyptus citriodora Hook*	Myrtaceae	Lemon scented gum	Tree	20
16.	*Ficus benghalensis Linn*	Moraceae	Banyan tree	Tree	20
17.	*Ixora undulate*	Rubiaceae	Ixora	Tree	6
18.	*Madhuca longifolia (Koen)*	Sapotaceae	The butter tree	Tree	15
19.	*Mangifera indica Linn*	Anacardiaceae	Mango tree	Tree	15
20.	*Nerium indicum*	Apocynaceae	Pink oleander	Shrub	5
21.	*Peltophorum pterocarpum*	Caesalpinaceae	Copper pod tree	Tree	20
22.	*Polythia longifolia*	Anonaceae	Ashoka tree	Tree	20
23.	*Terminalia catappa*	Combretaceae	The Indian almond	Tree	10

S.No	Botanical Name	Family	Common Name	Habitat	Height (m)
24.	*Anacardium occidentale*	Anacardiaceae	Kaju	Tree	10
25.	*Syzygium cumini*	Myrtaceae	Jamun	Tree	20
26.	*Tectona grandis*	Lamiaceae	Sagwan	Tree	5
27.	*Ficus benghalensis*	Moraceae	Banyan	Tree	10
28.	*Psidium guajava*	Myrtaceae	Guava	Tree	5
29.	*Diospyros melanoxylon Roxb.*	Ebenaceae	Kendu	Tree	10
30.	*Millettia pinnata*	Fabaceae	Karanj	Tree	15
31.	*Phyllanthusemblica*	Phyllanthaceae	Amla	Tree	10
32.	*Senna siamea*	Caesalpiniaceae	Casia Cemia	Tree	10
33.	*Tamarindus indica*	Leguminosae	Tamarind	Tree	10
34.	*Delonix regia*	Caesalpiniaceae	Gulmohar	Tree	15
35.	*Ficus religiosa*	Moraceae	Peepal	Tree	5
36.	*Schleichera oleosa*	Sapindaceae	Kusum	Tree	10
37.	*Schotia brachypetala*	Fabaceae	Boer	Tree	20
38.	*Dalbergia sissoo*	Fabaceae	Shisham	Tree	5

REGULATIONS FOR GREENBELT DEVELOPMENT

Environmental Guidelines for Industries, created by the MoEF, recommend corporations undertake environmental protection seriously and work to reduce the negative effects of their operations both locally and beyond. As a result, these regulations require project owners to keep certain distances between their companies and places like ecologically sensitive areas, coastal areas, flood plains of riverine systems, transportation and communication systems, and major settlements.

These rules also require that, when citing industry, economic and social factors be acknowledged and evaluated. The following are the main guidelines that all industries must adhere to when establishing manufacturing or processing facilities in specific locations. which are;

1. No forest land shall be converted into non-forest activity for the sustenance of the industry.
2. No prime agricultural land shall be converted into industrial site.
3. Within the acquired site the industry must locate itself at the lowest location to remain obscured from general sight.
4. Land acquired shall be sufficiently large to provide space for appropriate treatment of waste water still left for treatment after maximum possible reuse and recycle. Reclaimed (treated) wastewater shall be used to raise **green belt** and to create water body for aesthetics, recreation and if possible for aquaculture. **The green belt shall be 1/2 km wide around the battery limit of the industry. For industry having odour problem it shall be a kilometer wide.**
5. **The green belt between two adjoining large scale industries shall be one kilometer.**
6. Enough space should be provided for storage of solid wastes so that these could be available for possible reuse.
7. Lay out and form of the industry that may come up in the area must conform to the landscape of the area without affecting the scenic features of that place.
8. Associated township of the industry must be created at a space having physiographic barrier between the industry and the township.
9. Each industry is required to maintain three ambient air quality measuring stations within 120 degree angle between stations.

Environment Management Plan (EMP) prepared by **MoEF** mandates that community buildings and townships should build 1-1.5 kilometer of greenbelt. This is suggested to restrict air and noise pollution in the vicinity.

As per the stipulations of MoEF, **green belt is to be provided all around the power station boundary by planting trees** and the total green area including landscaping area will be 1/3rd (About 33%) of the plant area. This will include Lay down area which will be later on converted into Green area.

In India, there is no exclusive green belt regulation/policy. However, under the purview of other regulations such as Environmental Guidelines for Industries, Environment Management Plan, National Forest Policy, Forest Conservation Act, etc; certain percentage of land designated for green belts is recommended for different categories of industrial projects. Expansion of agricultural, urban and industrial activities are causing additional burden on natural resources. Industrial development iscausing severe health hazards due the exceeded level of pollution. Green belt not only restrict environmental pollution but it helps to maintain the ecological balance of the region.

PROVISION OF GREENBELT FOR INDUSTRIES

Adequate greenery in industrial establishment helps in creating better environment in many ways:

1. It provides a sylvan surrounding to improve the aesthetical conditions which, in turn, improve the working condition of the workers.
2. Tall trees attract birds to roost and also provide shelter to small creatures like squirrel, snacks etc. thus biodiversity is restored.
3. A properly designed green belt of adequate width alts as a filter of our pollutants for outside. Fugitive emissions are mainly controlled by the green belt.
4. Plantation of pollution indicating species at strategic locations can indicate the air pollution status of the area. These plant species are sensitive to air pollutants. Such species serves as "bio indicators".
5. Green belt acts as a noise barrier for outside.
6. Treated waste water of an industry is always recommended for maximum utilization with in the premises. If the waste water is used for irrigation of green belt and other plantation within, the objective is partially achieved.

PLANNING OF GREENBELT

Planting of green belt requires the following considerations:-

1. Choice of the species
2. Design of the belt
3. Width of belt

Choice of the plants species depends upon the nature of fugitive gaseous pollutants coming from the industries. Obviously those plants should be resistant to the pollutants. Besides, trees with large crown are preferred because they served as a good barriers for particulate and gaseous emissions. In between the resistant, species and within the industrial premises, some strategic locations as these species indicate the status of pollution.

The design of the greenbelt should be such that it should form an effective shield against pollutants to outside. A three tier plantation of small medium and large size plants can achieve the same. Typical 50 m width green belt may have 3 layers may consist of bushes (small tree). The inner layer may have large tree with good crown and under growth. The middle layer in between can have bushes and shrubs (small and medium size tree).

The width of the green belt should be carefully & judiciously decided; because of the cost of the land there is always a demand from the industry to a narrow belt. Ideally the width should be such to have maximum attenuation. The attenuation factor can be expressed as :

$$\text{AF} = \frac{\textbf{Pollution level at a point a just outside without the greenbelt}}{\textbf{Pollution level at a with the green belt}}$$

The attenuation factor for a well-designed green belt attains a limiting value after a certain width and becomes more effective with the increasing height at trees. For the green belt, with Indian trees species (tropical forest species) longer width may not be necessary for maximum attenuation.

Generally for a large industry, a belt width of 150 – 200 mtrs may beadequate but these can be increased where pollution level is high. For a less polluting industry, a belt less than 150 mtr can also do.

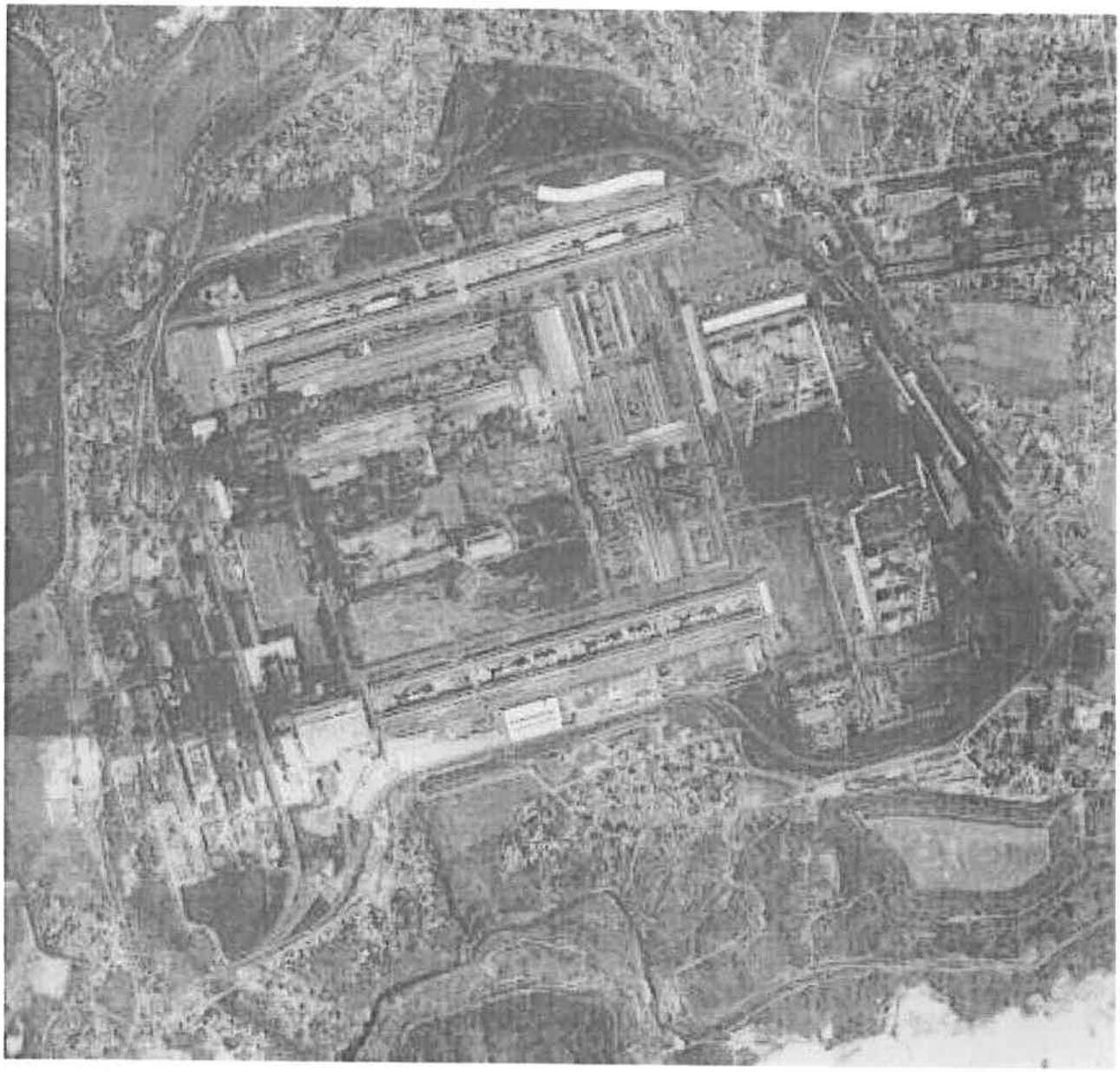
The design and nature of green belts will vary according to the place and the type of industry. Some of the factors which influence the design of green belts are-

- Climatic factors such as wind velocity, temperature, rainfall, sunlight, humidity etc.
- Assimilation capacity of the ecosystem.
- Height and canopy of trees.
- Topography.
- Size of land available.
- Distance from source.
- Soil and Water quality.
- Nature and extend of pollutants.

ADVANTAGES OF GREENBELTS

- **Noise control-** A green belt reduces the intensity of sound. Function as a barrier. Trees can either deflect, refract or may absorb sound to reduce its intensity. The intensity reduction depends on the distance sound has to travel from source. Trees can also modify suitably the humidity and climate which affects sound intensity.
- Help in **soil erosion control**. Plant species help in improving soil quality and bind soil particles thereby preventing erosion. Green belts also help in containing water run offs.
- **Climate Control**
- **Air Pollution control-** Trees help in removing carbon dioxide and other pollutants from air and by release of oxygen into the air thereby improving air quality. A green belt development can also help in removing particulate matter from the air by trapping such particulate matter.
- **Water Pollution control-** Some species can remove some pollutants from water. Example- copper absorbed by *Chlorella vulgaris* and Scandium buy *Astragalas*, zinc by *Typhalatifolia*, chromium by *Salvinianudans*.

LAYOUT OF PLANT



Plantation Details: M/s Bharat Aluminium Co. Ltd (BALCO) Korba (C.G.)

Year	BALCO PLANT & TOWNSHIP		BCPP		Total saplings including BALCO & BCPP	No of saplings Survived	Percentage Survived Percentage %	Location	Species
	No of Sapling planted BALCO	Area in Acre	No of sapling planted BCPP	BCPP Area in Acre					
2002-03	55000	54	10000	10	65000	51745	80	Plant boundary wall plantation sites, inside township, BCPP township, plant and ash dyke area and roadside of plant and township.	Sagwan, Karanj Sarai, Nilgiri, subabul, Gulmohar, Mango and Fruit bearing saplings
2003-04	30000	29	10000	10	40000	33252	83		
2004-05	11000	10	21000	21	32000	25335	79		
2005-06	57000	56	10000	10	67000	53278	80		
2006-07	130000	128	5000	5	135000	106782	79		
2007-08	35000	32	5000	5	40000	33600	84		
2008-09	13000	12	1000	1	14000	11276	81	BCPP plant and township plantation area	Sagwan, Karanj Sarai, Nilgiri, Subabul, Gulmohar, Mango and Fruit bearing saplings
2009-10	53500	52.5	1500	1	55000	40100	73	Township and Hariyar Chhattisgarh plantation programme (Roadside plantation in Devpahri road)	Sagwan, Karanj Sarai, Nilgiri, subabul, Gulmohar, Mango and fruit bearing saplings
2010-11	54850	54	150	0	55000	39870	72	Hariyar Chhattisgarh plantation program BCPP	Sagwan, Karanj, Sarai, Nilgiri, subabul, Gulmohar, Mango and fruit bearing saplings
2011-12	20000	18.5	0	0	20000	16875	84	Near Stadium Joggers Park	Ashoka, Sagwan, Karanj, Gulmohar

Plantation Details: M/s Bharat Aluminium Co. Ltd (BALCO) Korba (C.G.)

Year	BALCO PLANT & TOWNSHIP		BCPP		Total saplings including BALCO & BCPP	No of saplings Survived	Percentage Survived Percentage %	Location	Species
	No of Sapling planted BALCO	Area in Acre	No of sapling planted BCPP	BCPP Area in Acre					
2012-13	5600	5	0	0	5600	4826	86	Near Kali Mandir	Karanj, Gulmohar
2013-14	4150	4	650	0.65	4800	4025	84	Inside Plant, BCPP Ash Dykes, DPS School	Karanj, Neem Gulmohar,Guava
2014-15	35700	34	0	0	35700	30638	86	Lalghat plantation area, Inside Roads	Karanj, Sagwan, mix Fruit plants
2015-16	30000	28	0	0	30000	25434	85	Near township office, ash dykes, cooling tower inside / outside, ETP, boundary wall 1200 MW, Behind alumina plant	Karanj, Sagwan, mix fruits bearing plants
2016-17	30000	28	0	0	30000	25500	85	Balco Plant and around township	Karanj, Satwan, Gulmohar, Guvava, Jamun, Sehtut, Sagwan
2017-18	5000	4	0	0	5000	4100	82	In and around plant and township	Karanj, Gulmohar, Guvava, Jamun, Sehtut, Sagwan, Mango, Jamun
2018-19	5000	4	0	0	5000	4000	80	In and around plant and township	Karanj, Satwan, Gulmohar, Guvava, Jamun, Sehtut, Sagwan, Mango, Jamun, Black Sirus, Neem
2019-20	15000	13	0	0	15000	12900	86	Near ash dyke, township and plant premises	Karanj, Satwan, Mango, Gulmohar, Bamboo, Amla, Neem

सचिव

Plantation Details: M/s Bharat Aluminium Co. Ltd (BALCO) Korba (C.G.)

Year	BALCO PLANT & TOWNSHIP		BCPP		Total saplings including BALCO & BCPP	No of saplings Survived	Percentage Survived Percentage %	Location	Species
	No of Sapling planted BALCO	Area in Acre	No of sapling planted BCPP	BCPP Area in Acre					
2020-21	10000	9	0	0	10000	8420	84	Ash dyke 3 Band at STP area	Karanj, Satwan, Mango, Gulmohar, Bamboo, Amla, Neem
2021-22	14700	10	0	0	14700	12789	87	Hospital premises, township area	Neem, Shesham, Amsol, Karanj, Kesiya Samiya
2022-23	88887	96	34675	37	123562	106263	86	Ash dykes, BCPP Ash Dykes	Neem, Shesham, Amsol, Karanj, Kesiya Samiya
2023-24	51736	51	31175	30	82911	67158	81	Area between dyke, BCPP Ash Dykes	Neem, Karanj, kesiya semiya, Mango, Shesham, Amsol
2024-25	48023	2.5	0	0	48023	45142	94	Balco plant and around township	Neem, Karanj, kesiya semiya, Mango, Shesham, Amsol
Total*	**803146**	**734.5**	**130150**	**130.65**	**933296**	**763308**	**81.78**		

***Above details are for overall plantation carried out at Balco Nagar, Korba location which include statutory compliance for plantation for individual units of M/s BALCO Korba.**

CONCLUSION

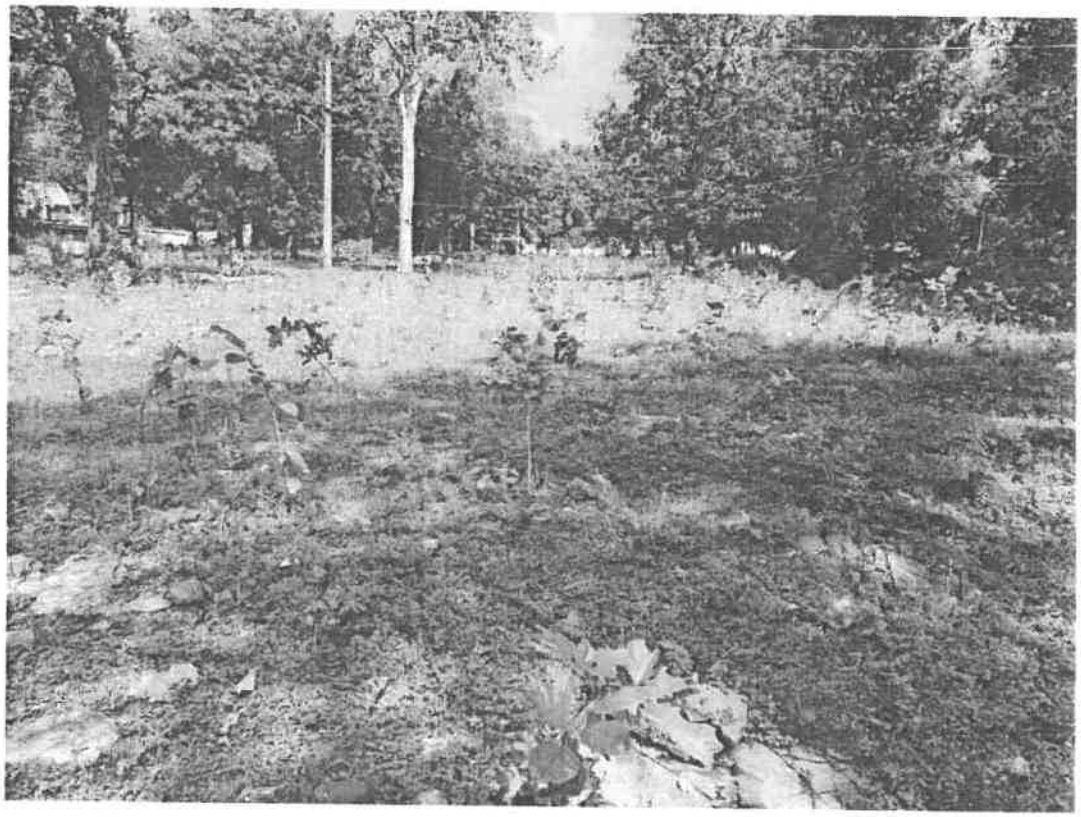
The Survival percentile of plantation done by **"M/S Bharat Aluminium Company Limited, Korba" as of September 2025** is about **82%** which is **Excellent** for the company. The overall growth of plantation was **satisfactory** as the company actively manages the greenbelt development very well.

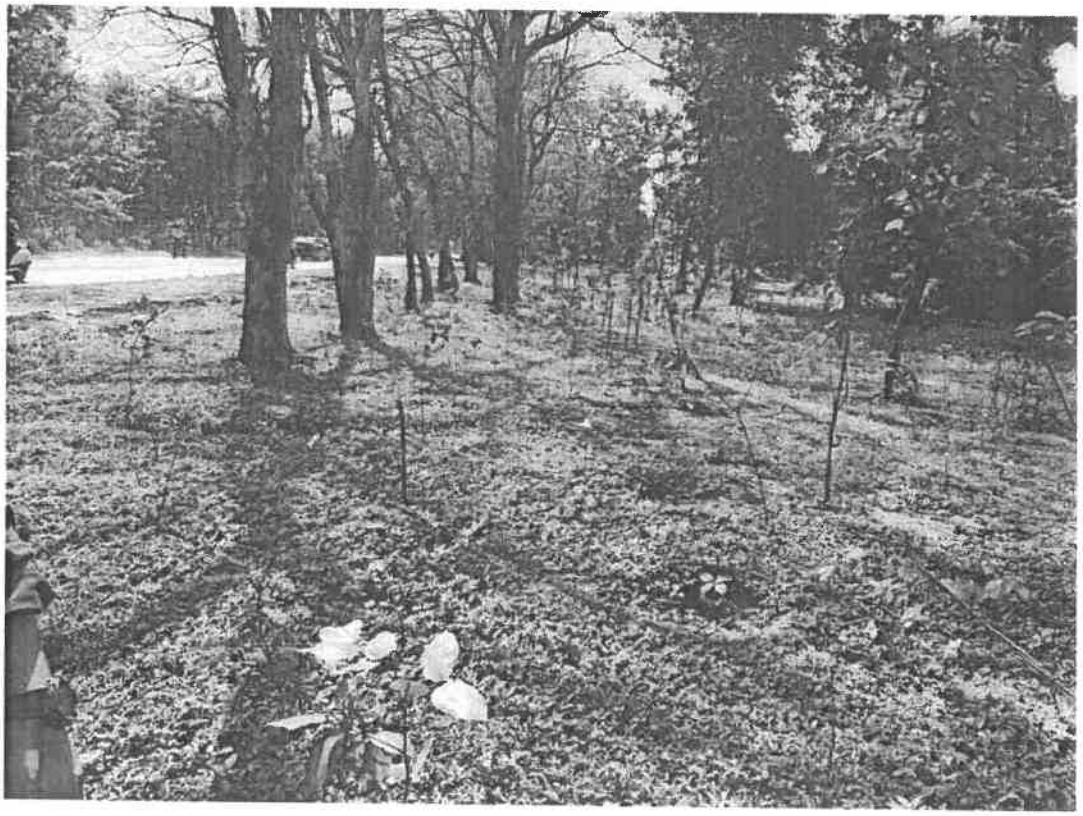
The official staff of the company were co-operative, enthusiastic and helpful towards the work. We convey our best regards to the environmental branch of the company for successful greenbelt development following the norms of **MoEFCC, Govt of India and Govt of Chhattisgarh.**

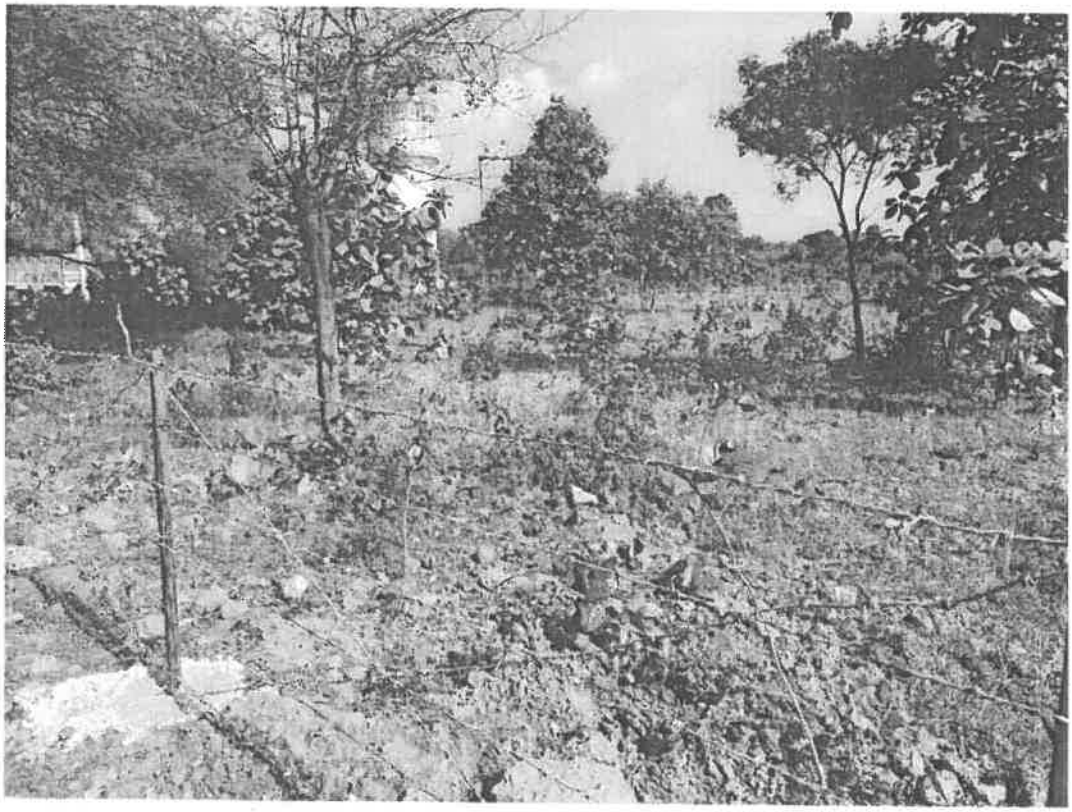
GRADING (ON SCALE OF 1 to 10)

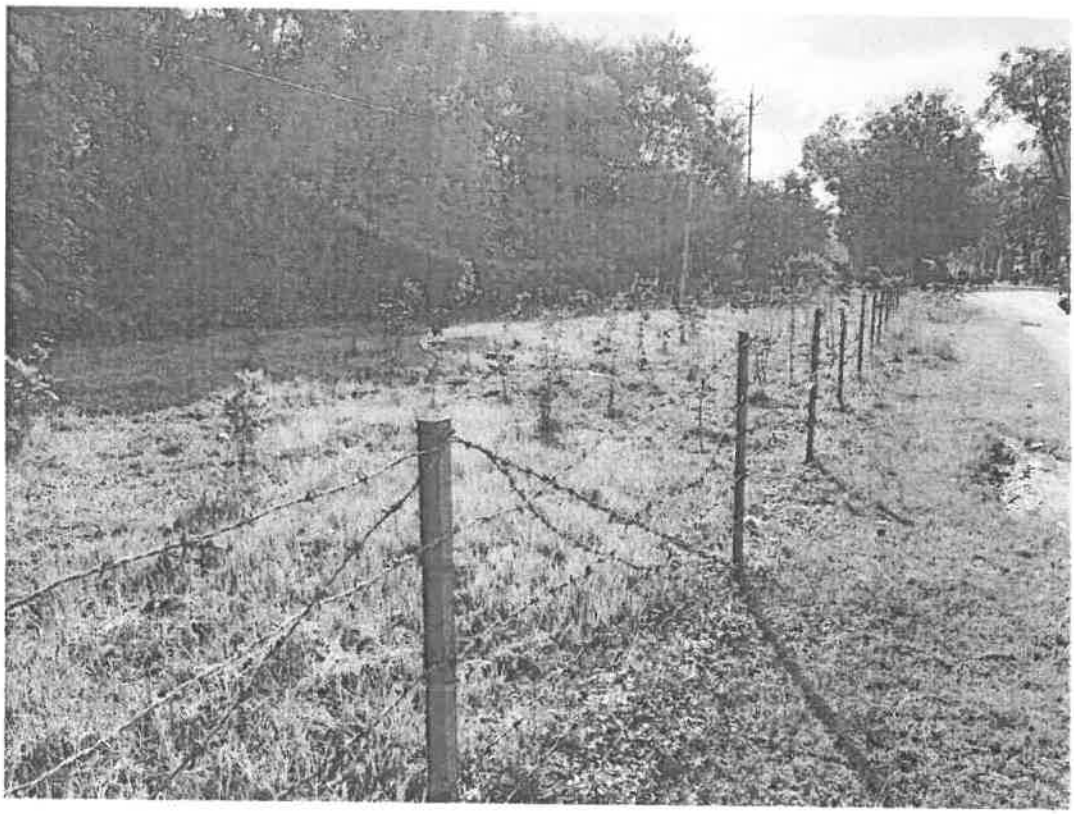
GRADING	Excellent (8-10)	Very Good (5-8)	Good (3-5)	Poor (<3)
	8.2			

ON SITE PHOTOGRAPHS









==END OF REPORT==

GREEN BELT DEVELOPMENT

Name of the Species Planted

Dalbergia latifolia (**sheeshm**), Mangifera Indica (**Mango**), Jamarindus Indica, Dehonix Regia(**Gulmohar**), Madhuca Indica (**Mahuwa**), Emblica Officinalis (**Amala**), Syzygium Cumini (**Jamun**), Azadirachta Indica (**Neem**), Grevillea Rebusta (**Silver oak**) **Karanj**, (**Amaltash**), Ficus Religiosa (**Pipal**), Leucaena Leucoophala (**Subabul**) etc.

YEAR	BALCO		BCPP		Total	
	No of sapling	***Area in Acres***	***No of sapling***	***Area in Acres***	***No of sapling***	***Area in Acres***
2002-03	55000	54	10000	10	65000	64
2003-04	30000	29	10000	10	40000	39
2004-05	11000	10	21000	21	32000	31
2005-06	57000	56	10000	10	67000	66
2006-07	130000	128	5000	5	135000	134
2007-08	35000	32	5000	5	40000	37
2008-09	13000	12	1000	1	14000	13
2009-10	53500	52.5	1500	1	55000	53.5
2010-11	54850	54	150	0	55000	54
2011-12	20000	20	-	-	20000	20
2012-13	5600	5	-	-	5600	5
2013-14	4150	4	650	0.65	4800	4.65
2014-15	35700	35.6	-	-	35700	35.6
2015-16	30000	28	-	-	30000	28
2016-17	30000	28			30000	28
2017-18	5000	4	-	-	5000	4
2018-19	5000	4	-	-	5000	4
2019-20	15000	13			15000	13
2020-21	10000	9	-	-	10000	9
2021-22	14700	10	-	-	14700	10
2022-23	88887	96	34675	37	123562	133
2023-24	53936	53	31175	30	85111	83
2024-25	48023	2.5	-	-	48023	2.5
2025-26	77139	0	-	-	77139	0

Aluminium Smelter Plant

Status of Action Points CREP Guidelines recommended for Aluminium Smelter

Sl. No.	Issues	Action Point	Compliance Status
1	Technology	Allowing Pot lines only with Pre-baked Technology. Environment clearance new pot lines to be given by MoEF, after June 2003, only with prebaked technology	Old Soderberg type of Smelter has been phased out during the year 2009. BALCO has adopted Pre-baked GAMI technology for Aluminium Smelting in its new pot lines operating at present
2	Fluoride Emissions	Prescribing maximum size of the plant. Maximum size of the plant shall be decided based on the assimilative capacity of each plant location. Revision of fluoride emission standard. For Soderberg Technology 2.8 kg/t by December 2005 [1.0kg/t (VCS) & 1.30 kg/t 9HSS) by December 2010]	-
		Phasing out Wet Scrubbing System for Fluoride. For Pre-baked Technology 0.8 kg/T by December 2006	BALCO is operating pre-baked Aluminium smelter.
		Allowing new Pot lines only with Dry Scrubbing System Environmental clearance for new pot lines shall be given by MoEF, after June 2003, only with Dry Scrubbing System.	FTPs with dry scrubbing systems have been installed in smelter & the total fluoride emission from the smelter is within the range of 0.8 Kg/T of Al. produced.
		Monitoring of fugitive emissions from pot rooms. To start with Indal or any better method & submit data from ary 2004, regularly to SPCBs & CPCB	Fugitive fluoride is being monitored and reports being submitted to CECB monthly and to Ministry with half Yearly compliance report.

3	Fluoride Consumption	Fluoride consumption tonnes of aluminum produced (as F) [For Soderberg Technology 15 kg/t by December 2005, For Pre-baked technology 10kg/t by December 2005]	CREP (Corporate Responsibility for Environmental Protection) recommendation prescribing Specific Fluoride consumption less than 10 kg/ton of aluminium has been amended to specific AlF3 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 are complying to the same and it is within the specified limit.
4	Ambient Fluorid	Forage fluoride standards (Dry weight basis) * Twelve consecutive months average-40 ppm * Two consecutive months Average- 60 ppm * One month – 80 ppm Measurement of forage Fluoride To start monitoring and submit data from January 2004, regularly to SPCBs & CPCB. The locations of monitoring may be selected in collaboration with SPCBs & CPCB	Forage fluoride in the surrounding areas /villages is being measured and analyzed by a third party NABL accredited Lab. Reports are submitted to CECB monthly and to Ministry with half yearly compliance report.
5	Spent Pot Lining (SPL)	Setting up a centralized SPL treatment & disposal facility with aluminum fluoride recovery and utilization of SPL in steel/ cement industries Limit for pot life, (for new pots installed after December 31, 2003 2500 day (average)	As per CPCB approved SOP, treatment and detoxification of SPL-Carbon through authorized co-processors is being carried out. The authorized co-processor supplies the SPL Carbon to cement /steel plant after detoxification as per SOP. BALCO has adopted Pre-baked technology and improvement

			project undertaken to maximize the lining life to an average of 2500 days.
		SPL (Carbon & Refractory) to be disposed in Secured Landfill	The SPL-Carbon portion generated from smelter is being sent to authorized co-processor M/s. Greenmac Technology at Raipur, M/s Gati Greens India Private Limited, M/s Shri Industries, Raipur and M/s Raipur Grinding Corporation for detoxification which in turn is sending the detoxified material for further utilization in various industries including cement and steel. SPL refractory disposal to cement industry for co-processing and KESDA TSDF has been initiated in FY 26 as per approved Hazardous waste Authorization. The disposal of SPL refractory in FY 26 is 20,174 Tonnes. The remaining stock will be disposed off within 18 months from the date of approved Standard Operating Procedure (SOPs) by CPCB. 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, 26.09.2025 and 07.04.2026.
6	Red Mud	Phasing Wet disposal Red Mud utilization to achieve minimum 50% solids in red mud by Dec. 2005. A proposal for practical utilization to be prepared by Aluminium Association of India within six months.	The Alumina plant operation has been stopped since September 2009 and we have submitted the letter of intimation for the same to CECB via letter no. No. Kb/Safety/2013/112.
7	Anode Baking Oven	Achieving particulate matter limit of 50 mg/Nm^3 by Dec. 2005	Particulate emission from Bake Oven is within the specified limit.

Thermal Power Plant

Status of Action Points CREP Guidelines recommended for Thermal Power Plant

Sl. No.	Action Point	Compliance Status
1	Implementation of Environmental Standards (emission & effluent) in non- compliant Power Plants (31 & 27) • Submission of action plan : June 30, 2003 • Placement of order for Pollution of control equipment : September, 2003 • Installation & commission: December 31, 2005.	Not applicable
2	For existing thermal power plants, a feasibility study shall be carried out by Central Electricity Authority (CEA) to examine possibility to reduce the particulate matter emissions to 100 mg/Nm3. The studies shall also suggest the road map to meet 100 mg/Nm3 wherever found feasible. CEA shall submit the report by March 2004.	Not applicable
3	New / expansion power projects to be accorded environmental clearance on or after 1.1.2003 shall meet the limit of 100 mg/Nm3 for particulate matter.	Hybrid ESP's have been commissioned and emissions are maintained below the stipulated standards of 50 mg/$NM^{3.}$
4	Development of SO2 & NOx emission standards for coal based plants by December 2003. • New/ expansion power projects shall meet the limit of SO2 & NOx w.e.f. 1.1.2005. • Existing power plants shall meet the limit of SO2 & NOX w.e.f. 1.1.2006.	The timeline for SO2 has been extended for 3 years and for BALCO, it has been extended up to 31 December 2028 vide MoEF&CC gazette notification dated 30 December 2024. Complied with Nox emission.
5	Install/activate opacity meters/ continuous monitoring system in all the units by December 31, 2004 with proper calibration system.	Continuous Emission Monitoring System has been installed in all the units, and they are connected to CPCB/CECB server. Proper calibration schedules are being followed for calibration of the instruments.
6	Development of guidelines/ standards for mercury and other toxic heavy metals emissions by December 2003.	Complied.
7	Review of stack height requirement and guidelines for power plants based on micro meteorological data by June 2003	The stack height of Power Plant is 275 m and it is as per the guidelines for power plants.

8	Implementation of use of beneficiated coal as per GOI Notification: Power plants will sign fuel supply agreement (FSA) to meet the requirement as per the matrix prepared by CEA for compliance of the notification as short term measure. Options/mechanism for setting up of coal washeries as a long term measure • Coal India will up its own washery • State Electricity Board to set up its own washery • Coal India to ask private entrepreneurs to set up washeries for CIL and taking washing charges • SEBs to select a private entrepreneur to set up a washery near pit- head installation of coal beneficiation plant	Not applicable
9	Power plants will indicate their requirement of abandoned coal mines for ash disposal & Coal India/ MOC shall provide the list of abandoned mines by June 2003 to CEA	Complied.
10	Power plants will provide dry ash to the users outside the premises or uninterrupted access to the users within six months.	Fly ash has been sent to different avenues like Road Construction, NHAI, Cement Industry, Brick Manufacturing Units and Mine void filling for utilization.
11	Power Plants should provide dry fly ash free of cost to the users	We are supplying dry fly ash free of cost for other users.
12	State P.W.Ds/ construction & development agencies shall also adhere to the specifications/Schedules of CPWD for ash based products utilization MoEF will take up the matter with State Governments.	Not applicable
13	(i) New plants to be accorded environmental clearance on or after 1.04.2003 shall adopt dry fly ash extraction or dry disposal system or Medium (35-40%) ash concentration slurry disposal system or Lean phase with hundred percent ash water re-circulation system depending upon site specific environmental situation. (ii) Existing plants shall adopt any of the systems mentioned in 13 (i) by December 2004.	The unit has adopted High Concentration Slurry Disposal (HCSD) method for ash disposal. The consistency of ≈60% solid is maintained.

14	Fly ash Mission shall prepare guidelines/manuals for fly ash utilization by March 2004.	Noted.
15	New plants shall promote adoption of clean coal and clean power generation technologies	Noted.

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Vimta
Driven by Quality. Inspired by Science.

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

Report Number: VLL/VLS/25-26/15704/002
Issue Date: 2025-11-05
P.O. No: 8500005780
P.O. Date: 2022-06-29

AMBIEANT NOISE MONITORING AT 2.7 LTPA SMELTER

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD **LAB REF.: EC**

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2025-10-03 6:00 to 22.00	Norms in dB(Night)	2025-10-03 22.00 to 6.00
1	Pot room road side near lounge room (SEC-8)	dB	75	62.0	70	57.8
2	Cast house 1 outside of main gate	dB	75	63.5	70	59.5
3	Cast house 2 outside of main gate	dB	75	62.0	70	57.9
4	Cast house 3 outside of main gate	dB	75	62.6	70	58.4
5	Rectifier road side	dB	75	59.5	70	54.7
6	GAP ground floor road side	dB	75	71.3	70	68.3
7	Rodding shop parking area	dB	75	68.5	70	65.5
8	Bake oven in front of FTP	dB	75	70.1	70	65.6

ENVIRONMENT LABORATORY Vimta VIMTA LABS REGD. No- DL-20004/93 Sr. No. VIMTA

Dr. Subba Reddy Mallampati
Manager - Environment

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

Report Number: VLL/VLS/25-26/18084/002
Issue Date: 2025-12-05
P.O. No: 3402001553
P.O. Date: 2025-10-01

AMBIEANT NOISE MONITORING AT 2.7 LTPA SMELTER

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD **LAB REF.: EC**

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2025-11-03 6:00 to 22.00	Norms in dB(Night)	2025-11-03 22.00 to 6.00
1	Pot room road side near lounge room (SEC-8)	dB	75	61.5	70	57.2
2	Cast house 1 outside of main gate	dB	75	63.8	70	59.5
3	Cast house 2 outside of main gate	dB	75	61.1	70	57.6
4	Cast house 3 outside of main gate	dB	75	62.7	70	59.1
5	Rectifier road side	dB	75	60.2	70	56.4
6	GAP ground floor road side	dB	75	71.9	70	69.7
7	Rodding shop parking area	dB	75	69.0	70	66.7
8	Bake oven in front of FTP	dB	75	70.7	70	67.5

ENVIRONMENT LABORATORY Vimta REGD. No- DL-33004/99 VIMTA

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

Report Number: VLL/VLS/25-26/20775/002
Issue Date: 2026-01-05
P.O. No: 3402001553
P.O. Date: 2025-10-01

AMBIEANT NOISE MONITORING AT 2.7 LTPA SMELTER

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD **LAB REF.: EC**

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2025-12-04	Norms in dB(Night)	2025-12-04
				6:00 to 22.00		22.00 to 6.00
1	Pot room road side near lounge room (SEC-8)	dB	75	62.6	70	58.0
2	Cast house 1 outside of main gate	dB	75	64.6	70	60.3
3	Cast house 2 outside of main gate	dB	75	61.8	70	57.8
4	Cast house 3 outside of main gate	dB	75	63.0	70	59.6
5	Rectifier road side	dB	75	60.1	70	57.2
6	GAP ground floor road side	dB	75	72.8	70	69.0
7	Rodding shop parking area	dB	75	68.9	70	67.8
8	Bake oven in front of FTP	dB	75	71.7	70	68.2

ENVIRONMENT LABORATORY
Vimta

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

Report Number: VLL/VLS/25-26/23223/002
Issue Date: 2026-02-05
P.O. No: 3402001553
P.O. Date: 2025-10-01

AMBIEANT NOISE MONITORING AT 2.7 LTPA SMELTER

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD **LAB REF.: EC**

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2026-01-23 6:00 to 22.00	Norms in dB(Night)	2026-01-23 22.00 to 6.00
1	Pot room road side near lounge room (SEC-8)	dB	75	61.1	70	60.1
2	Cast house 1 outside of main gate	dB	75	64.2	70	59.9
3	Cast house 2 outside of main gate	dB	75	61.6	70	59.2
4	Cast house 3 outside of main gate	dB	75	61.5	70	56.9
5	Rectifier road side	dB	75	59.2	70	56.5
6	GAP ground floor road side	dB	75	72.2	70	67.3
7	Rodding shop parking area	dB	75	68.0	70	66.8
8	Bake oven in front of FTP	dB	75	71.3	70	67.5

ENVIRONMENT LABORATORY Vimta VIMTA LABS VIMTA

Dr. Subba Reddy Mallampati
Manager - Environment

Vimta Labs Limited
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Driven by Quality. Inspired by Science.

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

Report Number: VLL/VLS/25-26/24935/002
Issue Date: 2026-03-05
P.O. No: 3402001553
P.O. Date: 2025-10-01

AMBIEANT NOISE MONITORING AT 2.7 LTPA SMELTER

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD **LAB REF.: EC**

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2026-02-02 6:00 to 22.00	Norms in dB(Night)	2026-02-02 22.00 to 6.00
1	Pot room road side near lounge room (SEC-8)	dB	75	61.0	70	57.9
2	Cast house 1 outside of main gate	dB	75	64.3	70	55.9
3	Cast house 2 outside of main gate	dB	75	60.6	70	58.6
4	Cast house 3 outside of main gate	dB	75	60.1	70	55.6
5	Rectifier road side	dB	75	58.7	70	55.5
6	GAP ground floor road side	dB	75	64.5	70	63.1
7	Rodding shop parking area	dB	75	60.5	70	65.2
8	Bake oven in front of FTP	dB	75	62.6	70	65.3

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

Report Number: VLL/VLS/25-26/28724/002
Issue Date: 2026-04-04
P.O. No: 3402001553
P.O. Date: 2025-10-01

AMBIEANT NOISE MONITORING AT 2.7 LTPA SMELTER

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD **LAB REF.: EC**

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2026-03-05 6:00 to 22.00	Norms in dB(Night)	2026-03-05 22.00 to 6.00
1	Pot room road side near lounge room (SEC-8)	dB	75	61.2	70	57.5
2	Cast house 1 outside of main gate	dB	75	64.0	70	54.9
3	Cast house 2 outside of main gate	dB	75	61.5	70	58.0
4	Cast house 3 outside of main gate	dB	75	59.7	70	53.9
5	Rectifier road side	dB	75	58.2	70	55.5
6	GAP ground floor road side	dB	75	63.8	70	62.9
7	Rodding shop parking area	dB	75	60.8	70	65.1
8	Bake oven in front of FTP	dB	75	62.8	70	65.7

Dr. Subba Reddy Mallampati
Manager - Environment

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

BALCO/ENV/A-02(A)/2025/492

Date: 16.10.2025

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

Sub: Half yearly compliance status (April 2025 to September 2025) for Alumina refinery and Aluminium Smelter Plant (Potline-1)- BALCO, Korba (CG).

Respected Sir,

Please find enclosed herewith, the half yearly compliance report of the Environmental Clearance No. J-11011/34/2003-IA II (I) dated 05.11.2003 for Alumina refinery and Aluminium smelter plant of Bharat Aluminium Company Limited.

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

Yours truly,
On behalf of Bharat Aluminum Company Ltd.

(Authorized Signatory)

Encl: a/a

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

Registered Office : Aluminium Sadan, Core 6, Scope Complex, 7 Lodhi Road, New Delhi (India) - 110003
CIN : U74899DL1965PLC004518 | **Tel** : 011 49166200 | **Fax** : 011 24320177 | **Web** : www.vedantalimited.com | www.balcoindia.com

नवम्बर 2003

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कार्य संपादन करने से संबंधित कार्यों का प्रभारी अधिकारी के रूप में उप जिला कार्य संपादन करने से संबंधित कार्यों को प्रभारी अधिकारी के रूप में उप जिला निर्वाचन अधिकारी श्रीमती भारती ओगरे एवं एस.एल.धृतलहरे डिप्टी कलेक्टर संयुक्त रूप से अपने दायित्वों का निर्वहन करेंगे तथा जे.आर.चौरसिया तहसीलदार कोरबा, एस.के. वैद्य अतिरिक्त तहसीलदार एवं जे.खलखो सहायक सांख्यिकी अधिकारी इस कार्य में उनके निर्देशानुसार कार्य नाम निर्देशन प्रक्रिया से संबंधित समस्त कार्य संपादन हेतु जिन अधिकारियों एवं कर्मचारियों की ड्यूटी लगाई गई है वे 7 नवंबर से प्रतिदिन 10.30 बजे से अपने निर्धारित स्थान पर अपने कर्तव्यों पर उपस्थित रहेंगे तथा किसी भी स्थिति में 3 बजे से पहले अपनी सीट को नहीं छोड़ेंगे तथा पूर्ण तत्परता से अपने दायित्वों का निर्वहन करेंगे। कोई भी अधिकारी कर्मचारी उप जिला निर्वाचन अधिकारी की बिना अनुमति कार्यालय से प्रस्थान नहीं करेंगे।

भारत एल्यूमिनियम कंपनी लिमिटेड
कोरबा, छत्तीसगढ़

सर्वसाधारण को यह सूचित किया जाता है कि पर्यावरण व वन मंत्रालय भारत सरकार ने भारत एल्यूमिनियम कंपनी लिमिटेड (बालको) की एल्यूमिना रिफाइनरी और स्मेल्टर की विस्तार परियोजना को पर्यावरणीय मंजूरी दे दी है। अनुमति पत्र की प्रति छत्तीसगढ़ पर्यावरण संरक्षण मंडल और पर्यावरण व वन मंत्रालय की वेबसाइट http:/envfor.nic.in में उपलब्ध है।

कृते, भारत एल्यूमिनियम कंपनी
लिमिटेड कोरबा, छत्तीसगढ़

CENTRAL
Chronicle
RAIPUR, NOVEMBER 11, 2003

Bharat Aluminium Co. Ltd.
Korba, Chhattisgarh

This is to inform to general public that Ministry of Environment and Forests, Govt. of India has granted Environmental Clearance for Bharat Aluminium Company Limited's (Balco) expansion project of Alumina Refinery and Smelter. Copy of the Clearance letter is available at Chhattisgarh Environment Conservation Board and in the MOEF website http:/envfor.nic.in.

For Bharat Aluminium Co. Ltd.
Korba, Chhattisgarh