

BALCO/ENV/A -02(A)/2025/490

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 Report (April 2025 to September 2025) of the 540 MW Power Plant.

Respected Sir,

As per the Environment Clearance No. J- 13011/3/2003.IA-II (T) dated 23.06.2004, received for the expansion of Captive Power Plant by M/s Bharat Aluminium Company Limited, Korba, please find enclosed herewith the compliance report along with the necessary supporting documents and monitoring reports.

We hope that the above is in line with the requirements under the referred Environment Clearance. In case your good office requires any further information or clarification, we would be glad to furnish the same.

Thanking you,

Yours Truly,
On behalf of Bharat Aluminum Company Ltd.


(Authorized Signatory)

Encl: a/a

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

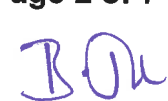


**COMPLIANCE STATUS OF 675 MW COAL BASED CAPTIVE POWER PLANT
KORBA (C.G.) of M/s BHARAT ALUMINIUM CO.LTD
Duration: April 2025 to September 2025
MOEF&CC – No. J-13011/3/2003.IA-II (T) / Dated: 23 June 2004**

S. No	Environmental Clearance Conditions	Compliance Status
i	All the conditions stipulated by Chhattisgarh Environment Conservation Board vide their letter no. 580/TS/CECB/2002 dated 17.02.2003 should be strictly implemented.	Complied.
ii	No additional land shall be acquired.	No additional land has been acquired.
iii	Coal requirement is estimated at 10800 TPD having calorific value of 3000-3675 K.Cal/kg with 40% ash content and 0.3-0.5% sulphur content. Copy of coal linkage approval should be submitted to the Ministry within three months.	Coal requirement is in the tune of 10000 TPD having calorific value of 3000-3650 KCal/kg. Efforts are being made towards maintaining around 40 % ash content and 0.3-0.5% Sulphur content. Coal linkage approval has already been submitted to the Ministry. Please refer Annexure-I .
iv	A single flue stack of 275 m height shall be provided with continuous online monitoring equipment.	Complied with. A single flue stack of 275 m height with four-flue cane for 4 units of 135 MW each has been provided with continuous on-line monitoring equipment and are connected with CPCB/CECB server.
v	High efficiency Electrostatic precipitator (ESP) should be installed to limit outlet SPM emission 75 mg/Nm ³ .	High efficiency Hybrid Electrostatic precipitators (Hybrid ESP) have been installed to limit outlet SPM emission to less than 50 mg/Nm ³ in all the units. Please refer Annexure –II for monitoring report.
vi	Space provision should be made for flue Gas De-sulphurisation (FGD) unit.	Space has been provided for installation of flue gas De-sulphurisation (FGD) plant.
vii	Ash generation will be 9326 TPD fly ash 1166 TPD bottom ash. Ash disposal would be done through high concentration slurry disposal system on abandoned red mud pond. Fly ash utilization plan generated should be used in a phased manner as per provisions of the Notification on Fly Ash Utilization issued by the Ministry in September 1999 and its subsequent amendments. By the end of 9 th year full fly ash utilization should be ensured.	Fly ash generation was 2550.19 TPD and Bottom ash 531.39 TPD during FY 2024-25. Ash is transported through a high concentration slurry disposal system to ash dykes. As per our action plan, the fly ash is being utilized in exhausted mine void filling, road construction, supply to cement industry, brick making etc. in line with the fly ash notification and amendments. Please refer Annexure-III for the HCSD system flow diagram.
viii	Necessary drainage network at the proposed CPP site should be developed.	Necessary drainage network has been constructed within the Power Plant. Please refer Annexure-IV .
ix	Water requirement should not exceed 51240 m ³ /day. No ground water and/or other surface water should be used. Copy of confirmed water withdrawal should be submitted to the Ministry within three months.	Complied with. A copy of water withdrawal agreement has been submitted to the Ministry. Please refer Annexure-V .

x	Waste water of coal handling plant should be treated before disposal.	Wastewater of coal handling plant is being treated and being recycled back into the system.
xi	Appropriate water harvesting technology should be finalized in consultation with Central Ground Water Authority/Board, within a period of two months from the date of issue of the clearance letter.	Complied.
xii	Regular monitoring of water quality including heavy metals should be undertaken around ash disposal and the project area ascertain change in the water quality, if any, due to leaching of contaminants from ash disposal area.	Monitoring of the ground and surface water is being carried out regularly for all parameters including heavy metals. The results of the ground and surface water are within the norm. Please refer Annexure–VI (April 2025 to September 2025)
xiii	Study on fluoride concentration in foliage, analysis of ground water and storm water runoff from the existing CPP site drain should be carried out regularly.	Analysis of fluoride concentration in forage and ground water is being done regularly. Please refer Annexure–VII for forage fluoride report and Annexure–VI for water report (April 2025 to September 2025)
xiv	Noise level should be limited to 75 Leq and regular maintenance of equipment should be undertaken. For people working in the area of generate or and other high noise area, earplug should be provided.	Noise level is being regularly monitored and is below 75 Leq. Personal protective equipment like earplugs and earmuffs have been provided to people working in noise prone areas. Please refer Annexure–VIII for the monitoring report from (April 2025 to September 2025)
xv	A greenbelt should be developed around the power plant periphery and ash pond area, covering an area of 75 acres. Tree density of 1500 – 2000 trees per ha should be maintained. Greenbelt development plan should be submitted to the Ministry.	Extensive tree plantation is being carried out in all open spaces available in and around the plant premises. 48023 number of saplings have been planted around BALCO's premises including ash dykes, township and plant premises during FY 2024-25. Please refer Annexure–IX for details on green belt development.
xvi	Regular monitoring of the air quality should be carried out in and around the power plant and records be maintained. Periodic six monthly reports should be submitted to this Ministry.	Air quality monitoring is regularly carried out. Please refer Annexure–X for the monitoring report from (April 2025 to September 2025).
xvii	For controlling fugitive dust, regular sprinkling of water in vulnerable areas of the plant should be ensured.	Dust extraction equipment and water sprinklers have been provided for controlling fugitive dust. Wheel wash systems have been installed at entry and exit gate of Power Plant.
xviii	Recommendations of the Chhattisgarh State Bio-diversity Strategy and Action plan (CBSAP) be implemented and the conservation plan for likely habitat of migratory Elephants from Orissa be prepared in consultation with state wildlife Dept.	We have already requested the Chief Conservator of Forest (Wildlife) to ensure BALCO's participation as per Chhattisgarh State Bio-diversity Strategy and Action plan (CBSAP). Please Refer Annexure–XI . Also, Wildlife conservation plan has been prepared and approved by PCCF Wildlife for BALCO. For the implementation of the Wildlife Conservation/ Management Plan, INR 1.53 Cr. has been deposited with the Forest Department for the mitigative measures as

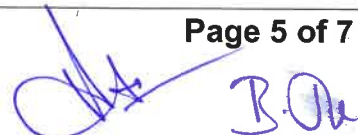



		approved in the Wildlife Conservation/Management Plan. The copy of the letter from DFO in this regard is attached as Annexure-XII .
xix	All other mitigative measures shall be taken as enumerated in chapter 3 of the EIA report.	All mitigative measures taken as enumerated in the EIA report.
xx	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available 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	Complied with. We had advertised in three newspapers. Please Refer Annexure-XIII .
xxi	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	A separate environment-monitoring cell with suitably qualified professionals under a senior level executive is in place.
xxii	Half yearly report on the state of implementation of the stipulated conditions and environmental safeguards should be submitted to this Ministry/Regional Officer/CPCB/SPCB.	We are complying with this condition. Last report was submitted vide letter no: BALCO/ENV/A - 02(A)/2025/261 dated 21 st May 2025.
xxiii	Regional officer of the Ministry of Environment and Forests located at Bhopal will monitor the implementation of the stipulated conditions. Complete set of Environmental Impact Assessment Report and Environment Management plan should be forwarded to the Regional Officer for their use during monitoring.	Complied with. Complete set of Environmental Impact Assessment Report and Environment Management plan has been forwarded to the Regional Officer of MoEF along with the consent to establish.
xxiv	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These costs should be included as part of the project cost. The funds earmarked for environmental protection measures should not be diverted for other purposes and year-wise expenditure should be reported to the Ministry.	Separate funds are allocated for the implementation of environmental protection measures. Expenditure done during the FY 2025-26 (April-25 to Sep-25) for power business including 540 MW power plant is 5.54 Crore including Maintenance of Pollution control equipment, spares, other environment requirements etc.
xxv	Full cooperation should be extended to the Scientists/Officers from the Ministry/Regional Officer of the Ministry at Bhopal/the CPCB/the SPCB who would be monitoring the compliance of environmental status.	Full cooperation is extended to the Scientists/Officers from the Ministry/Regional Officer of the Ministry at Bhopal/the CPCB/the SPCB monitoring the compliance of environmental status.

4	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Noted.
5	The environmental clearance accorded shall be valid for a period of 5 years for construction/operation of the power plant in case, if the project authorities fail to do so within this stipulated period, this environmental clearance shall stand lapsed automatically.	Noted.
6	In case of any deviation or alteration in the project proposed from those submitted to this Ministry of clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to add additional environmental protection measures required, if any.	Noted.
7	The above stipulations would be enforced among others under the water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the Public Liability insurance Act, 1991 and its amendments, the Environment Impact Assessment Notification of January, 1994 and its amendments.	Noted.

Compliance status of Office Memorandum F.No.22-13/2019-IA.III MoEF&CC dated 28th August 2019.

S. No	Condition	Status
i	The guidelines prepared by CPCB for the disposal of fly Ash for reclamation of low lying areas and in stowing /backfilling of abandoned mines/quarries shall be followed during disposal of ash in abandoned or working mines, as annexed.	The guidelines prepared by CPCB are being followed while disposal of fly ash for stowing/ backfilling of abandoned mines/ quarries. Due permission is sought from Chhattisgarh Environment Conservation Board (CECB) for backfilling of abandoned mines.
ii	There should at least be clearance of 500 m of safe distance be maintained from River and water body in case of ash disposal in abandoned mines to prevent embankment failure and fly ash flowing into the nearby water body.	Noted and Complied.
iii	The top layer of the fly ash disposal area in the abandoned mines shall be kept moist during disposal.	Noted and Complied.
iv	Top layer of disposal area should have 70 cm overburden or Gravels/stones and then 30 cm sweet soil cover. Subsequently, the vegetation shall be raised on the soil cover.	Noted and Complied.
v	Bioaccumulation and bio-magnification tests shall be conducted around the surrounding flora and fauna (tree leaves, vegetation, crop yields and cattle population) during pre-monsoon and post monsoon to find out any trace metals escaped through ground water or runoff.	Bioaccumulation and Bio-magnification study being carried out for the locations Dhelwadiah Naktikhar, Katbitla, Kudurmal, Kukricholi, Nonbirra and Uрга in FY 2024-25.
vi	Surface runoff and supernatant water, in any case shall not be let in to the surrounding areas. It shall be collected by providing adequate drains around the mine. The supernatant water along with surface runoff shall be treated and re-used for mixing ash and plant operations.	The surface run-off and supernatant water is being collected and recycled/ reused.
vii	To the extent possible, only decanted water from mine, make up water from treated effluents such as cooling tower blow down and treated sewage water shall be used for making ash slurry.	The water from treated effluent such as cooling tower blowdown is utilized for slurry making.
Viii	Fly ash to be used as soil conditioner in agriculture needs and to be applied in controlled manner to limit excessive application so as to prevent soil degradation. The optimize proportion of ash to be applied which is to be certified by the State Agriculture Universities /Collages based on the soil testing.	Presently, fly ash is not used as soil conditioner in agricultural needs.



ix	Approval from DGMS shall be obtained before disposing the ash in the mine voids.	Complied.
x	Technology for conversion of fly ash into coarse granules for stowing in the underground mines to be explored.	Presently, we are utilizing fly ash in avenues like, Cement manufacturing, Brick manufacturing, Road making, Mine void filling etc., Technology for conversion of fly ash into coarse granules will be explored if needed in future as demand for stowing in the underground mines arises.
xi	All the power plants should install different silos for dry collection of fly ash.	We have installed separate silos for dry collection of fly ash and the same are utilized for utilization of fly ash in cement and brick plants.
xii	Records pertaining to details of month wise quantity of fly ash disposed and water consumption along with nature /source of water shall be maintained and submitted to Ministry /Regional Office annually.	Monthly details of quantity of fly ash disposed in mines is submitted to Regional Office-CECB and with half yearly compliance report to IRO- MOEF&CC also submitting Specific Water consumption report to Ministry /Regional Office quarterly. Copies of report are attached herewith as Annexure-XIV .
xiii	Before starting the disposal of ash into mine voids, the NOC/permission from the mine owner is to be obtained in case the mine closure activities are not completed or State Government in case the mine has been handed over to the State Govt. after its closure. A copy of such NOC/Permission is to be submitted to the Ministry and its Regional Offices.	Presently, we are utilizing fly ash in mine void filling in SECL mines. MoU signed with SECL for disposal of fly ash in mine voids of SECL.

Compliance status of MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE NOTIFICATION dated 21st May 2020

S. No	Condition	Status
i	Setting Up Technology Solution for emission norms: Compliance of specified emission norms for Particulate Matter, as per extant notifications and instructions of Central Pollution Control Board, issued from time to time.	Hybrid Electrostatic precipitator (ESP followed with bag filters) with efficiency of 99.99% has been provided for ensuring emission level below the norms i.e. 50 mg/Nm3.
ii	Management of Ash Ponds: The thermal powers plants shall comply with conditions, as notified in the Fly Ash notification issued from time to time, without being entitled to additional capacity of fly ash pond (for existing power generation capacity) on ground of switching from washed coal to unwashed coal.	We are complying with the conditions as notified in the Fly Ash notification. We have achieved 100 % fly ash utilization during the FY 2024-25 for 540 MW power plant by supplying ash for road construction , cement plants and brick manufacturing as per fly ash notification.
iii	Management of Ash Ponds: Appropriate Technology solutions shall be applied to optimise water consumption for Ash management;	HCSD system has been adopted to optimize water consumption for ash management. Please refer to Annexure-III . Further decanted water from ash pond is recycled back for ash slurry making. Additionally

		treated water from power plant is also being used for ash slurry making. This ensures the water consumption at optimum level.
iv	Management of Ash Ponds: The segregation of ash may be done at the Electro-Static Precipitator stage, if required, based on site specific conditions, to ensure maximum utilization of fly ash;	Separate dry ash collection in place for collection of fly ash. The dry ash is provided to cement plants, brick manufacturers through these silos itself.
v	Management of Ash Ponds: The thermal power plants to dispose fly ash in abandoned or working mines (to be facilitated by mine owner) with environmental safeguards.	Presently, we are utilizing fly ash in mine void filling in SECL mines. MoU signed with SECL for disposal of fly ash in mine voids of SECL.
vi	Transportation: Coal transportation may be undertaken by covered Railway wagon (railway wagons covered by tarpaulin or other means) and/or covered conveyer beyond the mine area. However, till such time enabling Rail transport/conveyer infrastructure is not available, road transportation may be undertaken in trucks, covered by tarpaulin or other means.	Coal is transported to the plant by road in tarpaulin covered trucks. Measures are being taken to ensure coal transportation by covered Railway wagon by tarpaulin.
vii	Transportation: It shall be ensured by the thermal power plant that a. Rail siding facility or conveyor facility is set up at or near the power plant, for transportation by rail or conveyor; and b. If transportation by rail or conveyor facility is not available, ensure that the coal is transported out from the Delivery Point of the respective mine in covered trucks (By tarpaulin or other means), or any mechanized closed trucks by road.	The plant receives coal through rail and road. a. For the coal which is transported by railways, railway siding facility has been set up at the power plant. b. For the coal which is transported through road, the coal is received in tarpaulin covered trucks.



छत्तीसगढ़ CHHATTISGARH

E 200858

BETWEEN

SOUTH EASTERN COALFIELDS LIMITED

AND

BHARAT ALUMINIUM COMPANY LIMITED

PARTICULARS	Quantity (In Tonnes)
Total LOA Quantity	26,00,600
Quantity for which Long term PPA furnished (ACQ) including admissible quantity for transmission loss and auxiliary consumption	Nil
Quantity for which long term PPA not furnished (inoperative ACQ)	26,00,600

“Coal Supplies under the FSA to commence subject to submission of Long term Power Purchase Agreement”.

This Agreement is made on this 28th day of August'2013 between South Eastern Coalfields Limited, a company registered under the Companies Act, 1956 and having its registered office at Seepat Road, Bilaspur (CG)-495006 hereinafter called the “Seller” (which expression shall unless excluded by or repugnant to the subject or context, include its legal representatives, successors and permitted assigns) of the one part,

AND

M/s Bharat Aluminium Company Limited, a company registered under the Companies Act, 1956 having its registered office at Aluminium Sadan, Core-6, Scope Office Complex, 7, Lodi Road, New Delhi-110003 hereinafter called the “Purchaser” (which term shall unless excluded or repugnant to the subject or context include its legal representatives, successors and permitted assigns) of the other part

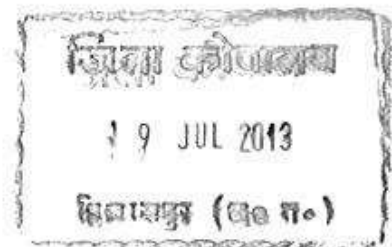
Prahalad Rawat

Dr. S. K. Singh

Gen

प्राप्तकर्ता **श्रीरामंद साहोशणी**

 स्टाम्प वेन्डर &
 बिलासपुर (36-गड)



Vimta Labs Limited

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ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/02532/CPP2		
					Issue Date:		2025-05-05		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-04-15					Analysis Completion date :- 2025-05-02				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-1		Unit-2		Method
S No.	Location	Parameter	Limits	Units	2025-04-12	2025-04-25	2025-04-20	2025-04-25	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	121	119	123	122	-
5		Stack Pressure	-	mmHg	728	729	728	729	-
6		Velocity	-	m/s	17.0	16.5	16.9	17.2	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1330180	1299427	1315677	1344266	
8		Particulate Matter (PM)	50	mg/Nm ³	38.9	30.9	32.7	39.4	USEPA M-5
9		Average			34.9		36.1		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	406	373	358	392	Measured by Portable Combustion Analyser
11		Average			390		375		
12		Carbon Monoxide as CO	-	mg/Nm ³	3	11	32	47	
13		Average			7		40		
14		Mercury as Hg	0.03	mg/Nm3	0.012	0.014	0.012	0.011	USEPA M-29
15		Average			0.013		0.012		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND – Not Deducted

*USD – Unit Under Shut Down



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ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/02532/CPP2		
					Issue Date:		2025-05-05		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-04-15					Analysis Completion date :- 2025-05-02				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-3		Unit-4		Method
S No.	Location	Parameter	Limits	Units	2025-04-12	2025-04-25	2025-04-12	2025-04-25	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	111	116	124	121	-
5		Stack Pressure	-	mmHg	729	728	729	727	-
6		Velocity	-	m/s	16.6	16.1	17.5	16.6	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1334538	1275951	1360823	1297098	
8		Particulate Matter (PM)	50	mg/Nm ³	30.8	26.9	14.3	21.1	USEPA M-5
9		Average			28.9		17.7		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	427	420	415	400	Measured by Portable Combustion Analyser
11		Average			424		408		
12		Carbon Monoxide as CO	-	mg/Nm ³	162	320	450	284	
13		Average			241		367		
14		Mercury as Hg	0.03	mg/Nm3	0.011	0.008	0.013	0.011	USEPA M-29
15		Average			0.010		0.012		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down



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ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/04458/CPP2		
					Issue Date:		2025-06-04		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-05-06					Analysis Completion date :- 2025-06-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-1		Unit-2		Method
S No.	Location	Parameter	Limits	Units	2025-05-05	2025-05-29	2025-05-11	2025-05-29	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	126	132	129	131	-
5		Stack Pressure	-	mmHg	728	725	728	726	-
6		Velocity	-	m/s	17.5	17.8	16.3	16.7	-
7		Volumetric Flow Rate	-	Nm ³ /Hr	1352144	1349365	1250027	1270861	USEPA M-2
8		Particulate Matter (PM)	50	mg/Nm ³	22.4	33.1	21.8	36.8	USEPA M-5
9		Average			27.8		29.3		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	427	404	407	420	Measured by Portable Combustion Analyser
11		Average			416		414		
12		Carbon Monoxide as CO	-	mg/Nm ³	14	23	150	70	
13		Average			19		110		
14		Mercury as Hg	0.03	mg/Nm ³	0.006	0.004	0.004	0.007	USEPA M-29
15		Average			0.005		0.006		
*PM and Nox values are corrected to 6% O ₂ values									

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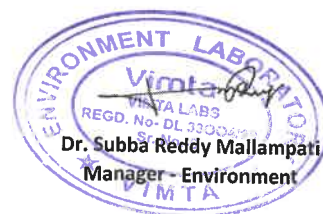
ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/04458/CPP2		
					Issue Date:		2025-06-04		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-05-06					Analysis Completion date :- 2025-06-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-3		Unit-4		Method
S No.	Location	Parameter	Limits	Units		2025-05-29	2025-05-05	2025-05-29	
1	POWER PLANT	Height of the stack	-	m	USD	275	275	275	-
2		Dimensions at Sampling Point	-	m		5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²		30	30	30	-
4		Stack Temperature	-	°C		130	122	134	-
5		Stack Pressure	-	mmHg		729	727	725	-
6		Velocity	-	m/s		16.6	16.7	17.7	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr		1271619	1301608	1335191	
8		Particulate Matter (PM)	50	mg/Nm ³		26.6	39.7	43.9	
9		Average				26.6	41.8	USEPA M-5	
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³		414	428		385
11		Average			414	407			
12		Carbon Monoxide as CO	-	mg/Nm ³	171	233	178		
13		Average			171	206			
14		Mercury as Hg	0.03	mg/Nm ³	0.005	0.006	0.004	USEPA M-29	
15		Average			0.005	0.005			
*PM and Nox values are corrected to 4% O ₂ content									

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down



Vimta Labs Limited

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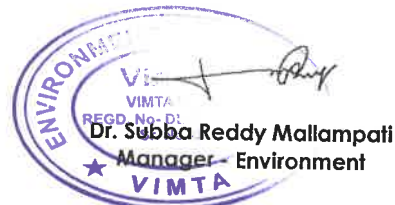
ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/06982/CPP2		
					Issue Date:		2025-07-04		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-06-19					Analysis Completion date :- 2025-07-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-1		Unit-2		Method
S No.	Location	Parameter	Limits	Units	2025-06-18	2025-06-24	2025-06-18	2025-06-24	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	125	124	121	122	-
5		Stack Pressure	-	mmHg	725	726	725	725	-
6		Velocity	-	m/s	17.2	17.5	16.0	15.3	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1326813	1355222	1246775	1189211	
8		Particulate Matter (PM)	50	mg/Nm ³	28.3	22.8	44.2	31.8	USEPA M-5
9		Average			25.6		38.0		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	438	430	403	426	Measured by Portable Combustion Analyser
11		Average			434		415		
12		Carbon Monoxide as CO	-	mg/Nm ³	13	14	211	164	
13		Average			14		188		
14		Mercury as Hg	0.03	mg/Nm3	0.005	0.004	0.006	0.005	USEPA M-29
15		Average			0.005		0.006		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND – Not Deducted

*USD – Unit Under Shut Down



Dr. Subba Reddy Mallampati
Manager - Environment

ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/06982/CPP2		
					Issue Date:		2025-07-04		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-06-19					Analysis Completion date :- 2025-07-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-3		Unit-4		Method
S No.	Location	Parameter	Limits	Units	2025-06-18	2025-06-24	2025-06-18	2025-06-24	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	120	121	122	120	-
5		Stack Pressure	-	mmHg	725	726	725	724	-
6		Velocity	-	m/s	16.4	16.8	15.8	16.0	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1281196	1310920	1228074	1248224	
8		Particulate Matter (PM)	50	mg/Nm ³	33.4	39.6	36.1	26.1	USEPA M-5
9		Average			36.5		31.1		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	387	423	439	417	Measured by Portable Combustion Analyser
11		Average			405		428		
12		Carbon Monoxide as CO	-	mg/Nm ³	78	130	12	8	
13		Average			104		10		
14		Mercury as Hg	0.03	mg/Nm3	0.003	0.004	0.005	0.006	USEPA M-29
15		Average			0.004		0.006		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down



ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/09740/CPP2		
					Issue Date:		2025-08-05		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-07-10					Analysis Completion date :- 2025-07-30				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-1		Unit-2		Method
S No.	Location	Parameter	Limits	Units	2025-07-09	2025-07-23	2025-07-09	2025-07-23	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	128	131	125	128	-
5		Stack Pressure	-	mmHg	722	722	721	722	-
6		Velocity	-	m/s	18.0	17.7	17.6	17.6	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1372435	1339540	1350179	1341936	
8		Particulate Matter (PM)	50	mg/Nm ³	33.2	40.5	43.1	37.8	USEPA M-5
9		Average			36.9		40.5		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	409	420	418	431	Measured by Portable Combustion Analyser
11		Average			415		425		
12		Carbon Monoxide as CO	-	mg/Nm ³	23	31	10	21	
13		Average			27		16		
14		Mercury as Hg	0.03	mg/Nm3	0.004	0.006	0.005	0.006	USEPA M-29
15		Average			0.005		0.006		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down



ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/09740/CPP2		
					Issue Date:		2025-08-05		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-07-10					Analysis Completion date :- 2025-07-30				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-3		Unit-4		Method
S No.	Location	Parameter	Limits	Units	2025-07-09	2025-07-23	2025-07-09	2025-07-23	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	124	127	118	121	-
5		Stack Pressure	-	mmHg	723	722	722	722	-
6		Velocity	-	m/s	17.0	16.7	16.8	16.5	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1311062	1276498	1313700	1280417	
8		Particulate Matter (PM)	50	mg/Nm ³	32.2	36.4	25.0	35.9	USEPA M-5
9		Average			34.3		30.5		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	428	433	427	410	Measured by Portable Combustion Analyser
11		Average			431		419		
12		Carbon Monoxide as CO	-	mg/Nm ³	22	16	13	15	
13		Average			19		14		
14		Mercury as Hg	0.03	mg/Nm3	0.004	0.005	0.006	0.003	USEPA M-29
15		Average			0.005		0.005		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down



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ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/11867/CPP2		
					Issue Date:		2025-09-04		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-08-20					Analysis Completion date :- 2025-09-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-1		Unit-2		Method
S No.	Location	Parameter	Limits	Units	2025-08-19	2025-08-27	2025-08-19	2025-08-27	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	121	129	108	124	-
5		Stack Pressure	-	mmHg	723	724	721	724	-
6		Velocity	-	m/s	16.2	15.5	15.2	14.8	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1258878	1182145	1218093	1142974	
8		Particulate Matter (PM)	50	mg/Nm ³	41.2	33.8	43.5	30.6	USEPA M-5
9		Average			37.5		37.1		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	428	413	269	426	Measured by Portable Combustion Analyser
11		Average			421		348		
12		Carbon Monoxide as CO	-	mg/Nm ³	138	58	194	30	
13		Average			98		112		
14		Mercury as Hg	0.03	mg/Nm ³	0.006	0.005	0.003	0.005	USEPA M-29
15		Average			0.006		0.004		

*PM and Nox values are corrected to 15% O₂

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down

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ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:	VLL/VLS/25-26/11867/CPP2			
					Issue Date:	2025-09-04			
					P.O No:	8500005780			
					P.O Date:	2022-06-29			
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-08-20					Analysis Completion date :- 2025-09-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-3		Unit-4		Method
S No.	Location	Parameter	Limits	Units	2025-08-19	2025-08-27	2025-08-19	2025-08-27	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	122	132	121	126	-
5		Stack Pressure	-	mmHg	724	722	724	723	-
6		Velocity	-	m/s	16.3	14.3	13.8	15.4	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1265189	1079555	1073860	1181714	
8		Particulate Matter (PM)	50	mg/Nm ³	38.5	29.0	30.1	41.2	USEPA M-5
9		Average			33.8		35.7		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	408	436	416	393	Measured by Portable Combustion Analyser
11		Average			422		405		
12		Carbon Monoxide as CO	-	mg/Nm ³	12	14	134	34	
13		Average			13		84		
14		Mercury as Hg	0.03	mg/Nm3	0.007	0.004	0.004	0.006	USEPA M-29
15		Average			0.006		0.005		

*PM and No_x values are corrected to 1% O₂ wet

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down

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ISSUED TO: M/s. Bharat Aluminium Company Limited KORBA (C.G.)					Report No:		VLL/VLS/25-26/14073/CP2		
					Issue Date:		2025-10-04		
					P.O No:		8500005780		
					P.O Date:		2022-06-29		
Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW									
Analysis starting date :- 2025-09-16					Analysis Completion date :- 2025-10-03				
Test Required :- PM, NO _x , CO and Hg;									
TEST RESULTS									
540 MW Power Plant					Unit-1		Unit-2		Method
S No.	Location	Parameter	Limits	Units	2025-09-18	2025-09-26	2025-09-15	2025-09-26	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	118	115	115	125	-
5		Stack Pressure	-	mmHg	725	728	728	726	-
6		Velocity	-	m/s	15.3	14.3	14.9	15.3	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1201376	1136219	1183098	1181875	
8		Particulate Matter (PM)	50	mg/Nm ³	21.7	38.2	36.1	28.1	USEPA M-5
9		Average			30.0		32.1		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	409	428	429	415	Measured by Portable Combustion Analyser
11		Average			419		422		
12		Carbon Monoxide as CO	-	mg/Nm ³	13	3	6	4	
13		Average			8		5		
14		Mercury as Hg	0.03	mg/Nm3	0.005	0.007	0.005	0.004	USEPA M-29
15		Average			0.006		0.005		

*PM and Nox values are corrected to 6% O₂ values.

*Instrument Used - Vayubodhan Stack Sampler Kit

*ND – Not Deducted

*USD – Unit Under Shut Down



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

Report No: VLL/VLS/25-26/14073/CPP2

Issue Date: 2025-10-04

P.O No: 8500005780

P.O Date: 2022-06-29

Sample Particular:- STACK EMISSION MONITORING AT POWER PLANT 540 MW

Analysis starting date :- 2025-09-16

Analysis Completion date :- 2025-10-03

Test Required :- PM, NO_x, CO and Hg;**TEST RESULTS**

540 MW Power Plant					Unit-3		Unit-4		Method
S No.	Location	Parameter	Limits	Units	2025-09-15	2025-09-26	2025-09-15	2025-09-26	
1	POWER PLANT	Height of the stack	-	m	275	275	275	275	-
2		Dimensions at Sampling Point	-	m	5 X 6	5 X 6	5 X 6	5 X 6	-
3		Surface Area	-	m ²	30	30	30	30	-
4		Stack Temperature	-	°C	112	119	109	110	-
5		Stack Pressure	-	mmHg	727	726	729	727	-
6		Velocity	-	m/s	15.2	15.4	13.2	12.7	USEPA M-2
7		Volumetric Flow Rate	-	Nm ³ /Hr	1215468	1207807	1066755	1020859	
8		Particulate Matter (PM)	50	mg/Nm ³	37.1	42.6	43.8	25.4	USEPA M-5
9		Average			39.9		34.6		
10		Oxides of Nitrogen NO _x as NO ₂	450	mg/Nm ³	427	417	433	403	Measured by Portable Combustion Analyser
11		Average			422		418		
12		Carbon Monoxide as CO	-	mg/Nm ³	8	3	4	1	
13		Average			6		3		
14		Mercury as Hg	0.03	mg/Nm3	0.006	0.004	0.005	0.003	USEPA M-29
15		Average			0.005		0.004		
*PM and Hg values are reported as 1% of design capacity									

*PM and Nox values are corrected to 6% O₂ values.

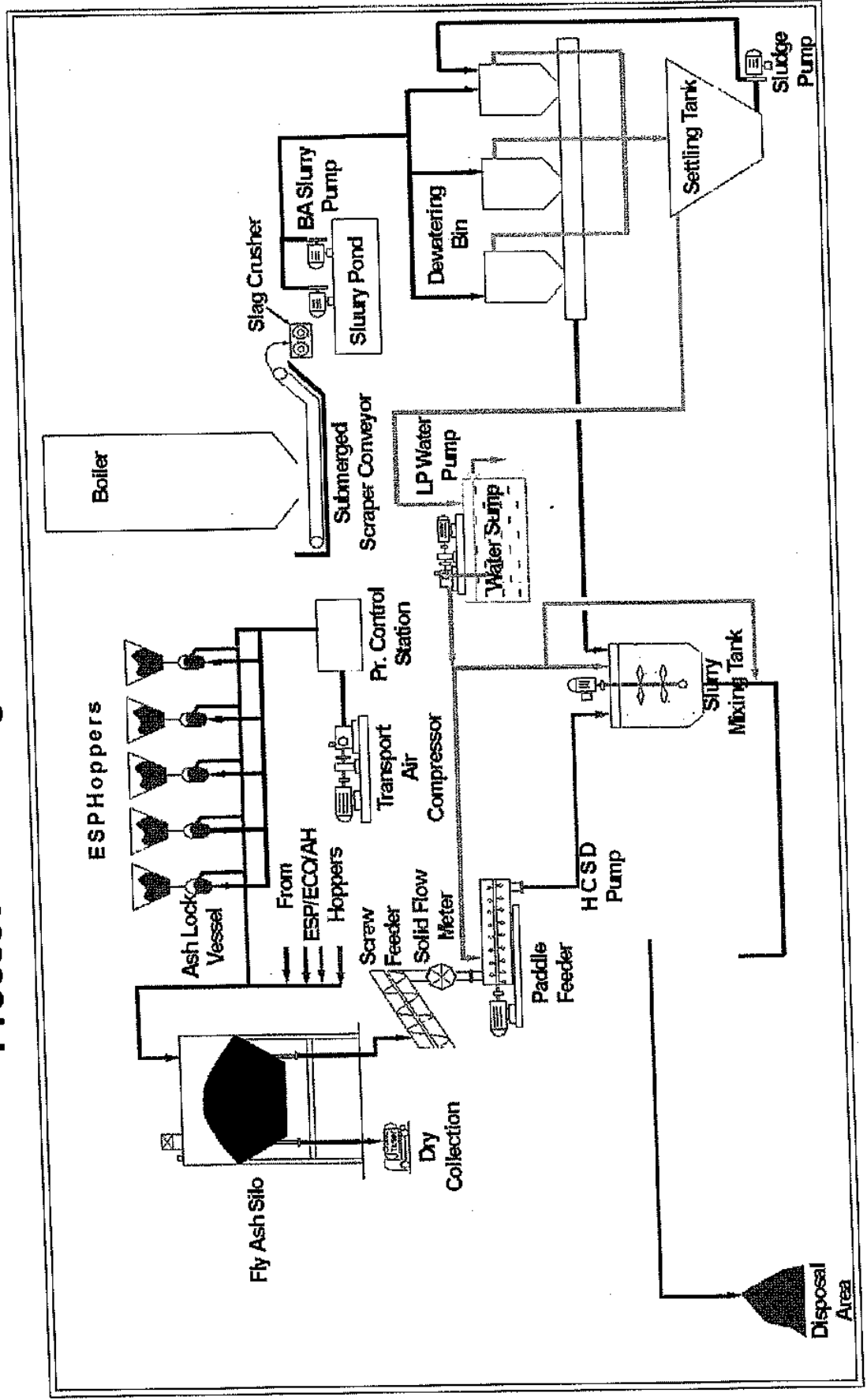
*Instrument Used - Vayubodhan Stack Sampler Kit

*ND - Not Deducted

*USD - Unit Under Shut Down



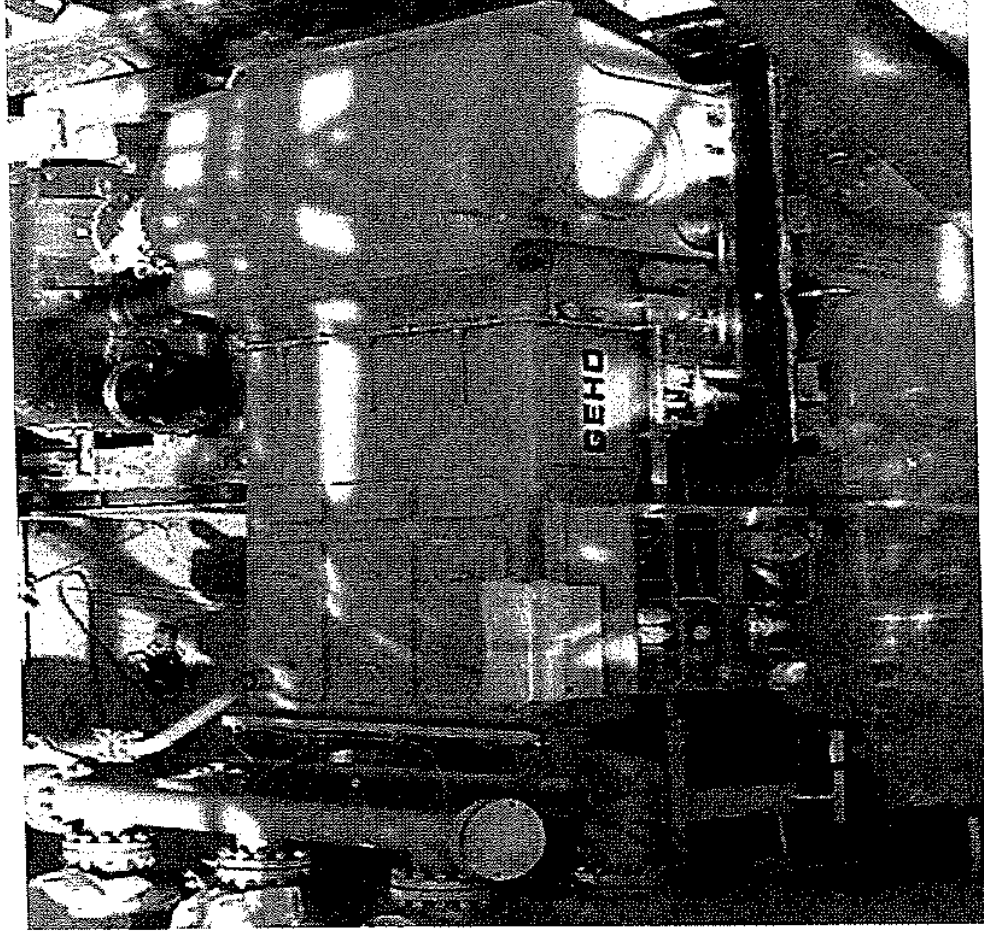
540 MW Captive Power Plant Process Flow Diagram for HCSD System



540 MW Captive Power Plant

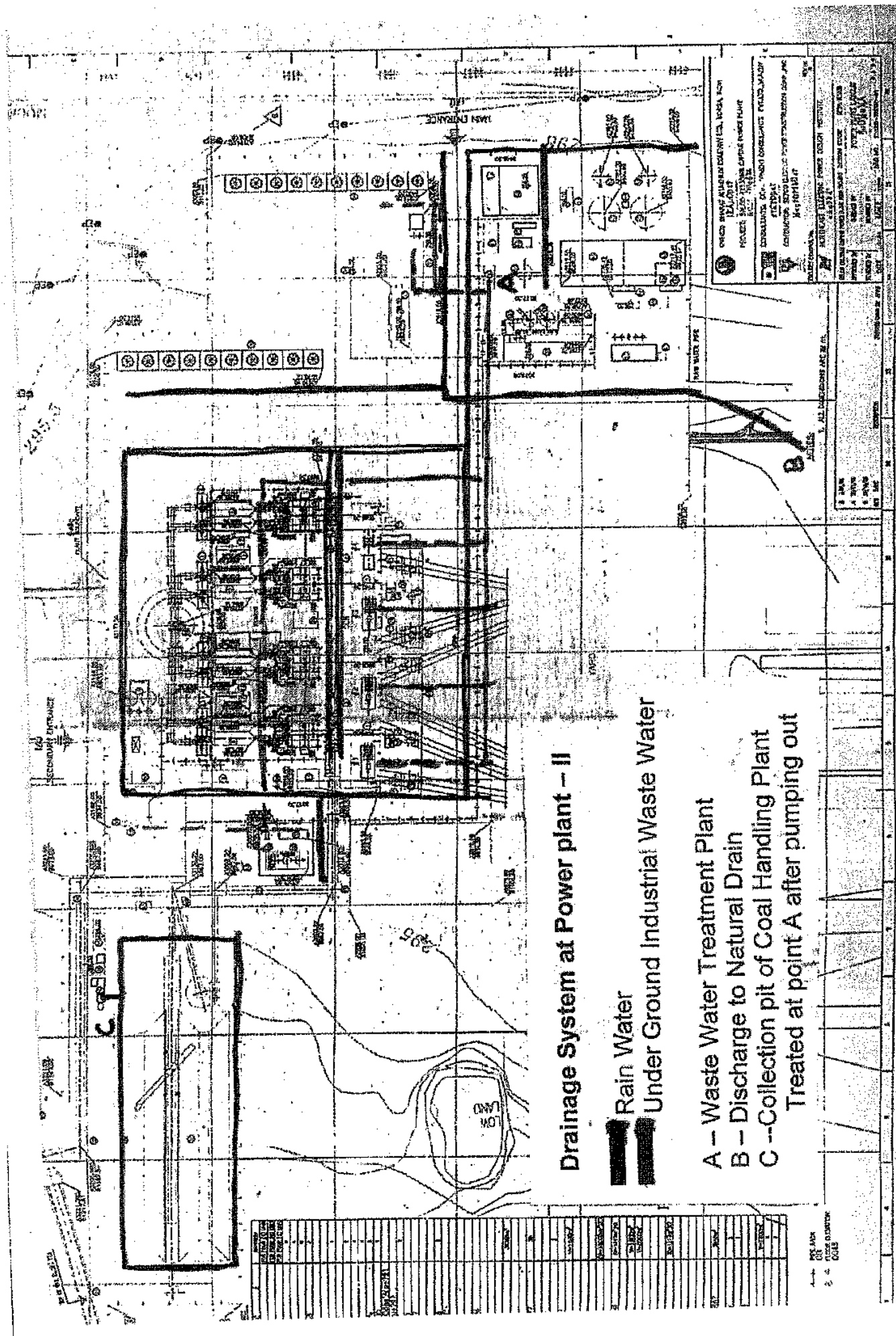
Advantages of HCSD System

- Less disposal area
- No ash retaining structure at dyke
- Less water consumption
- Less power consumption
- No ash water recovery and treatment
- Self distribution of slurry
- Compact disposal site
- Dense, compact deposit with rapid drying.



• High Concentrate Ash Slurry Disposal Pump supplied by M/s GEHO Netherlands

• Capacity : 208 M³ / Hr



कार्यालय कार्यपालन अभियंता
हसदेव बरौज जल प्रबंध संभाग
रामपुर / कोरबा

दूरभाष क्रमांक कार्यालय 07759-221052
पत्र क्र. / तक्र.
प्रति,

फैक्स क्रमांक 07759-221014

ईमेल eehbwm kor @ cgwrdd.in.

रामपुर / कोरबा,

दिनांक / 01 / 2016

अधीक्षण अभियंता
हसदेव परियोजना मंडल
रामपुर / कोरबा

विषय:- मेसर्स बाल्को, कोरबा के स्मेल्टर प्लांट विस्तारीकरण एवं 540 (4x135) मेगावाट केप्टिव ताप विद्युत संयंत्र हेतु हसदेव बांगो परियोजना से पूर्व में आबंटित 16.50 मि.घ.मी. वार्षिक जल की मात्रा को कम कर संशोधित 13.00 मि.घ.मी. वार्षिक जल आबंटन / प्रदाय करने की स्वीकृति बाबत।

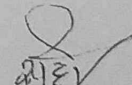
संदर्भ:- मुख्य अभियंता, मिनीमाता (हसदेव) बांगो परियोजना बिलासपुर का पत्र क्र. 176 / 165 / कार्य / एम / 82 / बाल्को प्लांट से संबंधित ज.आ.पत्राचार / बिलासपुर दिनांक 07.01.2016 (आपको सम्बोधित)

-----00-----

उपरोक्त संदर्भित पत्र में लेख है कि पत्र के साथ संलग्न छ.ग. शासन जल संसाधन विभाग मंत्रालय रायपुर का पत्र क्र. 39 / 194 / ज.प्र. / तशा / औ.ज.प्र. / 01 / डी-4 नया रायपुर दिनांक 06.01.2016 द्वारा मेसर्स बाल्को, कोरबा के स्मेल्टर प्लांट विस्तारीकरण एवं 540 (4x135) मेगावाट केप्टिव ताप विद्युत संयंत्र हेतु हसदेव बांगो परियोजना से पूर्व में आबंटित 16.50 मि.घ.मी. वार्षिक जल की मात्रा को कम कर संशोधित 13.00 मि.घ.मी. वार्षिक जल आबंटन को स्वीकृति पत्र जारी होने के दिनांक 06.01.2016 से लागू कर दिया गया है। उक्त आदेश की प्रति को, संस्थान के साथ दिनांक 29.08.2011 को किये गये अनुबंध का एक भाग के रूप में संलग्न कर लिया गया है।

अतः पालन प्रतिवेदन आपकी ओर सादर सूचनार्थ संप्रेषित।

सहपत्र:- स्वीकृति पत्र की
हस्ताक्षरित प्रति।


कार्यपालन अभियंता
हसदेव बरौज जल प्रबंध संभाग
रामपुर / कोरबा

क्रमशः // 2 //

Vimta Labs Limited

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**ISSUED TO:**

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT) -

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Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory

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Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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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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Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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TEST REPORT

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

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

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TEST REPORT

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

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

Name and Designation of Authorized Signatory



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ISSUED TO:

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

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

Page 1 of 1

SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.28	7.09	7.42	7.38
2	Colour	Hazen	1	2	1	3
3	Conductivity	µS/cm	135	275	190	240
4	TDS	mg/l	89	174	123	153
5	DO	mg/l	7.2	6.9	7.1	6.8
6	BOD	mg/l	1.2	2.7	1.9	2.8
7	COD	mg/l	4	10	8	12
8	Turbidity	NTU	2.7	3.5	2.4	2.3
9	Total Hardness as CaCO ₃	mg/l	45	85	57	74
10	Total Alkalinity as CaCO ₃	mg/l	40	70	60	65
11	Calcium as Ca	mg/l	9.8	19.5	12.4	14.5
12	Magnesium as Mg	mg/l	4.7	8.9	6.4	9.2
13	Chlorides as Cl	mg/l	13.8	35.6	17.9	26.8
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.06	0.02	0.05
16	Sulphates as SO ₄	mg/l	8.3	13.2	7.3	12.6
17	Fluorides as F	mg/l	0.082	0.102	0.216	0.375
18	Nitrates as NO ₃	mg/l	0.8	1.3	1.1	2.4
19	Sodium as Na	mg/l	11.3	23.5	16.4	19.8
20	Potassium as K	mg/l	0.6	1.3	1.1	1.6
21	Total Boron as B	mg/l	0.016	0.023	0.010	0.231
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	0.01	0.01	0.012
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.131	0.056	0.021	0.011
30	Chromium as Cr ⁶⁺	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.156	0.089	0.117	0.024
33	Aluminum as Al	mg/l	0.036	0.024	0.019	0.016
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.74	1.11	0.94	1.00
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	120	180	160	270

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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Driven by Quality. Inspired by Science.

ISSUED TO:

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

Report Number : VLL/VLS/25-26/02532/002
Issued Date : 2025-05-05
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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SAMPLE PARTICULARS

SURFACE WATER SAMPLE (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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**ISSUED TO:**

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

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

Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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KORBA
Chhattisgarh

Report Number : VLL/VLS/25-26/04458/001
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Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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**ISSUED TO:**

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

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

Page 3 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory

VIMTA LABS
REGD. No. DL 33004/99
Sr. No. 5
VIMTA
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BALCO
KORBA
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P.O. Date : 2022-06-29

Page 4 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

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Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory

VIMTA LABS
REGD. No- DL/3004/99
Sr. No. 1
VIMTA
Dr. Subba Reddy Mallampati
(Manager - Environment)

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**ISSUED TO:**

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

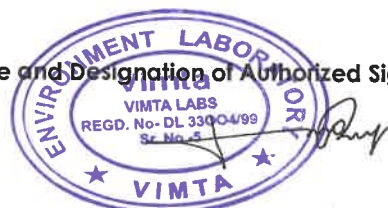
Sample Registration Date : 2025-05-12 Sampling Date : 2025-05-07
Analysis Starting Date : 2025-05-12 Analysis Completion Date : 2025-05-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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**ISSUED TO:**

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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**ISSUED TO:**

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory

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ISSUED TO:

M/s. Bharat Aluminum Company Limited,
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Chhattisgarh

Report Number : VLL/VLS/25-26/04458/002
Issued Date : 2025-06-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

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

TEST REPORT

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

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

-END OF THE REPORTS-

Signature and Designation of Authorized Signatory

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ISSUED TO:

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

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

Page 1 of 1

SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.48	7.26	7.52	7.40
2	Colour	Hazen	<1.0	2	1	2
3	Conductivity	µS/cm	120	365	150	210
4	TDS	mg/l	75	233	95	130
5	DO	mg/l	7.5	6.8	7.3	7.1
6	BOD	mg/l	1.4	2.7	1.7	2.3
7	COD	mg/l	16.4	24.8	16.0	23.6
8	Turbidity	NTU	2.7	3.5	2.4	2.3
9	Total Hardness as CaCO ₃	mg/l	38	106	44	54
10	Total Alkalinity as CaCO ₃	mg/l	30	110	40	45
11	Calcium as Ca	mg/l	8.6	24.5	10	12.7
12	Magnesium as Mg	mg/l	3.9	10.8	4.7	5.4
13	Chlorides as Cl	mg/l	14.2	28.5	17.6	28.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.02	0.08	0.03	0.07
16	Sulphates as SO ₄	mg/l	6.3	15.8	7.1	9.2
17	Fluorides as F	mg/l	0.092	0.418	0.346	0.503
18	Nitrates as NO ₃	mg/l	0.3	1.1	0.7	1.6
19	Sodium as Na	mg/l	10.2	34.3	13.2	21.8
20	Potassium as K	mg/l	0.4	1.8	0.9	2.3
21	Total Boron as B	mg/l	0.012	0.034	0.011	0.163
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.072	0.097	0.018	0.023
30	Chromium as Cr ⁶⁺	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.076	0.098	0.095	0.065
33	Aluminum as Al	mg/l	0.017	0.035	0.012	0.034
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.72	1.45	0.86	1.29
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	90	160	140	240

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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BALCO
KORBA
Chhattisgarh

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

Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory


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ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

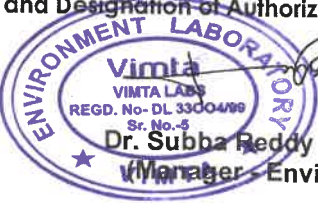
Sample Registration Date : 2025-06-10 Sampling Date : 2025-06-03
Analysis Starting Date : 2025-06-10 Analysis Completion Date : 2025-06-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory



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

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

TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



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SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

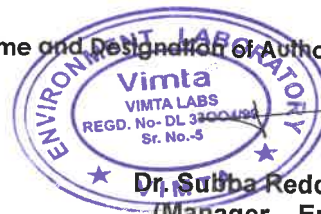
TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.23	7.25	7.23	7.24
2	Colour	Hazen	1	2	1	2
3	Conductivity	µS/cm	157	204	184	290
4	TDS	mg/l	98	124	117	182
5	DO	mg/l	6.3	6.1	6.4	5.9
6	BOD	mg/l	1.2	2.7	1.9	2.8
7	COD	mg/l	5	12	6	10
8	Turbidity	NTU	15.0	8.0	20.0	9.0
9	Total Hardness as CaCO ₃	mg/l	44	87	63	74
10	Total Alkalinity as CaCO ₃	mg/l	40	75	50	60
11	Calcium as Ca	mg/l	10.0	21	13.5	15
12	Magnesium as Mg	mg/l	4.7	8.4	7.2	8.9
13	Chlorides as Cl	mg/l	20.5	35.1	22.3	43.7
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.06	0.02	0.04
16	Sulphates as SO ₄	mg/l	7.4	14.3	8.4	18.2
17	Fluorides as F	mg/l	0.218	0.353	0.252	0.306
18	Nitrates as NO ₃	mg/l	0.7	1.4	1.3	1.6
19	Sodium as Na	mg/l	14.8	29.2	12.7	31.5
20	Potassium as K	mg/l	1.1	1.6	0.9	1.7
21	Total Boron as B	mg/l	0.007	0.019	0.010	0.141
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.023	0.098	0.037	0.016
30	Chromium as Cr ⁶⁺	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.065	0.143	0.097	0.129
33	Aluminum as Al	mg/l	0.010	0.017	0.010	0.035
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.97	1.36	0.69	1.59
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	70	140	90	160

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory



Dr. Subha Reddy Mallampati
(Manager – Environment)

Vimta Labs Limited

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

Page 1 of 1

SAMPLE PARTICULARS

SURFACE WATER SAMPLE (BALCO PLANT)

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

TEST REPORT

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

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

- END OF THE REPORTS -

Signature and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager – Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

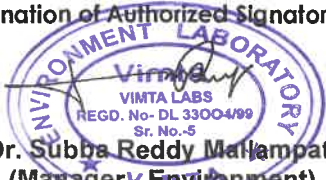
Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)



ISSUED TO:

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

Report Number : VLL/VLS/25-26/09740/001
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P.O. No. : 8500005780
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Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

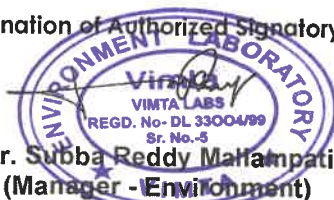
Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

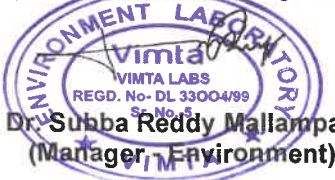
Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-25
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager, Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subha Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

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SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date : 2025-07-07 Sampling Date : 2025-07-01
Analysis Starting Date : 2025-07-07 Analysis Completion Date : 2025-07-22
Samples Details : SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near 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	-	7.14	7.18	7.22	7.18
2	Colour	Hazen	1	2	2	3
3	Conductivity	µS/cm	144	284	181	271
4	TDS	mg/l	89	176	93	166
5	DO	mg/l	7.1	6.5	6.9	7.1
6	BOD	mg/l	1.1	1.8	1.3	1.4
7	COD	mg/l	6	10	8	9
8	Turbidity	NTU	18.0	10.0	24.0	12.0
9	Total Hardness as CaCO ₃	mg/l	37	78	53	64
10	Total Alkalinity as CaCO ₃	mg/l	36	65	44	51
11	Calcium as Ca	mg/l	8.1	17	10.1	11
12	Magnesium as Mg	mg/l	4.2	7.8	6.4	7.2
13	Chlorides as Cl	mg/l	17.4	31.4	18.4	38.6
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.02	0.04	0.03	0.02
16	Sulphates as SO ₄	mg/l	6.9	10.2	8.1	15.2
17	Fluorides as F	mg/l	0.254	0.384	0.318	0.342
18	Nitrates as NO ₃	mg/l	0.9	1.1	1.0	1.3
19	Sodium as Na	mg/l	12.3	25.3	10	26.7
20	Potassium as K	mg/l	1.2	1.4	0.8	1.5
21	Total Boron as B	mg/l	0.006	0.014	0.009	0.120
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.021	0.084	0.028	0.011
30	Chromium as Cr ⁶⁺	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.057	0.127	0.087	0.114
33	Aluminum as Al	mg/l	0.009	0.015	0.008	0.027
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.91	1.21	0.57	1.44
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	90	110	175	336

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

SAMPLE PARTICULARS

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

Page 1 of 1

TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

Vimta
VIMTA LABS
REGD. NO. DL 3100488
Sr. No. 1
Dr. Subba Reddy Mallampati
(Manager - Environment)
VIMTA

Vimta Labs Limited

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Driven by Quality. Inspired by Science.

ISSUED TO:

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

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

Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

VIMTA LABS
REGD. No- DL 33004/99
Sr. No.-5
Dr. Subba Reddy Mallampati
(Manager Environment)

Vimta Labs Limited

Registered Office

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Driven by Quality. Inspired by Science.

ISSUED TO:

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

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

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
 (Manager - Environment)

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 Medchal-Malkajgiri, Hyderabad-500 101, Telangana, India. T : +91 40 6740 4040 E : mdoffice@vimta.com URL : www.vimta.com

CIN : L24110TG1990PLC011977

ISSUED TO:

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

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

Page 3 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory

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ISSUED TO:

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Rogbheri (B/W)	Rogbheri (D/W)	Bailgiri Basti(B/W)	Bailgiri Basti(D/W)
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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Page 1 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

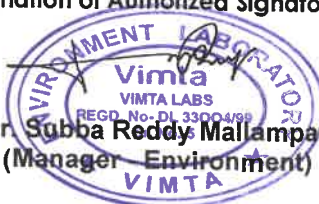
Sr. No.	Parameters	UOM	Limit IS 10500 : 2012	Parsabhata (B/W)	Parsabhata (D/W)	Karma Talkies (B/W)	Bhadrapada (D/W)
1	pH value	-	6.5-8.5 (NR)	7.36	6.86	6.85	6.84
2	Color	Hazen	5(15)	Colorless	Colorless	Colorless	Colorless
3	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Odour	-	Agreeable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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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REGD. No. DL 3304/2023
Dr. Subba Reddy Mallampati
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VIMTA

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

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

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory

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

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P.O. No. : 8500005780

P.O. Date : 2022-06-29

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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS

SURFACE WATER SAMPLE (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.21	7.26	7.22	7.28
2	Colour	Hazen	2	3	2	3
3	Conductivity	$\mu\text{S}/\text{cm}$	125	268	140	196
4	TDS	mg/l	80	170	88	120
5	DO	mg/l	6.2	5.8	6.3	5.9
6	BOD	mg/l	1.0	2.2	1.4	2.1
7	COD	mg/l	3.2	7.8	5.6	6.4
8	Turbidity	NTU	7.0	11.0	8.0	12.0
9	Total Hardness as CaCO_3	mg/l	36	70	48	68
10	Total Alkalinity as CaCO_3	mg/l	35.0	68.0	40	45.0
11	Calcium as Ca	mg/l	8.5	17.8	10	12.5
12	Magnesium as Mg	mg/l	3.6	6.2	5.6	8.9
13	Chlorides as Cl	mg/l	14.4	32.2	16.2	26.9
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO_4	mg/l	0.04	0.05	0.03	0.06
16	Sulphates as SO_4	mg/l	6.2	12.4	5.3	10.5
17	Fluorides as F	mg/l	0.163	0.258	0.229	0.217
18	Nitrates as NO_3	mg/l	0.3	0.8	0.7	1.3
19	Sodium as Na	mg/l	12.2	28.7	9.6	13.5
20	Potassium as K	mg/l	0.7	1.2	0.5	0.5
21	Total Boron as B	mg/l	0.012	0.021	0.013	0.087
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.019	0.078	0.045	0.012
30	Chromium as Cr^{+6}	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.047	0.121	0.079	0.098
33	Aluminum as Al	mg/l	0.023	0.011	0.010	0.023
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.88	1.49	0.60	0.71
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	180	340	220	380

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

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SAMPLE PARTICULARS

: SURFACE WATER SAMPLE (BALCO PLANT)

Sample Registration Date

: 2025-08-13

Sampling Date

: 2025-08-07

Analysis Starting Date

: 2025-08-13

Analysis Completion Date

: 2025-08-26

Samples Details

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

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

- END OF THE REPORTS -

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)



Vimta Labs Limited

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Driven by Quality. Inspired by Science.

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

Page 1 of 4

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

TEST REPORT

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

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

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

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

Page 2 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

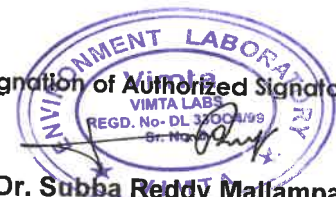
Method of Testing: As per APHA 23rd edition and IS: 3025

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

Analysis as per IS 10500: 2012 Drinking Water specification

Name and Designation of Authorized Signatory

Dr. Subba Reddy Mallampati
(Manager - Environment)



ISSUED TO:

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

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

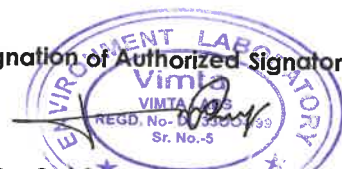
Sample Registration Date : 2025-09-15 Sampling Date : 2025-09-09
Analysis Starting Date : 2025-09-15 Analysis Completion Date : 2025-09-30
Test Required : Water Analysis as per IS 10500 : 2012
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory


Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

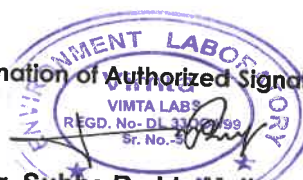
TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory


VIMTA LABS
REGD. No- DL 31/07/99
Sr. No. 3
Dr. Subba Reddy Mallampati
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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory


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SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

Report Number : VLL/VLS/25-26/14073/001
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Page 3 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

TEST REPORT

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

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

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
(Manager - Environment)

ISSUED TO:

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

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

Page 4 of 4

SAMPLE PARTICULARS : GROUND WATER SAMPLES (BALCO PLANT)

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

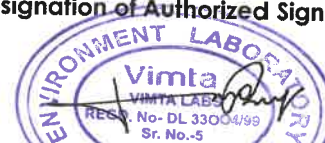
SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

Name and Designation of Authorized Signatory



Dr. Subba Reddy Mallampati
(Manager - Environment)

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M/s. Bharat Aluminum Company Limited,

BALCO

KORBA

Chhattisgarh



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Report Number

Issued Date

P.O. No.

P.O. Date

VLL/VLS/25-26/14073/001

2025-10-04

8500005780

2022-06-29

Page 1 of 1

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

Sample Registration Date

: 2025-09-15

Sampling Date

: 2025-09-09

Analysis Starting Date

: 2025-09-15

Analysis Completion Date

: 2025-09-30

Samples Details

: SW1-Bailgiri Nala (U/S)-Near Baigiri Village, SW2-Bailgiri Nala (D/S)-Near Bailgiri Basti, SW3- Dhengu Nala (U/S) Risbabasti SW4- Dhengu Nala (D/S)-near Check post Balco

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

Sr. No.	Parameters	Unit	SW1	SW2	SW3	SW4
1	pH	-	7.34	7.21	7.25	7.31
2	Colour	Hazen	1	2	1	4
3	Conductivity	µS/cm	150	273	180	230
4	TDS	mg/l	99	173	113	144
5	DO	mg/l	6.4	6.3	6.8	6.4
6	BOD	mg/l	0.7	2.4	1.2	2.6
7	COD	mg/l	2.4	8.8	4.8	11.2
8	Turbidity	NTU	8	7.0	16.0	13
9	Total Hardness as CaCO ₃	mg/l	45	82	64	82
10	Total Alkalinity as CaCO ₃	mg/l	40	65.0	50	55
11	Calcium as Ca	mg/l	11.5	22.4	13	18.2
12	Magnesium as Mg	mg/l	3.87	6.32	7.76	8.78
13	Chlorides as Cl	mg/l	18.3	36.5	21.8	32.3
14	Residual free chlorine	mg/l	<0.2	<0.2	<0.2	<0.2
15	Phosphates as PO ₄	mg/l	0.03	0.04	0.04	0.05
16	Sulphates as SO ₄	mg/l	9.8	13.7	7.4	10.8
17	Fluorides as F	mg/l	0.105	0.168	0.174	0.209
18	Nitrates as NO ₃	mg/l	0.6	1.3	0.9	1.8
19	Sodium as Na	mg/l	14.6	24.4	11.3	15.5
20	Potassium as K	mg/l	0.5	1.1	0.5	0.7
21	Total Boron as B	mg/l	0.010	0.018	0.011	0.065
22	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	<0.001
23	Cyanides as CN	mg/l	<0.01	<0.01	<0.01	<0.01
24	Oil & grease	mg/l	<1.0	<1.0	<1.0	<1.0
25	Cadmium as Cd	mg/l	<0.003	<0.003	<0.003	<0.003
26	Arsenic as As	mg/l	<0.01	<0.01	<0.01	<0.01
27	Copper as Cu	mg/l	<0.01	<0.01	<0.01	<0.01
28	Lead as Pb	mg/l	<0.01	<0.01	<0.01	<0.01
29	Iron as Fe	mg/l	0.008	0.081	0.064	0.024
30	Chromium as Cr ⁺⁶	mg/l	<0.05	<0.05	<0.05	<0.05
31	Selenium as Se	mg/l	<0.01	<0.01	<0.01	<0.01
32	Zinc as Zn	mg/l	0.037	0.098	0.098	0.087
33	Aluminum as Al	mg/l	0.031	0.024	0.017	0.028
34	Mercury as Hg	mg/l	<0.001	<0.001	<0.001	<0.001
35	SAR	-	0.95	1.17	0.61	0.75
36	Insecticides	mg/l	Absent	Absent	Absent	Absent
37	Anionic detergents as MBAS	mg/l	Absent	Absent	Absent	Absent
38	Total Coliforms	MPN/100	140	170	150	210

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory

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(Manager – Environment)

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**ISSUED TO:**

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

Report Number : VLL/VLS/25-26/14073/002
Issued Date : 2025-10-04
P.O. No. : 8500005780
P.O. Date : 2022-06-29

Page 1 of 1

SAMPLE PARTICULARS : SURFACE WATER SAMPLE (BALCO PLANT)

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

SAMPLE COLLECTED BY VIMTA LABS LTD.

TEST REPORT

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

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

-END OF THE REPORTS-

Name and Designation of Authorized Signatory


REGD. No- DL 33004/99
Sr. No.-5
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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/02532/Forage
	Issue Date:	2025-05-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

FORAGE FLUORIDE

Registration Date: 2025-04-10

Sampling Date:

2025-04-08

Analysis starting date: 2025-04-10

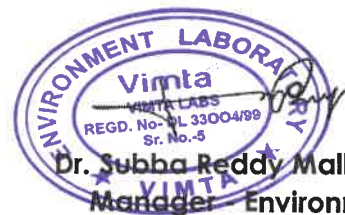
Analysis Completion date:

2025-04-16

Test Required :- Fluoride;

TEST RESULTS

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



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

FORAGE FLUORIDE

Registration Date: 2025-05-09

Sampling Date:

2025-05-07

Analysis starting date: 2025-05-09

Analysis Completion date:

2025-05-16

Test Required :- Fluoride;

TEST RESULTS

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



Dr. Subba Reddy Mallampati
Manager - Environment

Vimta Labs Limited

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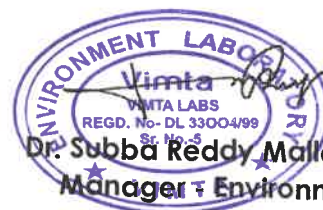
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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)		Report No.:	VLL/VLS/25-26/06982/Forage	
		Issue Date:	2025-07-05	
		P.O.No:	8500005780	
		P.O. Date:	2022-06-29	
FORAGE FLUORIDE				
Registration Date: 2025-06-07		Sampling Date: 2025-06-04		
Analysis starting date: 2025-06-07		Analysis Completion date: 2025-06-14		
Test Required :- Fluoride;				
TEST RESULTS				
S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	31
2	Near Parsabhata	PPM	80	16
3	Near Lal ghat	PPM	80	12
4	Near check post	PPM	80	14
5	Near Sharma petrol pump	PPM	80	18
6	Bhadrapara	PPM	80	12
7	Risdi	PPM	80	8
8	Rampur	PPM	80	10
9	Manikpur	PPM	80	12
10	jambahar	PPM	80	6
11	Rumgarha	PPM	80	11
12	Gerwan	PPM	80	12

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

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

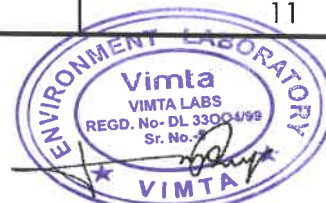

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		Issue Date:	2025-09-04	
		P.O.No:	8500005780	
		P.O. Date:	2022-06-29	
FORAGE FLUORIDE				
Registration Date: 2025-08-07		Sampling Date: 2025-08-05		
Analysis starting date: 2025-08-07		Analysis Completion date: 2025-08-14		
Test Required :- Fluoride;				
TEST RESULTS				
S. No.	Location	Unit	Norms	Results
1	In Side of the plant	PPM	80	43
2	Near Parsabhata	PPM	80	25
3	Near Lal ghat	PPM	80	36
4	Near check post	PPM	80	25
5	Near Sharma petrol pump	PPM	80	31
6	Bhadrapara	PPM	80	20
7	Risdi	PPM	80	18
8	Rampur	PPM	80	14
9	Manikpur	PPM	80	12
10	jambahar	PPM	80	10
11	Rumgarha	PPM	80	18
12	Gerwan	PPM	80	11



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

FORAGE FLUORIDE

Registration Date: 2025-09-11

Sampling Date: 2025-09-09

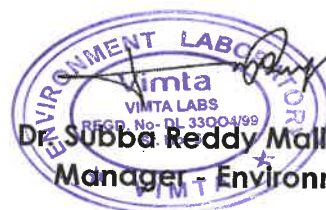
Analysis starting date: 2025-09-11

Analysis Completion date: 2025-09-17

Test Required :- Fluoride;

TEST RESULTS

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

Dr. Subba Reddy Mallampati
Manager - Environment

Sensitivity: Internal (C3)

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ISSUED TO				Report Number: VLL/VLS/25-26/02532/004		
M/s. Bharat Aluminium Company Limited				Issue Date: 2025-05-05		
KORBA (C.G)				P.O. No: 8500005780		
				P.O. Date: 2022-06-29		
AMBIENT NOISE MONITORING AT CPP - 2 (540 MW)						
Tests required: Sound Level						
SAMPLES COLLECTED BY VIMTA LABS LTD				LAB REF.: EC		
TEST RESULTS						
S. No	Location	Unit	Norms in dB(Day)	2025-04-22	Norms in dB(Night)	2025-04-22
				6:00 to 22.00		22.00 to 6.00
1	ED Building for CW system	dB	75	70.9	70	66.3
2	Waste water Treatment basin	dB	75	56.0	70	55.1
3	Main gate power Plant	dB	75	67.7	70	65.4
4	CCR	dB	75	65.7	70	60.9



Dr. Subba Reddy Mallampati
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**ISSUED TO**

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

Report Number: VLL/VLS/25-26/04458/004
Issue Date: 2025-06-04
P.O. No: 8500005780
P.O. Date: 2022-06-29

AMBIENT NOISE MONITORING AT CPP - 2 (540 MW)

Tests required: Sound Level

SAMPLES COLLECTED BY VIMTA LABS LTD

LAB REF.: EC

TEST RESULTS

S. No	Location	Unit	Norms in dB(Day)	2025-05-21	Norms in dB(Night)	2025-05-21
				6:00 to 22.00		22.00 to 6.00
1	ED Building for CW system	dB	75	73.7	70	72.1
2	Waste water Treatment basin	dB	75	56.6	70	54.9
3	Main gate power Plant	dB	75	67.4	70	65.4
4	CCR	dB	75	65.4	70	61.4

Dr. Subba Reddy Mallampati
REGD. No- DL3300438
Manager - Environment

ISSUED TO				Report Number: VLL/VLS/25-26/06982/004		
M/s. Bharat Aluminium Company Limited				Issue Date: 2025-07-05		
KORBA (C.G)				P.O. No: 8500005780		
				P.O. Date: 2022-06-29		
AMBIENT NOISE MONITORING AT CPP - 2 (540 MW)						
Tests required: Sound Level						
SAMPLES COLLECTED BY VIMTA LABS LTD				LAB REF.: EC		
TEST RESULTS						
S. No	Location	Unit	Norms in dB(Day)	2025-06-11	Norms in dB(Night)	2025-06-11
				6:00 to 22.00		22.00 to 6.00
1	ED Building for CW system	dB	75	73.3	70	69.2
2	Waste water Treatment basin	dB	75	56.2	70	53.8
3	Main gate power Plant	dB	75	66.3	70	64.9
4	CCR	dB	75	64.6	70	61.6


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M/s. Bharat Aluminium Company Limited		Issue Date: 2025-08-05				
KORBA (C.G)		P.O. No: 8500005780				
		P.O. Date: 2022-06-29				
AMBIENT NOISE MONITORING AT CPP - 2 (540 MW)						
Tests required: Sound Level						
SAMPLES COLLECTED BY VIMTA LABS LTD		LAB REF.: EC				
TEST RESULTS						
S. No	Location	Unit	Norms in dB(Day)	2025-07-10	Norms in dB(Night)	2025-07-10
				6:00 to 22.00		22.00 to 6.00
1	ED Building for CW system	dB	75	72.9	70	69.6
2	Waste water Treatment basin	dB	75	56.0	70	54.1
3	Main gate power Plant	dB	75	66.4	70	65.0
4	CCR	dB	75	64.8	70	62.9


Dr. Subba Reddy Mallampati
Manager, Environment
REGD. No- DL 33004/99
St. Env
VIMTA

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Driven by Quality. Inspired by Science.

ISSUED TO				Report Number: VLL/VLS/25-26/11867/004		
M/s. Bharat Aluminium Company Limited				Issue Date: 2025-09-04		
KORBA (C.G)				P.O. No: 8500005780		
				P.O. Date: 2022-06-29		
AMBIENT NOISE MONITORING AT CPP - 2 (540 MW)						
Tests required: Sound Level						
SAMPLES COLLECTED BY VIMTA LABS LTD				LAB REF.: EC		
TEST RESULTS						
S. No	Location	Unit	Norms in dB(Day)	2025-08-18	Norms in dB(Night)	2025-08-18
				6:00 to 22.00		22.00 to 6.00
1	ED Building for CW system	dB	75	73.7	70	69.7
2	Waste water Treatment basin	dB	75	56.1	70	55.1
3	Main gate power Plant	dB	75	64.9	70	64.6
4	CCR	dB	75	65.4	70	62.8



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ISSUED TO**M/s. Bharat Aluminium Company Limited
KORBA (C.G)****Report Number: VLL/VLS/25-26/14073/004****Issue Date: 2025-10-04****P.O. No: 8500005780****P.O. Date: 2022-06-29****AMBIENT NOISE MONITORING AT CPP - 2 (540 MW)****Tests required: Sound Level****SAMPLES COLLECTED BY VIMTA LABS LTD****LAB REF.: EC****TEST RESULTS**

S. No	Location	Unit	Norms in dB(Day)	2025-09-11	Norms in dB(Night)	2025-09-11
				6:00 to 22.00		22.00 to 6.00
1	ED Building for CW system	dB	75	72.6	70	69.9
2	Waste water Treatment basin	dB	75	54.9	70	53.6
3	Main gate power Plant	dB	75	64.6	70	63.3
4	CCR	dB	75	64.6	70	62.7


Dr. Subba Reddy Mallampati
Manager - Environment

Sensitivity: Internal (C3)

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	
	<i>No of sapling</i>	<i>Area in Acres</i>	<i>No of sapling</i>	<i>Area in Acres</i>	<i>No of sapling</i>	<i>Area in Acres</i>
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

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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/02532/006
	Issue Date:	2025-05-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-04-05

Analysis Completion date :- 2025-05-05

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), 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			2025-04-03	2025-04-05	2025-04-09	2025-04-11	2025-04-15	2025-04-17	2025-04-21	2025-04-23	2025-04-27	Method
Sulphur Dioxide (SO ₂)	µg/m ³	80	23.2	30.5	35.8	38.8	36.7	21.9	32.8	37.1	36.6	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	16.2	17.7	15.8	24.2	19.8	21.1	18.6	20.3	26.2	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	59.3	61.8	63.1	65.3	58.4	60.7	62.5	64.8	56.9	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	23.6	27.3	19.0	21.9	17.6	29.1	26.0	24.7	20.9	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	3.7	3.1	4.1	4.6	5.4	5.2	2.0	2.2	2.6	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	4.6	3.2	6.4	5.8	4.1	3.9	4.6	4.2	5.2	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	384	326	271	423	368	324	419	377	392	NDIR Spectroscopy Method
Ozone	µg/m ³	100	7.8	9.4	8.0	9.3	6.4	8.6	7.3	5.6	6.5	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)									Report No.:		VLL/VLS/25-26/02532/003		
									Issue Date:		2025-05-05		
									P.O.No:		8500005780		
									P.O. Date:		2022-06-29		
AMBIENT AIR QUALITY MONITORING AT GAP & BAKE OVEN ROAD (BALCO)													
Analysis starting date :- 2025-04-05							Analysis Completion date :- 2025-05-05						
Tests required: Sulphur Dioxide (SO ₂), Nitrogen Dioxide (NO _x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH3), Benzene (C ₆ H 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			2025-04-03	2025-04-05	2025-04-09	2025-04-11	2025-04-15	2025-04-17	2025-04-21	2025-04-23	2025-04-27	Method	
Sulphur Dioxide (SO ₂)	µg/m ³	80	32.9	33.1	38.6	22.2	33.3	29.6	25.0	28.9	33.8	Improved West and Gaeke Method	
Nitrogen Dioxide (NO _x)	µg/m ³	80	17.5	20.5	19.4	21.9	23.1	18.2	22.4	20.7	22.7	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m ³	100	64.7	61.9	57.6	63.5	68.2	59.1	62.1	65.8	67.7	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m ³	60	24.2	20.8	18.8	22.5	27.2	18.5	21.1	24.0	23.6	Gravimetric Method	
Ammonia (NH ₃)	µg/m ³	400	4.9	3.8	5.1	4.5	5.9	3.3	3.4	2.6	2.9	Indophenol Blue Method	
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m ³	20	4.7	4.2	5.8	3.6	3.9	4.4	4.8	3.1	4.6	AAS/ICP Method	
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method	
Carbon Monoxide	µg/m ³	2000	363	482	327	321	378	406	385	319	354	NDIR Spectroscopy Method	
Ozone	µg/m ³	100	8.2	10.5	9.6	7.9	6.5	8.9	6.6	8.1	6.1	UV photometric method	



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/02532/002
	Issue Date:	2025-05-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-04-05

Analysis Completion date :- 2025-05-05

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), 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			2025-04-03	2025-04-05	2025-04-09	2025-04-11	2025-04-15	2025-04-17	2025-04-21	2025-04-23	2025-04-27	Method
Sulphur Dioxide (SO ₂)	µg/m ³	80	31.0	36.4	26.3	34.9	26.1	24.6	22.1	27.8	28.4	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	12.1	16.1	13.6	18.0	17.0	14.4	13.8	15.1	18.3	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	63.7	59.3	56.6	52.8	61.4	57.5	65.8	60.1	54.6	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	22.8	19.4	17.0	15.7	20.6	17.4	24.1	21.9	18.5	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2.6	2.8	3.4	3.1	2.1	2.4	2.7	2.0	1.7	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	3.4	5.2	2.8	4.6	3.1	4.4	3.8	4.3	2.8	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	317	269	384	412	363	402	286	328	287	NDIR Spectroscopy Method
Ozone	µg/m ³	100	6.2	5.3	7.3	5.1	8.1	6.4	4.7	5.8	4.4	UV photometric method



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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)		Report No.:	VLL/VLS/25-26/04458/003
		Issue Date:	2025-06-04
		P.O.No:	8500005780
		P.O. Date:	2022-06-29
AMBIENT AIR QUALITY MONITORING AT GAP & BAKE OVEN ROAD (BALCO)			
Analysis starting date :- 2025-05-03		Analysis Completion date :- 2025-06-03	
Tests required: Sulphur Dioxide (SO ₂), Nitrogen Dioxide (NO _x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH ₃), Benzene (C ₆ H ₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.			
TEST RESULTS			
AAQ Location : GAP & BAKE OVEN			
Parameters	Units	Limits	
Sampling Date			
Sulphur Dioxide (SO ₂)	µg/m ³	80	2025-05-01 23.6 2025-05-07 25.4 2025-05-09 36.2 2025-05-13 37.7 2025-05-15 22.6 2025-05-19 40.0 2025-05-21 29.4 2025-05-25 37.8 2025-05-27 22.3 Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	2025-05-01 19.1 2025-05-07 21.1 2025-05-09 18.5 2025-05-13 19.5 2025-05-15 17.3 2025-05-19 17.9 2025-05-21 16.6 2025-05-25 14.9 2025-05-27 15.8 Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	2025-05-01 60.6 2025-05-07 62.7 2025-05-09 62.1 2025-05-13 59.4 2025-05-15 60.1 2025-05-19 61.4 2025-05-21 56.4 2025-05-25 58.4 2025-05-27 47.8 Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	2025-05-01 26.5 2025-05-07 21.9 2025-05-09 24.4 2025-05-13 25.5 2025-05-15 22.2 2025-05-19 20.6 2025-05-21 24.7 2025-05-25 22.2 2025-05-27 25.5 Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2025-05-01 2.4 2025-05-07 2.8 2025-05-09 2.0 2025-05-13 1.9 2025-05-15 2.2 2025-05-19 2.0 2025-05-21 2.3 2025-05-25 2.5 2025-05-27 2.1 Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	2025-05-01 <0.01 2025-05-07 <0.01 2025-05-09 <0.01 2025-05-13 <0.01 2025-05-15 <0.01 2025-05-19 <0.01 2025-05-21 <0.01 2025-05-25 <0.01 2025-05-27 <0.01 Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	2025-05-01 <0.01 2025-05-07 <0.01 2025-05-09 <0.01 2025-05-13 <0.01 2025-05-15 <0.01 2025-05-19 <0.01 2025-05-21 <0.01 2025-05-25 <0.01 2025-05-27 <0.01 Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	2025-05-01 <1.0 2025-05-07 <1.0 2025-05-09 <1.0 2025-05-13 <1.0 2025-05-15 <1.0 2025-05-19 <1.0 2025-05-21 <1.0 2025-05-25 <1.0 2025-05-27 <1.0 AAS/ICP Method
Nickel as Ni	ng/m ³	20	2025-05-01 4.1 2025-05-07 6.7 2025-05-09 5.6 2025-05-13 7.3 2025-05-15 6.9 2025-05-19 5.2 2025-05-21 5.8 2025-05-25 6.3 2025-05-27 7.6 AAS/ICP Method
Lead as Pb	µg/m ³	1	2025-05-01 <0.01 2025-05-07 <0.01 2025-05-09 <0.01 2025-05-13 <0.01 2025-05-15 <0.01 2025-05-19 <0.01 2025-05-21 <0.01 2025-05-25 <0.01 2025-05-27 <0.01 AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	2025-05-01 341 2025-05-07 389 2025-05-09 274 2025-05-13 308 2025-05-15 366 2025-05-19 297 2025-05-21 245 2025-05-25 372 2025-05-27 282 NDIR Spectroscopy Method
Ozone	µg/m ³	100	2025-05-01 5.4 2025-05-07 4.1 2025-05-09 4.9 2025-05-13 6.4 2025-05-15 5.5 2025-05-19 6.6 2025-05-21 5.3 2025-05-25 6.4 2025-05-27 4.7 UV photometric method



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**ISSUED TO:**

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

Report No.:	VLL/VLS/25-26/04458/006
Issue Date:	2025-06-04
P.O.No:	8500005780
P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-05-03

Analysis Completion date :- 2025-06-03

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), 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			2025-05-01	2025-05-07	2025-05-09	2025-05-13	2025-05-15	2025-05-19	2025-05-21	2025-05-25	2025-05-27	Method
Sulphur Dioxide (SO ₂)	µg/m ³	80	30.5	35.6	26.8	36.4	33.2	39.7	31.0	34.0	29.1	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	16.5	18.4	20.9	17.0	18.9	22.1	19.5	16.0	13.5	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	61.9	61.9	62.5	62.6	58.4	53.6	61.5	56.8	51.2	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	20.5	26.1	23.1	27.9	23.3	25.3	27.0	20.5	24.6	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2.0	2.7	1.8	1.3	1.9	2.5	2.1	1.7	2.4	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	6.4	5.8	6.1	7.4	4.9	5.6	6.9	7.2	6.5	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	349	314	375	283	251	388	296	272	337	NDIR Spectroscopy Method
Ozone	µg/m ³	100	4.8	3.0	5.7	5.1	5.9	5.7	6.5	4.2	5.8	UV photometric method



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**ISSUED TO:**

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

Report No.:	VLL/VLS/25-26/04458/002
Issue Date:	2025-06-04
P.O.No:	8500005780
P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-05-03

Analysis Completion date :- 2025-06-03

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

TEST RESULTS													
Parameters	Units	Limits	AAQ Location : NEW ETP										
Sampling Date			2025-05-01	2025-05-07	2025-05-09	2025-05-13	2025-05-15	2025-05-19	2025-05-21	2025-05-25	2025-05-27	Method	
Sulphur Dioxide (SO ₂)	µg/m ³	80	30.8	25.9	29.6	21.1	28.5	27.6	29.9	17.2	16.7	Improved West and Gaeke Method	
Nitrogen Dioxide (NO _x)	µg/m ³	80	15.5	18.2	16.7	19.5	15.3	14.3	12.7	11.9	9.7	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m ³	100	57.4	63.8	60.4	56.8	59.7	54.9	61.0	55.8	51.0	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m ³	60	17.0	21.7	19.1	16.3	19.0	15.8	20.7	17.8	16.3	Gravimetric Method	
Ammonia (NH ₃)	µg/m ³	400	1.7	2.2	1.9	1.7	1.6	1.2	1.8	1.5	2.0	Indophenol Blue Method	
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m ³	20	3.7	5.3	4.9	6.6	3.2	5.9	6.2	4.7	5.1	AAS/ICP Method	
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method	
Carbon Monoxide	µg/m ³	2000	268	247	388	326	233	251	364	282	318	NDIR Spectroscopy Method	
Ozone	µg/m ³	100	3.9	2.9	3.2	4.2	3.8	4.4	4.9	2.1	3.2	UV photometric method	



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ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/06982/006
	Issue Date:	2025-07-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-06-09

Analysis Completion date :- 2025-07-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : COAL GATE								Method
			2025-06-05	2025-06-07	2025-06-11	2025-06-13	2025-06-17	2025-06-19	2025-06-23	2025-06-25	
Sulphur Dioxide (SO ₂)	µg/m ³	80	26.0	31.4	33.6	28.8	39.8	36.9	38.4	32.7	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	19.0	20.4	19.0	17.9	18.3	16.2	24.1	18.5	Modified Jacob & Hochheiser Method
Particulate Matter (PM ₁₀)	µg/m ³	100	63.3	68.2	56.4	57.4	52.8	54.2	55.9	51.2	Gravimetric Method
Particulate Matter (PM _{2.5})	µg/m ³	60	25.2	29.5	23.6	21.7	17.1	19.3	20.6	22.8	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	4.6	3.9	2.5	3.1	2.1	2.8	3.1	2.0	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	4.4	7.3	7.1	5.9	6.3	6.8	5.8	6.5	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	349	314	375	283	251	388	296	272	NDIR Spectroscopy Method
Ozone	µg/m ³	100	6.3	4.8	4.2	5.0	6.2	5.5	4.7	5.1	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/06982/003
	Issue Date:	2025-07-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

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

Analysis starting date :- 2025-06-09

Analysis Completion date :- 2025-07-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), 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								Method
			2025-06-05	2025-06-07	2025-06-11	2025-06-13	2025-06-17	2025-06-19	2025-06-23	2025-06-25	
Sampling Date											
Sulphur Dioxide (SO ₂)	µg/m ³	80	32.3	29.7	33.1	36.2	31.8	35.0	29.0	34.7	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	18.9	23.2	24.4	19.5	22.5	20.3	25.9	20.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	63.3	64.5	58.5	58.3	51.8	56.4	57.8	57.2	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	27.0	23.6	26.1	21.0	18.5	22.7	20.5	21.2	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	4.3	3.1	2.5	2.0	2.5	2.6	3.7	2.9	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	5.9	7.3	6.6	5.2	4.7	3.4	5.2	7.1	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	361	264	326	382	247	271	358	342	NDIR Spectroscopy Method
Ozone	µg/m ³	100	5.6	5.2	7.1	4.6	3.5	6.2	5.0	4.5	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/06982/002
	Issue Date:	2025-07-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-06-09

Analysis Completion date :- 2025-07-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : NEW ETP								Method
			2025-06-05	2025-06-07	2025-06-11	2025-06-13	2025-06-17	2025-06-19	2025-06-23	2025-06-25	
Sampling Date											
Sulphur Dioxide (SO ₂)	µg/m ³	80	23.6	21.0	33.4	24.8	30.5	37.8	30.2	34.3	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	13.2	14.5	16.6	12.9	17.6	19.9	21.6	16.2	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	68.8	53.2	55.2	61.5	52.6	53.5	53.1	54.8	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	26.2	20.5	24.1	21.4	16.2	18.2	19.4	17.4	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2.6	2.8	1.7	2.4	1.8	2.3	2.6	1.7	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	4.6	5.1	3.8	5.8	6.3	4.8	4.4	6.5	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	276	321	347	263	315	307	296	229	NDIR Spectroscopy Method
Ozone	µg/m ³	100	4.3	3.9	3.3	5.1	6.2	4.9	4.4	3.2	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/09740/006
	Issue Date:	2025-08-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-07-05

Analysis Completion date :- 2025-08-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

AAQ Location : COAL GATE

Parameters	Units	Limits											Method
Sampling Date			2025-07-03	2025-07-05	2025-07-09	2025-07-11	2025-07-15	2025-07-17	2025-07-21	2025-07-23	2025-07-28		
Sulphur Dioxide (SO ₂)	µg/m ³	80	39.8	33.9	46.0	45.9	37.5	29.4	41.6	28.5	36.9		Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	21.7	23.5	20.1	17.4	10.0	12.5	8.7	11.3	11.2		Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	46.6	45.8	54.3	42.1	53.6	54.7	50.7	54.8	50.6		Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	21.2	17.7	26.9	21.6	24.8	18.3	22.7	16.4	13.2		Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2.2	2.6	2.4	3.9	1.4	1.5	1.1	1.7	2.0		Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0		AAS/ICP Method
Nickel as Ni	ng/m ³	20	6.4	4.8	4.4	5.9	6.1	5.8	5.3	6.6	4.7		AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	291	377	405	258	384	358	264	248	396		NDIR Spectroscopy Method
Ozone	µg/m ³	100	6.0	5.7	11.1	10.7	2.5	5.2	6.2	6.5	4.0		UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/09740/003
	Issue Date:	2025-08-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

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

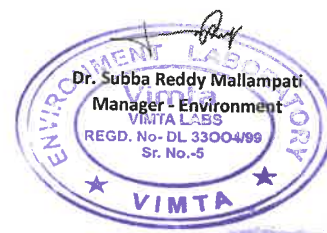
Analysis starting date :- 2025-07-05

Analysis Completion date :- 2025-08-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

AAQ Location : GAP & BAKE OVEN												
Parameters	Units	Limits	2025-07-03	2025-07-05	2025-07-09	2025-07-11	2025-07-15	2025-07-17	2025-07-21	2025-07-23	2025-07-28	Method
Sulphur Dioxide (SO ₂)	µg/m ³	80	24.9	33.0	33.1	28.6	31.6	33.3	37.9	40.1	28.4	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	22.7	25.1	18.5	20.2	13.1	10.2	14.8	11.0	13.7	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	48.8	47.4	53.3	48.4	51.2	53.0	57.8	54.6	51.8	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	11.5	14.4	27.6	23.9	18.3	20.7	22.8	17.4	19.6	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2.8	3.7	2.8	3.0	2.2	1.8	1.5	2.1	2.7	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	5.3	6.8	6.1	5.9	4.7	5.4	6.9	6.2	5.8	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	401	349	367	393	431	285	352	398	269	NDIR Spectroscopy Method
Ozone	µg/m ³	100	5.4	6.6	8.1	7.9	5.1	6.0	7.2	8.1	7.1	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/09740/002
	Issue Date:	2025-08-05
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-07-05

Analysis Completion date :- 2025-08-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), 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			2025-07-03	2025-07-05	2025-07-09	2025-07-11	2025-07-15	2025-07-17	2025-07-21	2025-07-23	2025-07-28	Method
Sulphur Dioxide (SO ₂)	µg/m ³	80	31.9	36.2	28.7	24.6	25.3	34.6	31.0	28.7	11.4	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	15.8	17.4	14.0	12.3	8.2	9.9	9.0	10.7	11.7	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	46.3	46.2	52.5	43.7	53.1	53.7	53.1	52.0	55.4	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	12.2	15.7	19.3	13.9	22.7	20.6	18.4	14.9	17.4	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	1.5	1.7	1.3	2.0	0.9	1.3	1.3	1.8	2.1	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	4.9	6.2	5.8	5.4	6.1	4.7	5.5	6.2	5.7	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	293	385	324	309	297	352	339	381	276	NDIR Spectroscopy Method
Ozone	µg/m ³	100	6.1	5.2	4.3	8.3	4.6	5.1	4.8	5.7	4.4	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/11867/006
	Issue Date:	2025-09-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-08-03

Analysis Completion date :- 2025-09-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), 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			2025-08-01	2025-08-07	2025-08-09	2025-08-13	2025-08-16	2025-08-19	2025-08-21	2025-08-25	2025-08-27	Method
Sulphur Dioxide (SO ₂)	µg/m ³	80	41.0	27.7	28.2	38.5	33.3	37.6	29.2	40.9	35.9	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	10.9	12.1	16.5	19.7	17.2	13.8	16.6	19.5	14.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	59.3	52.8	54.9	65.8	58.1	56.7	57.6	55.9	61.5	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	22.0	16.9	22.0	25.9	21.0	21.4	19.0	21.9	24.1	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	1.3	1.7	1.2	2.4	2.2	1.0	1.7	2.3	1.9	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	4.9	6.3	6.1	5.9	5.4	6.7	4.2	6.7	6.2	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	248	372	294	253	277	256	315	283	251	NDIR Spectroscopy Method
Ozone	µg/m ³	100	5.8	4.6	6.4	6.4	6.1	4.8	2.4	5.6	3.1	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/11867/003
	Issue Date:	2025-09-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

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

Analysis starting date :- 2025-08-03

Analysis Completion date :- 2025-09-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), 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									Method
			2025-08-01	2025-08-07	2025-08-09	2025-08-13	2025-08-16	2025-08-19	2025-08-21	2025-08-25	2025-08-27	
Sulphur Dioxide (SO ₂)	µg/m ³	80	37.2	26.8	41.3	32.3	32.8	28.5	39.4	34.1	36.8	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	13.9	15.4	11.4	14.8	14.0	17.7	15.0	17.9	16.2	Modified Jacob & Hochheiser Method
Particulate Matter (PM ₁₀)	µg/m ³	100	56.8	54.2	64.8	57.4	60.3	58.7	57.1	55.6	59.3	Gravimetric Method
Particulate Matter (PM _{2.5})	µg/m ³	60	20.7	18.7	23.2	20.6	23.6	21.9	22.6	21.0	23.2	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	1.8	2.0	1.4	2.9	2.3	2.1	1.5	2.0	1.7	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	5.9	7.2	6.4	6.6	5.1	4.8	6.9	5.4	5.8	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	358	271	238	296	354	247	270	238	314	NDIR Spectroscopy Method
Ozone	µg/m ³	100	7.5	5.3	6.8	4.8	5.5	3.6	5.7	6.0	4.7	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/11867/002
	Issue Date:	2025-09-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-08-03

Analysis Completion date :- 2025-09-04

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : NEW ETP									Method
			2025-08-01	2025-08-07	2025-08-09	2025-08-13	2025-08-16	2025-08-19	2025-08-21	2025-08-25	2025-08-27	
Sulphur Dioxide (SO ₂)	µg/m ³	80	32.3	30.3	27.8	28.7	31.3	38.1	24.3	36.9	26.5	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	9.6	13.6	10.7	12.2	10.8	15.3	13.1	11.4	14.2	Modified Jacob & Hochheiser Method
Particulate Matter (PM ₁₀)	µg/m ³	100	47.6	55.8	56.2	63.2	50.2	49.1	46.3	58.2	61.4	Gravimetric Method
Particulate Matter (PM _{2.5})	µg/m ³	60	17.3	22.7	25.4	27.2	20.9	18.4	18.6	22.0	23.5	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	1.5	2.4	1.9	1.8	1.7	1.5	1.3	1.0	1.4	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	5.2	6.7	4.9	4.2	5.6	5.1	4.4	6.3	5.8	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	294	336	242	301	358	283	259	318	271	NDIR Spectroscopy Method
Ozone	µg/m ³	100	4.2	3.1	4.9	2.1	4.2	2.4	4.1	4.6	3.4	UV photometric method



ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/14073/006
	Issue Date:	2025-10-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT COAL GATE (BALCO)

Analysis starting date :- 2025-09-05

Analysis Completion date :- 2025-10-03

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

TEST RESULTS												
Parameters	Units	Limits	AAQ Location : COAL GATE									
Sampling Date			2025-09-04	2025-09-06	2025-09-10	2025-09-12	2025-09-16	2025-09-18	2025-09-22	2025-09-24	Method	
Sulphur Dioxide (SO ₂)	µg/m ³	80	29.5	40.3	36.8	34.5	39.0	33.1	38.3	39.0	Improved West and Gaeke Method	
Nitrogen Dioxide (NO _x)	µg/m ³	80	16.3	15.5	16.4	14.2	19.7	17.6	20.2	18.5	Modified Jacob & Hochheiser Method	
Particulate Matter (PM10)	µg/m ³	100	56.1	60.9	53.6	50.9	54.7	52.4	62.8	55.4	Gravimetric Method	
Particulate Matter (PM2.5)	µg/m ³	60	20.1	22.7	16.1	17.2	18.5	16.4	23.1	19.8	Gravimetric Method	
Ammonia (NH ₃)	µg/m ³	400	3.5	2.3	1.2	2.3	2.6	3.3	3.7	3.2	Indophenol Blue Method	
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis	
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method	
Nickel as Ni	ng/m ³	20	5.4	7.8	5.3	6.1	6.8	5.9	5.3	6.7	AAS/ICP Method	
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method	
Carbon Monoxide	µg/m ³	2000	317	348	249	402	448	361	325	374	NDIR Spectroscopy Method	
Ozone	µg/m ³	100	5.2	4.1	4.7	5.1	5.7	6.5	3.6	7.4	UV photometric method	



Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/14073/003
	Issue Date:	2025-10-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

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

Analysis starting date :- 2025-09-05

Analysis Completion date :- 2025-10-03

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM10), Particulate Matter (PM2.5), Ammonia (NH₃), Benzene (C₆H₆), 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								Method
			2025-09-04	2025-09-06	2025-09-10	2025-09-12	2025-09-16	2025-09-18	2025-09-22	2025-09-24	
Sulphur Dioxide (SO ₂)	µg/m ³	80	30.5	27.8	28.7	34.7	33.3	38.1	40.5	36.0	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	17.9	16.7	15.7	16.5	17.3	20.2	18.3	22.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM10)	µg/m ³	100	59.2	54.0	69.3	57.7	54.1	51.8	62.4	56.3	Gravimetric Method
Particulate Matter (PM2.5)	µg/m ³	60	20.1	16.7	24.3	21.1	18.6	16.6	22.5	18.6	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	3.4	2.6	2.4	1.9	3.7	2.8	3.0	2.7	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	6.8	7.3	4.9	5.7	6.2	6.9	4.1	5.6	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	416	268	396	408	342	326	271	359	NDIR Spectroscopy Method
Ozone	µg/m ³	100	4.8	5.8	4.2	6.3	7.6	6.3	4.8	6.8	UV photometric method



Sensitivity: Internal (C3)

ISSUED TO: M/s. Bharat Aluminium Company Limited, KORBA (C.G.)	Report No.:	VLL/VLS/25-26/14073/002
	Issue Date:	2025-10-04
	P.O.No:	8500005780
	P.O. Date:	2022-06-29

AMBIENT AIR QUALITY MONITORING AT NEW ETP (BALCO)

Analysis starting date :- 2025-09-05

Analysis Completion date :- 2025-10-03

Tests required: Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x), Particulate Matter (PM₁₀), Particulate Matter (PM_{2.5}), Ammonia (NH₃), Benzene (C₆H₆), Benzo (a) Pyrene in particulate phase, Heavy metals in particulate phase for Arsenic, Nickel & Lead.

TEST RESULTS

Parameters	Units	Limits	AAQ Location : NEW ETP								Method
			2025-09-04	2025-09-06	2025-09-10	2025-09-12	2025-09-16	2025-09-18	2025-09-22	2025-09-24	
Sulphur Dioxide (SO ₂)	µg/m ³	80	27.2	32.9	35.5	30.7	28.2	37.0	32.2	26.6	Improved West and Gaeke Method
Nitrogen Dioxide (NO _x)	µg/m ³	80	14.5	13.2	13.1	18.1	15.4	16.2	15.9	17.6	Modified Jacob & Hochheiser Method
Particulate Matter (PM ₁₀)	µg/m ³	100	51.2	54.8	49.4	57.1	46.7	53.9	50.2	48.5	Gravimetric Method
Particulate Matter (PM _{2.5})	µg/m ³	60	16.4	18.7	14.8	21.1	14.2	17.6	15.6	13.6	Gravimetric Method
Ammonia (NH ₃)	µg/m ³	400	2.3	2.0	1.7	2.6	2.2	3.1	2.4	3.4	Indophenol Blue Method
Benzene (C ₆ H ₆)	µg/m ³	5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Benzo(a) Pyrene in particulate phase	ng/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Solvent Extraction followed by GC Analysis
Arsenic as As	ng/m ³	6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	AAS/ICP Method
Nickel as Ni	ng/m ³	20	4.7	6.4	5.8	5.2	4.4	6.1	5.9	6.3	AAS/ICP Method
Lead as Pb	µg/m ³	1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	AAS/ICP Method
Carbon Monoxide	µg/m ³	2000	241	362	284	395	418	296	385	369	NDIR Spectroscopy Method
Ozone	µg/m ³	100	4.3	3.9	5.4	4.8	5.3	4.8	2.6	4.0	UV photometric method



Sensitivity: Internal (C3)

ANNEXURE - X12

BALCO/CPP/CCOF/04

Date: 8.9.05

To
 Chief, Conservation of Forests
 Regional Office (WR)
 DEF
 Bhopal

Subject: Chhattisgarh State Bio-Diversity Strategy and Action Plan

Reference:

1. Our letter No BALCO/CPP/CCOF/02 dated 18.10.04
2. Environmental Clearance issued by Ministry of Environment and Forest Government of India vide letter No J-13011/3/2003-1A-I (T) dated 23.6.04 for 675 Megawatt coal based captive power plant.

Dear Sir,

With reference to the above mentioned letter you are requested to kindly forward us a copy of Chhattisgarh State Bio Diversity Strategy and Action plan and its recommendation. It is also requested to kindly inform us the conservation Plan for the likely habitat of migratory Elephants from Orissa, so that our participation in the same can be ensured.

Regards

General Manager (Power)
 ALCO
 DRBA

10-10-2022

प्रति,
वनमंडलाधिकारी,
कोरबा वनमंडल,
कोरबा, छग

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

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

महोदया,

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

सधन्यवाद

सहयोग की अपेक्षा के साथ
वास्ते, भारत एल्युमीनियम कंपनी लिमिटेड



अधिकृत हस्ताक्षरकर्ता

प्रतिलिपि:

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



(Sensitivity: Confidential) (C2)

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

क्रमांक/तक.अ./4792

कोरबा, दिनांक 24/8/2022

प्रति,

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

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

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

—00—

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

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

सहपत्र — उपरोक्तानुसार।

वनमण्डलाधिकारी

कोरबा वनमण्डल कोरबा

पृ. क्रमांक/तक.अ./4792

कोरबा, दिनांक 24/8/2022

प्रतिलिपि —

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

वनमण्डलाधिकारी

कोरबा वनमण्डल कोरबा

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

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

क्रमांक/तक.अ/
प्रति,

7432

कोरबा, दिनांक 20/12/2022

मुख्य कार्यकारी अधिकारी

और पूर्णकालिक निदेशक

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

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

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

—00—

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

वनमण्डलाधिकारी

कोरबा वनमण्डल कोरबा

अवाध साधना (कोरवा)
11/7/04

आवाध साधना (कोरवा)
11/7/04

सूचना

आवाध साधना को सूचित किया जाता है कि पर्यावरण एवं वन मंत्रालय, भारत सरकार ने भारत एल्यूमिनियम कम्पनी लिमिटेड को कोरवा, छत्तीसगढ़ में कोयला आधारित 675 मेगावाट के निम्न पर्यावरण संरक्षण मंडल के लिए पर्यावरण प्रमाण पत्र प्रदान करा है। मंजूरी पत्र की प्रतिलिपि छत्तीसगढ़ पर्यावरण संरक्षण मंडल के पास और पर्यावरण एवं वन मंत्रालय की वेबसाइट <http://envfor.nic.in> पर उपलब्ध है।

भारत एल्यूमिनियम कम्पनी लिमिटेड
कोरवा, छत्तीसगढ़

दैनिक आन्ध्र धिलासपुर
21/7/04

भारत एल्यूमिनियम कम्पनी लिमिटेड
कोरवा (छत्तीसगढ़)
सूचना

आवाध साधना को सूचित किया जाता है कि पर्यावरण एवं वन मंत्रालय, भारत सरकार ने भारत एल्यूमिनियम कम्पनी लिमिटेड को कोरवा, छत्तीसगढ़ में कोयला आधारित 675 मेगावाट के निम्न पर्यावरण संरक्षण मंडल के लिए पर्यावरण प्रमाण पत्र प्रदान करा है। मंजूरी पत्र की प्रतिलिपि छत्तीसगढ़ पर्यावरण संरक्षण मंडल के पास और पर्यावरण एवं वन मंत्रालय की वेबसाइट <http://envfor.nic.in> पर उपलब्ध है।

भारत एल्यूमिनियम कम्पनी लिमिटेड
कोरवा, छत्तीसगढ़

नाथ निर्देशन प्रक्रिया से संयोजित
प्रत्यक्ष कार्य संवादन हेतु जिन
अधिकारियों एवं कार्यधारियों की
अवधि लगाई गई है— १ नवंबर से
तकतिव. 16.30 बजे से अपने
निर्धारित स्थान पर अपने कर्तव्यों
पर उपस्थित रहेंगे तात्कालिक थी
सिस्टम के ३ बजे से पहले अपनी
कीर्त को नौ नौ ओरों में तथा पूर्ण
तत्परता से अपने 'दायित्वों' का
निर्वहन करेंगे। क्षेत्रों की अधिकारी
कार्यधारियों को बिना विनाश
अधिकारों से प्रत्यक्ष नती करे।

कृते, भारत-सर्वोपनिषद्-संस्था
लिमिटेड कोरवा, छत्तीसगढ़

CENTRAL Chronicle

RAIPUR, NOVEMBER 11, 2003

RAIPUR		B	0545
NAGPUR		A	0545
RAIPUR		D	0505
0730	A	↓	
SHUBANGSHWAR			
RAIPUR		B	0545
NAGPUR		A	0545
RAIPUR		D	0505
IC 163	DAILY	IC 169	
1080	MUMBAI	1945	
1130	RAIPUR	↑	
1205	RAIPUR	↑	
1305	SHUBANGSHWAR	C 1345	
RAIPUR			
Ph. : 2412228 MO.:0771-3414448			
2413338 98271-17227			
KORBA			
Ph. : 221826, 222826			
Mo. : 98263-24231, 94252-24488			

For Bharat Aluminium Co. Ltd.
Korba, Chhattisgarh

BALCO/ENV/A-12/2025/334

Date: 04.07.2025

To,
Mr. Nazimuddin,
Divisional Head IPC-II,
Central Pollution Control Board,
New Delhi.

Sub : Submission of Compliance Status by Thermal Power Plants with respect to Specific Water Consumption Limit-reg.
Ref : Your letter bearing no: B-33014/7/2018/IPC-II/TPP dated 2nd January 2019 received via E-mail.

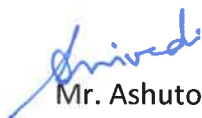
Respected Sir,

With reference to the above subject, please find enclosed herewith the updated compliance status with respect to the Specific water consumption limit of 540 MW Thermal Power Plant of BALCO for the quarter of April 2025-June 2025 (Quarter 1 of FY 2025-26) in the prescribed format.

We would also like to bring to your kind notice that our 270 MW Thermal Power Plant is currently not in operation as it is under shut down since December 2015.

Hope the above is in line with your requirements.

Thanking you,
Yours faithfully,



Mr. Ashutosh Dwivedi

COO-Power

Bharat Aluminium Co. Ltd.

PO Box Balco Nagar

Korba - 495684

Format for quarterly reporting of water consumption data and compliance with respect to the limit notified vide notification dated 07.12.2015 for coal/lignite based thermal power plant

Name of the Power Plant : CPP-2
State : Chhattisgarh
Capacity (total in MW) : 540 MW
Unit wise Capacity : 135 MW
Applicable SWC Standard : 3.5 m³/MWh
Zero wastewater Discharge Condition mandatory or not: Mandatory
Remark 1: Zero wastewater Discharge Status: Maintained
Remark 2: If SWC limit not complied, explain if any: Complied

Quarter	Date	Power Generation (MWh)	Water Consumption (m ³)	Sp. Water Consumption (Daily Avg. in m ³ /MWh)
April-June, 2025				
April	1-Apr-25	10082	27916	2.77
	2-Apr-25	10290	20327	1.98
	3-Apr-25	7069	17762	2.51
	4-Apr-25	5789	23546	4.07
	5-Apr-25	8139	14625	1.80
	6-Apr-25	8898	17360	1.95
	7-Apr-25	10411	23694	2.28
	8-Apr-25	12027	30809	2.56
	9-Apr-25	11591	28295	2.44
	10-Apr-25	11202	22072	1.97
	11-Apr-25	10771	22628	2.10
	12-Apr-25	8694	16908	1.94
	13-Apr-25	8573	22834	2.66
	14-Apr-25	8597	25971	3.02
	15-Apr-25	8788	23897	2.72
	16-Apr-25	8933	19680	2.20
	17-Apr-25	6828	27884	4.08
	18-Apr-25	8767	27309	3.11
	19-Apr-25	8864	24518	2.77
	20-Apr-25	9297	19542	2.10
	21-Apr-25	9014	21885	2.43
	22-Apr-25	9279	27971	3.01
	23-Apr-25	11940	29771	2.49
	24-Apr-25	9837	29896	3.04
	25-Apr-25	9327	25384	2.72
	26-Apr-25	8995	18195	2.02
	27-Apr-25	9134	19746	2.16
	28-Apr-25	8525	18222	2.14

	29-Apr-25	8608	19726	2.29
	30-Apr-25	8825	17321	1.96
April Summary/ Total / Average		277093	685694	2.47
May	1-May-25	8996	18012	2.00
	2-May-25	8929	17660	1.98
	3-May-25	8993	25005	2.78
	4-May-25	8732	25343	2.90
	5-May-25	7456	21444	2.88
	6-May-25	6793	14385	2.12
	7-May-25	9029	17675	1.96
	8-May-25	9103	21597	2.37
	9-May-25	9248	27976	3.03
	10-May-25	8629	27139	3.15
	11-May-25	8915	27668	3.10
	12-May-25	8994	26895	2.99
	13-May-25	5932	26053	4.39
	14-May-25	5968	24963	4.18
	15-May-25	5976	25243	4.22
	16-May-25	7800	20863	2.67
	17-May-25	9010	20056	2.23
	18-May-25	8993	26600	2.96
	19-May-25	9308	26680	2.87
	20-May-25	8873	25271	2.85
	21-May-25	8967	24377	2.72
	22-May-25	9110	26587	2.92
	23-May-25	9186	24567	2.67
	24-May-25	8897	20587	2.31
	25-May-25	8724	18805	2.16
	26-May-25	10433	17942	1.72
	27-May-25	10792	17929	1.66
	28-May-25	11324	19065	1.68
	29-May-25	11388	22426	1.97
	30-May-25	11704	20699	1.77
	31-May-25	11512	17736	1.54
May Summary/ Total/ Average		277712	697248	2.51
June	1-Jun-25	11549	23607	2.04
	2-Jun-25	10914	23836	2.18
	3-Jun-25	8557	22234	2.60
	4-Jun-25	11120	24403	2.19
	5-Jun-25	11061	22286	2.01
	6-Jun-25	10880	27823	2.56

7-Jun-25	11066	24556	2.22
8-Jun-25	10784	28495	2.64
9-Jun-25	10612	27872	2.63
10-Jun-25	10453	25454	2.44
11-Jun-25	11078	27811	2.51
12-Jun-25	11691	29270	2.50
13-Jun-25	12088	28746	2.38
14-Jun-25	9967	27799	2.79
15-Jun-25	9027	26948	2.99
16-Jun-25	10341	26613	2.57
17-Jun-25	11629	19012	1.63
18-Jun-25	11374	20807	1.83
19-Jun-25	11509	18987	1.65
20-Jun-25	10965	17601	1.61
21-Jun-25	11443	20096	1.76
22-Jun-25	11213	20917	1.87
23-Jun-25	10112	18602	1.84
24-Jun-25	8215	20310	2.47
25-Jun-25	11501	23193	2.02
26-Jun-25	11746	21000	1.79
27-Jun-25	11714	25208	2.15
28-Jun-25	11361	23490	2.07
29-Jun-25	10907	22310	2.05
30-Jun-25	11340	23129	2.04
June Summary/ Total/ Average	326217	712415	2.18
Quarterly Summary/ Total/Average	881023	2095357	2.38


Mr. Ashutosh Dwivedi
COO-Power
Bharat Aluminium Co. Ltd.
PO Box Balco Nagar
Korba – 498684

BALCO/ENV/A-12/2025/476

Date: 07.10.2025

To,
Mr. Nazimuddin,
Divisional Head IPC-II,
Central Pollution Control Board,
New Delhi.

Sub : Submission of Compliance Status by Thermal Power Plants with respect to Specific Water Consumption Limit-reg.
Ref : Your letter bearing no: B-33014/7/2018/IPC-II/TPP dated 2nd January 2019 received via E-mail.

Respected Sir,

With reference to the above subject, please find enclosed herewith the updated compliance status with respect to the Specific water consumption limit of 540 MW Thermal Power Plant of BALCO for the quarter of July 2025-September 2025 (Quarter 2 of FY 2025-26) in the prescribed format.

We would also like to bring to your kind notice that our 270 MW Thermal Power Plant is currently not in operation as it is under shut down since December 2015.

Hope the above is in line with your requirements.

Thanking you,
Yours faithfully,



Mr. Anil Kumar Dubey
CEO-Power
Bharat Aluminium Co. Ltd.
PO Box Balco Nagar
Korba - 495684



Format for quarterly reporting of water consumption data and compliance with respect to the limit notified vide notification dated 07.12.2015 for coal/lignite based thermal power plant

Name of the Power Plant : CPP-2
State : Chhattisgarh
Capacity (total in MW) : 540 MW
Unit wise Capacity : 135 MW
Applicable SWC Standard : 3.5 m³/MWh
Zero wastewater Discharge Condition mandatory or not: Mandatory
Remark 1: Zero wastewater Discharge Status: Maintained
Remark 2: If SWC limit not complied, explain if any: Complied

Quarter	Date	Power Generation (MWh)	Water Consumption (m ³)	Sp. Water Consumption (Daily Avg. in m ³ /MWh)
July-September, 2025				
July	1-Jul-25	11204	21719	1.94
	2-Jul-25	9716	19592	2.02
	3-Jul-25	8828	15820	1.79
	4-Jul-25	8821	16878	1.91
	5-Jul-25	10186	20410	2.00
	6-Jul-25	10837	23038	2.13
	7-Jul-25	11510	22402	1.95
	8-Jul-25	11502	25171	2.19
	9-Jul-25	11666	22279	1.91
	10-Jul-25	11657	23427	2.01
	11-Jul-25	11512	20296	1.76
	12-Jul-25	9041	18094	2.00
	13-Jul-25	7663	18839	2.46
	14-Jul-25	9039	18298	2.02
	15-Jul-25	11187	21738	1.94
	16-Jul-25	11183	17922	1.60
	17-Jul-25	9304	17187	1.85
	18-Jul-25	9052	20303	2.24
	19-Jul-25	11475	22921	2.00
	20-Jul-25	9462	23739	2.51
	21-Jul-25	9832	20217	2.06
	22-Jul-25	11417	23322	2.04
	23-Jul-25	11115	23117	2.08
	24-Jul-25	10756	23030	2.14
	25-Jul-25	11731	33350	2.84
	26-Jul-25	11326	27812	2.46
	27-Jul-25	11163	26533	2.38

	28-Jul-25	11430	26517	2.32
	29-Jul-25	11341	22907	2.02
	30-Jul-25	11317	21803	1.93
	31-Jul-25	11496	23995	2.09
July Summary/ Total / Average		327769	682676	2.08
August	1-Aug-25	11732	23766	2.03
	2-Aug-25	11732	21784	1.86
	3-Aug-25	11594	24808	2.14
	4-Aug-25	10765	24169	2.25
	5-Aug-25	11329	23851	2.11
	6-Aug-25	11857	27241	2.30
	7-Aug-25	11943	25085	2.10
	8-Aug-25	11845	23379	1.97
	9-Aug-25	10832	23721	2.19
	10-Aug-25	11304	23732	2.10
	11-Aug-25	11463	22975	2.00
	12-Aug-25	11395	24263	2.13
	13-Aug-25	11248	22601	2.01
	14-Aug-25	11652	25416	2.18
	15-Aug-25	10992	28312	2.58
	16-Aug-25	11464	24821	2.17
	17-Aug-25	11645	24435	2.10
	18-Aug-25	11346	22792	2.01
	19-Aug-25	11184	23178	2.07
	20-Aug-25	10511	22597	2.15
	21-Aug-25	8885	17416	1.96
	22-Aug-25	9304	20988	2.26
	23-Aug-25	8750	18412	2.10
	24-Aug-25	8348	18743	2.25
	25-Aug-25	9350	19005	2.03
	26-Aug-25	10923	22313	2.04
	27-Aug-25	10672	21851	2.05
	28-Aug-25	10542	20669	1.96
	29-Aug-25	10282	21060	2.05
	30-Aug-25	10210	20025	1.96
	31-Aug-25	10323	21638	2.10
August Summary/ Total/ Average		335422	705046	2.10
September	1-Sep-25	10180	23459	2.30
	2-Sep-25	10250	20221	1.97
	3-Sep-25	10544	22190	2.10

4-Sep-25	10542	21739	2.06
5-Sep-25	9507	19471	2.05
6-Sep-25	7856	17444	2.22
7-Sep-25	7945	16126	2.03
8-Sep-25	5790	13124	2.27
9-Sep-25	6152	18302	2.97
10-Sep-25	7722	16585	2.15
11-Sep-25	8689	21208	2.44
12-Sep-25	8010	18876	2.36
13-Sep-25	8627	20200	2.34
14-Sep-25	7884	17995	2.28
15-Sep-25	7580	17787	2.35
16-Sep-25	9310	18865	2.03
17-Sep-25	10749	30099	2.80
18-Sep-25	10674	32859	3.08
19-Sep-25	9737	23256	2.39
20-Sep-25	10141	28878	2.85
21-Sep-25	10299	28634	2.78
22-Sep-25	11405	23606	2.07
23-Sep-25	10697	22460	2.10
24-Sep-25	10950	23362	2.13
25-Sep-25	11089	23774	2.14
26-Sep-25	10555	22489	2.13
27-Sep-25	11010	29471	2.68
28-Sep-25	11014	24486	2.22
29-Sep-25	10989	23783	2.16
30-Sep-25	11246	30276	2.69
September Summary/ Total/ Average	287143	671025	2.34
Quarterly Summary/ Total/Average	950334	2058747	2.17



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