



cement! sugar! refractories! power!

DCBL/ENV-ES/22-23/01

Date: 18.09.2023

To,

**The Member Secretary,
Jharkhand State Pollution Control Board,
T.A Division Building (Ground Floor)
HEC Campus, Dhurwa , Ranchi- 834004**

Subject: Submission of Environment Statement Report (Form-V) of Bokaro Cement Manufacturing Works Unit of Dalmia Cement Bharat Limited for the financial year ending the 31st March'2023

Dear Sir,

We are submitting herewith Environment Statement Report (Form-V) of Bokaro Cement Manufacturing Works Unit of Dalmia Cement (Bharat) Limited, Bokaro, Jharkhand for the period of financial year April' 2022 – March'2023 for your kind perusal and record please.

Thanking you.

Yours faithfully
For Dalmia Cement (Bharat) Limited

Priya Ranjan
Authorized Signatory

Encl: Environment Statement Report (Form-V)

CC: Environmental Officer
Regional Office, JSPCB, Dhanbad
H.I.G-1, Sardar Patel Nagar, Hirapur ,
Dhanbad-826001, Jharkhand

ENVIRONMENT STATEMENT (FORM-V) Financial Year 2022-2023



BOKARO CEMENT MANUFACTURING WORKS UNIT OF DALMIA CEMENT (BHARAT) LIMITED

**Plot No. IV/A-7(P/4) Bokaro Industrial Area, Balidih,
Bokaro Steel City (827014), Jharkhand, India**

INTRODUCTION

Founded by Mr Jaidayal Dalmia in 1939, Dalmia Cement is one of India's pioneering homegrown cement companies. Headquartered in New Delhi, the company operates as Dalmia Cement (Bharat) Ltd, which is a 100% subsidiary of Dalmia Bharat Ltd and is listed on the National Stock Exchange and the Bombay Stock Exchange.

The company operates a manufacturing capacity of 43.7 MnT per annum (MTPA), across 15 cement plants and grinding units which are spread across 10 states. With over 33,000 dealers and sub-dealers, the company presently services more than 22 states and is among the leading players in every region where it is present in. To scale the business as well as venture into new geographies, both, acquisitions and greenfield expansions have been key for the company. Dalmia Cement is the only company with at least one plant in each of the four key eastern states of West Bengal, Bihar, Jharkhand and Odisha.

The company offers a range of cement variants through its brand portfolio of three marquee brands: Dalmia Cement, Dalmia DSP and Konark Cement. These brands are available as Portland Pozzolana Cement, Portland Slag Cement, Composite Cement and Ordinary Portland Cement in select markets. Dalmia Cement is India's largest manufacturer of slag cement and is a category leader in super-speciality cement used for oil wells, railway sleepers, and airstrips. Dalmia Cement works with engineers and technocrats around the country to develop a wide variety of customised cement which is manufactured for specific engineering and construction needs.

For nearly eight decades, Dalmia Cement has delivered value-added products and reliable post-sale services. It has played a catalytic role in India's infrastructural growth.

As a prominent Indian cement manufacturer and thought leader, Dalmia Cement continues to aspire to enhance value in a sustainable way for all its stakeholders. Dalmia Cement is 13.3 times water positive and will be 20 times water positive by 2025. The company's commitment towards environmental protection reflects in its achievements. The company has the lowest carbon footprint in the cement world globally. It has also been ranked No. 1 in the global cement manufacturing sector by the Carbon Disclosure Project (CDP) for business readiness of lowest carbon transition.

Bokaro Cement Manufacturing Works A Unit of Dalmia Cement Bharat Limited (DCBL), situated in Bokaro Industrial Area, Balidih, Bokaro, Jharkhand. The unit has obtained Environment Clearance, CTE & CTO for manufacturing of 3.1 MTPA for the manufacturing of PSC/PCC/PPC cement. The unit is spread over an area of 6.374 Hectare (15.75 Acre) land under Bokaro Industrial Area Development Authority (BIADA).

“FORM – V”

(See rule 14)

**ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING WITH
31st MARCH 2023**

PART – A

| | | |
|-------|---|--|
| (I) | Name & Address of the Owner / Occupier of the Industry operation or Process | Priya Ranjan Unit Head Bokaro Cement Manufacturing Works A Unit of Dalmia Cement (Bharat) Limited Plot No. IV/A-7(P/4) Bokaro Industrial Area, Balidih, Bokaro Steel City (827014), Jharkhand, India. |
| (II) | Industry Category Primary (STC CODE) Secondary (SIC CODE) | Cement Grinding Unit, Red Category (Primary STC Category) |
| (III) | Production Capacity | 3.1 Million Tons Per Annum |
| (IV) | Year of Establishment | 2023 |
| (V) | Date of last Environmental Statement Submitted | First |

PART – B

Water & Raw Material Consumption

A. Water

(i) Water Consumption (M³/day):

| | | |
|-------------------|---|----------------------------------|
| Process & Cooling | - | 24.28 (Plant Construction Works) |
| Domestic | - | 21.47 |

(ii) Consumption per unit of production: Not Applicable, Plant under construction phase for The year 2022-23

| Name of the Product | Cooling Water Consumption per unit of Product Output | |
|---------------------|--|---|
| | During the Previous Financial Year (2021-22) | During the Current Financial Year (2022-23) |
| | Not Applicable | Not Applicable |

B. Raw Material Consumption: Nil, plant under construction phase for the year 2022-23

C. Total Production: Nil, Plant under construction phase for the year 2022-23

PART - C

Pollutant Discharged To Environment / Unit of Output

(Parameters as specified in the consent issued)

No pollutant discharged: Plant under construction phase for the year 2022-23

| S. No. | Pollutants | Quantity of Pollutants Discharged (Mass / day) | Concentrations of Pollutants in discharged (Mass / Volume) | Percentage of variation from prescribed standard with reasons |
|--------|--------------------------------|--|--|---|
| (a) | Water | | | |
| (i) | Domestic | Zero Discharge | - | - |
| (ii) | Industrial | Zero Discharge | - | - |
| (b) | Air | | | |
| | Stack Emission | Tone /Day | mg/Nm ³ | % |
| | Cement Mill (Bag House Outlet) | Nil | Nil | |

PART-D

(As specified under Hazardous waste / Management and Handling rules, 1989 as Amended -2008)

No Hazardous waste generated: Plant under construction phase for the year 2022-23

| Hazardous Waste | | Total Quantity (KL) | |
|-----------------|--------------------------------------|--|---|
| | | During the Previous Financial Year (2021-22) | During the Current Financial Year (2022-23) |
| (a) | From Process (Used Oil-5.1 category) | Nil, | Nil |
| (b) | From Pollution Control Facilities | Nil | Nil |

PART – E
Solid Wastes

No solid waste generated- Plant under construction phase for the year 2022-23

| Solid Waste | | Total Quantity | |
|--------------------|---------------------------------------|---|--|
| | | During the Previous Financial Year (2021-22) | During the Current Financial Year (2022-23) |
| (a) | From Process | Nil | Nil |
| (b) | From Pollution Control Equipment's | Nil | Nil |

PART-F

PLEASE SPECIFY THE CHARACTERISATIONS (IN TERMS OF COMPOSITION AND QUANTUM) OF HAZARDOUS AS WELL AS SOLID WASTES AND INDICATE DISPOSAL PRACTICE ADOPTED FOR BOTH THESE CATEGORIES OF WASTES

Hazardous Waste: Bokaro Cement Manufacturing Works A unit of Dalmia Cement (Bharat) Limited is based on Dry Process Cement Manufacturing process. No Hazardous wastes will be generated during process except used Lubricating and Hydraulic Oil. This Used oil is collected in empty barrels/drums and kept in Hazardous Waste store room for its further disposal to the authorized recycler as per Hazardous Waste (Management, Handling & Transboundary Movement) Rule, 2008.

Solid Waste:

There is no Solid waste will be generated in our cement manufacturing process.

PART-G

IMPACT OF THE POLLUTION ABATEMENT MEASURES TAKEN ON CONSERVATION OF NATURAL RESOURCES AND ON THE COST OF PRODUCTION

Bokaro Cement manufacturing Works Unit of Dalmia Cement Bharat Limited is a Cement Grinding Unit based on cost effective and environmentally clean technology.

- We will conserve natural resources by utilizing solid wastes from other industries in our cement making process. For cement manufacturing, we are utilizing slag as one of the raw

materials which is one of the solid wastes generate from steel plant by Bokaro Steel Limited (BSL).

- Rain water harvesting system implemented in our plant. We have also renovated wells near surrounding village area for the water conservation.
- 15 KLD STP constructed and maintained for the treatment of domestic waste water. treated water is being used in dust suppression and greenbelt development.
- We have the highly efficient Air Pollution Control Devices to bring down the point source emission as per the prescribed standard below 30 mg/Nm³ . All our APCS devices are designed to restrict particulate matter emission level within CPCB norms. They have been installed at circuit of the production line and various material transfer points to clean the process and arrest the fugitive emissions. The particulate matter collected in the pollution control equipment's is recycled in process, reducing the cost of operation of pollution control equipment's.

LIST OF MAJOR AIR POLLUTION CONTROL DEVICES

| BOKARO CEMENT MANUFACTURING WORKS, (A unit of DALMIA CEMENT BHARAT LIMITED) | | | | | | | |
|--|---------------------|--|-------------|--|--|------------|--|
| LIST OF POLLUTION CONTROL EQUIPMENTS | | | | | | | |
| S. No. | Location | Description | Application | Design dust Emission (mg/Nm ³) | Volume of bag filter (m ³ /h) | Fan Volume | Outlet dust Emission (mg/Nm ³) |
| Bag House | | | | | | | |
| 1. | Cement Mill Venting | Bag House 563BF4 | Cement | 10 | 1030000 | 1150000 | ≤ 30 |
| LIST of Nuisance Dust Collectors | | | | | | | |
| 1 | TT-1 492 BF1 | Belt conveyor from WT to clinker silo new & existing (492 BC1) at TT-1/Clinker | Clinker | 10 | 10000 | 11500 | ≤ 30 |
| 2 | TT-2 492 BF2 | Belt conveyor 492BC1 discharging to 492BC2 & BC4 at TT-2/Clinker | Clinker | 10 | 10000 | 11500 | ≤ 30 |
| 3 | TT-3 492BF4 | Bag filter 492 BF3 for conveyor 492BC3 discharging to 492 BC4 | Clinker | 10 | 10000 | 11500 | ≤ 30 |
| 4 | 492BF5 | 492 BC3 discharge and clinker silo top/ Clinker | Clinker | 10 | 15000 | 17250 | ≤ 30 |

**BOKARO CEMENT MANUFACTURING WORKS,
(A unit of DALMIA CEMENT BHARAT LIMITED)**

LIST OF POLLUTION CONTROL EQUIPMENTS

| S. No. | Location | Description | Application | Design dust Emission (mg/Nm ³) | Volume of bag filter (m ³ /h) | Fan Volume | Outlet dust Emission (mg/Nm ³) |
|--------|--------------------------|--|------------------|--|--|------------|--|
| 5 | TT-4 512BF1 | Belt conveyor 512BC1 discharge to 512BC3 at TT-4/ Clinker | Clinker | 10 | 12500 | 14375 | ≤ 30 |
| 6 | TT-5 | Belt conveyor 512BC2 discharge to 512BC3 at TT-5/ Clinker | Clinker | 10 | 10000 | 11500 | ≤ 30 |
| 7 | TT-6 512 BF3 | Belt conveyor 512BC3 discharge to 512BC4 at TT-6/ Clinker | Clinker | 10 | 7500 | 8625 | ≤ 30 |
| 8 | 512 BF4 | Belt conveyor 512BC4 discharge to 512BE1 at TT-3 bottom/ Clinker | Clinker | 10 | 5000 | 5750 | ≤ 30 |
| 9 | CMH Top 533 BF1 | Cement mill hopper top/ Clinker & Gypsum | Clinker & Gypsum | 10 | 10000 | 11500 | ≤ 30 |
| 10 | 533 BF3 | CMH extraction | Clinker & Gypsum | 10 | 15000 | 17250 | ≤ 30 |
| 11 | 533 BF2 | Mill feed conveyor | Clinker & Gypsum | 10 | 10000 | 11500 | ≤ 30 |
| 12 | 563 BF1 | Cement Mill BE feed/ Reject Material | Cement | 10 | 12500 | 14375 | ≤ 30 |
| 13 | 563 BF2 | Cement Mill BE Top/ Reject Material | Cement | 10 | 10000 | 11500 | ≤ 30 |
| 14 | 563 BF3 | Cement Mill reject BC/ Reject Material | Cement | 10 | 10000 | 11500 | ≤ 30 |
| 15 | 594 BF1 | Baghouse Extraction/ Cement | Cement | 10 | 5000 | 5750 | ≤ 30 |
| 16 | 594 BF2 | Baghouse Extraction/ Cement | Cement | 10 | 5000 | 5750 | ≤ 30 |
| 17 | BRU K12BF1 | K12 BF1 for BRU 1 & 2 (With pneumatic dampers) | Coal | 10 | 30000 | 34500 | ≤ 30 |
| 18 | TT9 K12 BF2 | K12 BF2 for TT9 (Coal Handling) | Coal | 10 | 12500 | 14375 | ≤ 30 |
| 19 | FBC Hopper K12 BF3 | K12 BF3 for FBC (Coal Handling) | Coal | 10 | 7500 | 8625 | ≤ 30 |
| 20 | 492 BF3 | 492 BF3 (492BC2 to 492BC3) TT14 | Clinker | 10 | 10000 | 11500 | ≤ 30 |

**BOKARO CEMENT MANUFACTURING WORKS,
(A unit of DALMIA CEMENT BHARAT LIMITED)**

LIST OF POLLUTION CONTROL EQUIPMENTS

| S. No. | Location | Description | Application | Design dust Emission (mg/Nm ³) | Volume of bag filter (m ³ /h) | Fan Volume | Outlet dust Emission (mg/Nm ³) |
|--------|----------|-------------------|-------------|--|--|------------|--|
| 21 | 232BF2 | Air slide venting | Fly ash | 10 | 4000 | 4600 | ≤ 30 |
| 22 | 614BF1 | Cement silo cone | Cement | 10 | 4000 | 4600 | ≤ 30 |
| 23 | 613BF1, | Cement silo cone | Cement | 10 | 4000 | 4600 | ≤ 30 |
| 24 | 595BF1 | Cement silo top | Cement | 10 | 7500 | 8625 | ≤ 30 |
| 25 | 594BF3 | Cement silo top | Cement | 10 | 7500 | 8625 | ≤ 30 |
| 26 | 613BF2 | Airslide venting | Cement | 10 | 5000 | 5750 | ≤ 30 |
| 27 | 613BF3 | Airslide venting | Cement | 10 | 6000 | 6900 | ≤ 30 |
| 28 | 646BF1 | Packing Plant | Cement | 10 | 15000 | 17250 | ≤ 30 |
| 29 | 647BF1 | Packing Plant | Cement | 10 | 15000 | 17250 | ≤ 30 |
| 30 | 646BF2 | Packing Plant | Cement | 10 | 35000 | 40250 | ≤ 30 |
| 31 | 647BF2 | Packing Plant | Cement | 10 | 35000 | 40250 | ≤ 30 |

PART-H

ADDITIONAL MEASURES/INVESTMENT PROPOSALS FOR ENVIRONMENTAL PROTECTION INCLUDING ABATEMENT POLLUTION, PREVENTION OF POLLUTION

1. Extensive plantation in and around the plant

We have accrued total 15.75 Acre lands. In which, we have been developed 33 % of green belt area of total land i.e. 5.2 Acres. Tree plantation is an integral part to the environment management plan at DCBL. The plantation drive is being carried out throughout the year.

YEAR WISE TREE PLANTATION DETAILS GIVEN AS FOLLOWS

| SL. No | Year | Number of plants | Area (in Acres) |
|---------------|-----------------|-------------------------|------------------------|
| 1 | 1st (2022-2023) | 600 | 0.5 |
| | Total | 600 | 0.5 |

| S.N | Year | Name of Species tree planted |
|------------|-------------|--|
| 1 | 2022-2023 | Neem, Mihigini, shisham, Ashoka, Teak, |

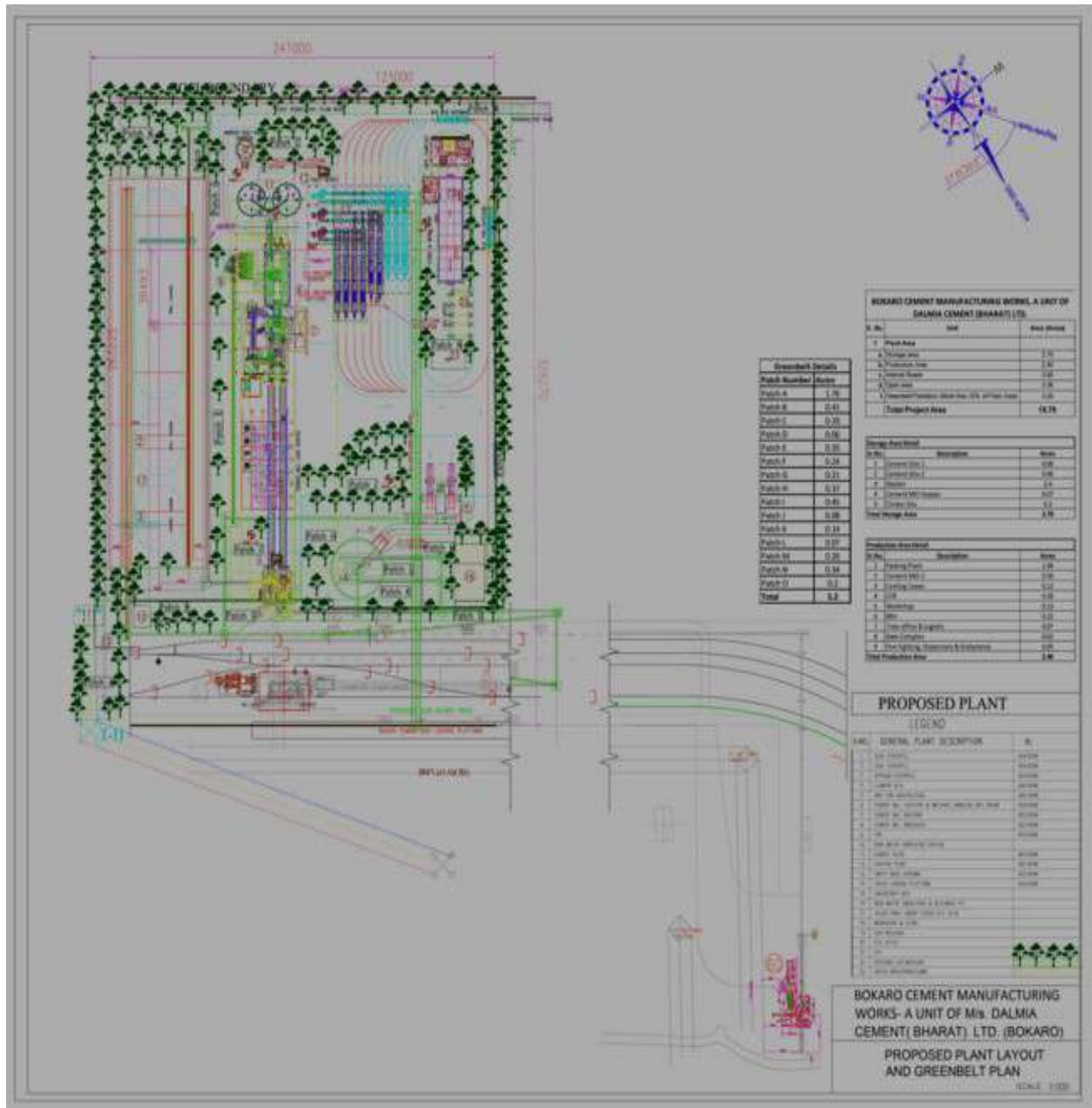
Bokaro Cement Manufacturing works
Unit of Dalmia Cement (Bharat) Limited
Tree plantation pics year of 2022-23





600 nos tree plantation done at plant boundary location

PROPOSED GREEN BELT DEVELOPMENT PLAN



Greenbelt/plantation will be done over 33% of the total project area i.e., about 5.2 acres (2.105 ha). The green belt will inter alia cover the entire periphery of the plant. Native fruits bearing species with large canopy will be selected for plantation.

Green Belt development Plan for five years

| Table-12: Green Belt Development Plan Sl. No. | Years | Area (Acres) | No. of Trees |
|--|--------------|---------------------|---------------------|
| 01. | 1st Year | 1.2 | 1200 |
| 02. | 2nd Year | 1.0 | 1000 |
| 03. | 3rd Year | 1.0 | 1000 |
| 04. | 4th Year | 1.0 | 1000 |
| 05. | 5th Year | 1.0 | 1000 |
| TOTAL | | 5.2 | 5200 |

List of selected species for tree plantation

| Tree species | Common Name |
|---------------------------|--------------------|
| <i>Shorea robusta</i> | Sal |
| <i>Pongamia pinnata</i> | Karanj |
| <i>Madhuca longifolia</i> | Mahua |
| <i>Butea monosperma</i> | Palash |
| <i>Azadirachta indica</i> | Neem |
| <i>Acacia catechu</i> | Katha |
| <i>Boswellia serrata</i> | Lobaw |
| <i>Cassia fistula</i> | Amaltas |

2. Control of Fugitive dust emission

Following measures will be taken for the control fugitive dust emission of Dalmia Cement (Bharat)

Limited: -

a. Raw material storage

Clinker: Clinker is being stored in a closed RCC silo for which closed transportation system to take clinker into the silo has been made.

Gypsum: Stored in covered shed

Coal: Stored in covered shed

Slag: Stored in covered shed

Covered Hood on Belt conveyor system

The Belt conveyor system has been arranged for transportation of Slag (Raw material) directly from Bokaro Steel Plant to our Plant. It is covered throughout the length with GI hood. Similarly, all the belt conveyors within the plant are also covered with local hoods.

b. Regular Water sprinkling

Regular sprinkling of water is being carried out at all places where raw materials are handled inside the plant with the help of water tankers. water spray tanker sprinklers are installed in vacant non-concreted areas.

c. Scheduled maintenance and monitoring of Pollution Control Devices

All Pollution Control Devices will be maintained as per scheduled maintenance by dedicated environmental management team which comprises of mechanical, electrical and environment engineers. Monitoring of all these devices are done regularly as per JSPCB Norms.

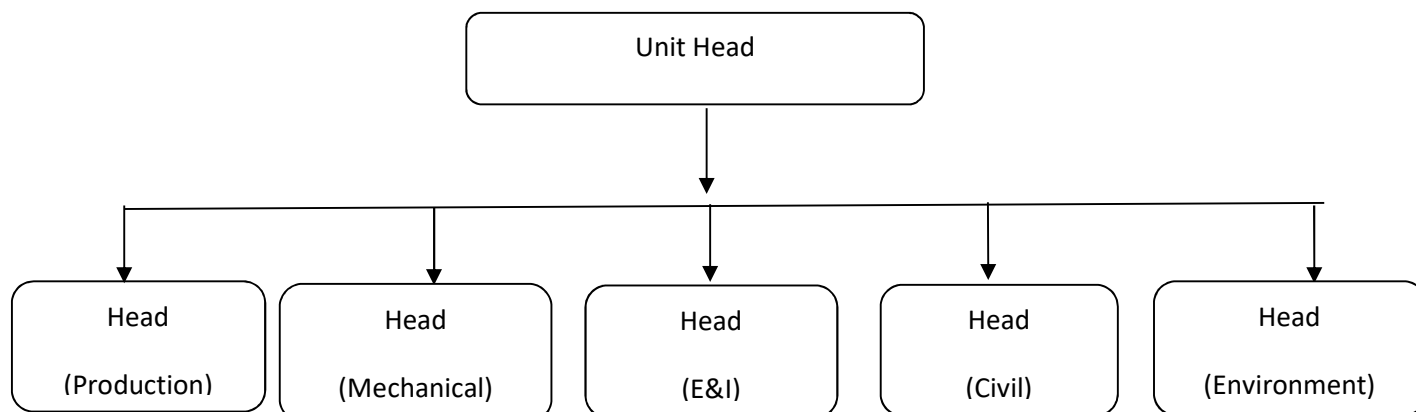
Note: We have the system available for manufacturing PPC. For that we shall use fly-ash. Fly-ash is another type of solid waste generated by thermal power plants. The participation of Fly-ash will be up to 35% of the total raw materials required for manufacturing of cement. We have already obtained our Environment Clearance from MoEF, New Delhi for production of PPC on need basis.

PART-I

ANY OTHER PARTICULARS FOR IMPROVING THE QUALITY OF ENVIRONMENT

Bokaro Cement Manufacturing Works A Unit of Dalmia Cement (Bharat) Limited, Bokaro having Environmental Management Cell which is controlled by Unit Head by adequate team of technically qualified personnel apart from the operative staff of skilled, semi-skilled, unskilled and other categories for fulfil the following objectives:

ENVIRONMENT MANAGEMENT CELL ORGANIZATION CHART



1. Preparation & submission of fresh consent application, Hazardous waste authorization application, and renewal of all consent.
2. Timely submission of Statutory reports (Monthly, half-yearly and annually to JSPCB, CPCB, MoEF).
3. Ambient air quality monitoring (PM₁₀, PM_{2.5}, and fugitive emission in Cement Plant).
4. Measurement of both work place & ambient noise level in various locations in plant.
5. Assessments of water consumption Industrial and Domestic.
6. Keeping Plant clean through Housekeeping initiatives.
7. Performance evaluation of air pollution control system.

The Environment management cell is responsible for pollution monitoring activities in DCBL Bokaro. Ambient air quality monitoring, Stack monitoring, water and effluent quality checking, and checking of noise level in plant, following pollution monitoring equipment are available in Environment cell.

DCBL Environment Monitoring Equipment's Details

| S. N. | Name of Equipment's | No. of Equipments |
|--|---|-------------------|
| A. Ambient Air Quality Monitoring | | |
| 1. | Respirable Dust Sampler (RDS) PM-10 | 04 |
| 2. | Respirable Dust Sampler PM10-2.5 | 04 |
| 3.. | Portable DG Sets | 01 |
| 4. | Continuous Ambient Air Monitoring System (CAAQMS) | 02 |
| B. Stack Monitoring | | |
| 5. | Stack Monitoring Kit | 01 |
| 6 | Continuous Stack Emission System (CEMS) | 01 |
| C. Workplace Monitoring | | |

| | | |
|------------------------------------|--|----|
| 8. | Sound Level Meter | 01 |
| 9. | Personal Sampler APM 800 | 01 |
| D. Water Quality Monitoring | | |
| 10. | Spectrophotometer-Model DR/2700 (Hach-USA) | 01 |
| 11. | Turbidity Meter | 01 |
| E. Others | | |
| 12. | Hot Air Oven | 01 |

In case the monitoring result of environment pollution found will be exceed the allowable limits, the Environmental cell will suggest remedial action and get these suggestions implemented through the concerned authorities.

The Environmental Management cell will also co-ordinate all the related activities such as checking of performance of pollution control equipment installed in plant, Sewage treatment plant, and green belt development in DCBL Bokaro.

Significant energy saving & other measures implemented

- (i) LED light installed to save energy
- (ii) Installation of LED Lamps in street light fitting by replacing with CFL lamps.
- (iii) Top soils conservation during excavation and utilized the soil for nursery development and tree plantation.
- (iv) Regular maintenance of vehicles to control of vehicles emission & noise.
- (v) Acoustic enclosures are provided at noise generating area to control of noise pollution
- (vi) Use of personal protective Equipment: All employees are provided with personal protective Equipment's (PPEs), as per the requirement, such as workers working in plant area are provided with dust masks and in noise pollution areas with Ear plugs/Ear muff, safety boots gloves welding goggles, Goggles and safety helmet are also being provided as per the requirement.

ENVIRONMENT MONITORING REPORTS FOR THE YEAR 2022-2023

AMBIENT AIR QUALITY MONITORING REPORT

Ambient Air Quality Monitoring report



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | |
|--|---|--------------|--------------|----------------|---|---|---------------------------|---|---|---|---|---|---|---|---|---|---|--|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | | Sub-Group: Ambient Air | | | | | | | | | | | |
| Report Issue Date: 25-03-2023 | Test Report No.: RN-230308001A05 | | | | | | | | | | | | | | | | | |
| Sample ID: 230321AP11005 | Sample Description: Ambient Air | | | | | | | | | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | | | | | | | | |
| Issued to: Bokaro Cement Manufacturing Works, Unit of Dalmia Cement (Bharat) Limited Plot No IV/A-7(P)4, Bokaro Industrial Area Balidih Bokaro Steel City, Bokaro-827014 Jharkhand India | | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | Customer Representative: Sanjeev Verma | | | | | | | | | | | | | | | | | |
| Sample Drawn by: IEM Team | Sampling Date: 18-03-2023 to 19-03-2023 | | | | | | | | | | | | | | | | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | | | | | | | | | | | | | | |
| Sampling Location: Gorabali Near Temple | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | A. Temp. (°C): 25 | R.H. (%): 55 | W.C.: Cloudy | W.D.: NW to SE | | | | | | | | | | | | | | |
| Sample Receiving date: 21-03-2023 | Testing Started: 21-03-2023 | | | | | | Testing Ended: 24-03-2023 | | | | | | | | | | | |

----Test Results----

| Sl. No. | Parameters | Test Method No. | Unit | Norms as per NAAQS - 2009 | Results |
|---------|---|----------------------|-------------------|---------------------------|--------------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 | µg/m ³ | 100 | 64.45 |
| 2. | Particulate Matter (PM _{2.5}) | IS 5182 Part 24:2019 | µg/m ³ | 60 | 28.26 |
| 3. | Sulphur Dioxide (SO ₂) | IS 5182 Part-02 | µg/m ³ | 80 | 10.79 |
| 4. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06 | µg/m ³ | 80 | 21.38 |
| 5. | Ammonia (NH ₃) | IS 5182 Part 25 | µg/m ³ | 400 | 18.35 |
| 6. | OZONE (O ₃) | IS 5182 Part 09 | µg/m ³ | 100 | 28.54 |
| 7. | ARSENIC (as As) | USEPA I.O. 3.2 | ng/m ³ | ---- | BDL (MDL-02) |
| 8. | LEAD (as Pb) | IS 5182 Part 22 | µg/m ³ | 1.0 | 0.04 |
| 9. | NICKEL (Ni) | IS 5182 Part 26 | ng/m ³ | ---- | BDL (MDL-4) |

----End of Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | As per the Environmental (Protection) Rule - 1986 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes :-

1. The laboratory accepts responsibility for content of this report.
 2. This report shall not be reproduced except in full, without written approval of the MD.
 3. This report is intended for only guidance and not for legal purpose or for advertisement.
 4. Any complaint about this report should be communicated in writing within 7 days of its issue.
 5. Total liability of institute for Environmental Management will be limited to invoiced amount only.
 6. In case of feedback/ complaints, please send an email at gm.iemco@gmail.com
- On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by _____ Authorized Signatory

(Shreya Saha)
 Dy. Quality Manager

(Dr. S. C. Jain)
 Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi - 834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | |
|---|-------------------------------------|---|-------------------|---|-----------------------------|--------------|------------------------|---|---|---------------------------|---|----------------|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | | Sub-Group: Ambient Air | | | | | | | | | | |
| Report Issue Date: 25-03-2023 | Test Report No.: RN-230308001A06 | | | | | | | | | | | | | | | | |
| Sample ID: 230321AP11006 | Sample Description: Ambient Air | | | | | | | | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | | | | | | | |
| Issued to: Bokaro Cement Manufacturing Works, Unit of Dalmia Cement (Bharat) Limited Plot No IV/A-7(P)4, Bokaro Industrial Area Balidih Bokaro Steel City, Bokaro-827014 Jharkhand India | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 18-03-2023 to 19-03-2023 | | | | | | | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | | | | | | | | | | | | | |
| Sampling Location: Pakhariya Tand Village | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 25 | | | R.H. (%): 55 | | | W.C.: Cloudy | | | W.D.: NW to SE | | | | | |
| Sample Receiving date: 21-03-2023 | | | | | Testing Started: 21-03-2023 | | | | | Testing Ended: 24-03-2023 | | | | | | | |

----Test Results----

| Sl. No. | Parameters | Test Method No. | Unit | Norms as per NAAQS - 2009 | Results |
|---------|---|----------------------|-------------------|---------------------------|--------------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 | µg/m ³ | 100 | 67.37 |
| 2. | Particulate Matter (PM _{2.5}) | IS 5182 Part 24:2019 | µg/m ³ | 60 | 26.96 |
| 3. | Sulphur Dioxide (SO ₂) | IS 5182 Part-02 | µg/m ³ | 80 | 17.54 |
| 4. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06 | µg/m ³ | 80 | 25.27 |
| 5. | Ammonia (NH ₃) | IS 5182 Part 25 | µg/m ³ | 400 | 15.48 |
| 6. | OZONE (O ₃) | IS 5182 Part 09 | µg/m ³ | 100 | 17.03 |
| 7. | ARSENIC (as As) | USEPA I.O. 3.2 | ng/m ³ | ---- | BDL (MDL-02) |
| 8. | LEAD (as Pb) | IS 5182 Part 22 | µg/m ³ | 1.0 | 0.05 |
| 9. | NICKEL (Ni) | IS 5182 Part 26 | ng/m ³ | ---- | BDL (MDL-4) |

----End of Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | As per the Environmental (Protection) Rule - 1986 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes :-

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by Authorized Signatory

Shreyas Soni

(Shreyas Soni) (Dr. S. C. Jain)

Dy. Quality Manager

Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | | |
|--|-------------------------------------|---|---|-----------------------------|---|---|------------------------|---------------------------|---|---|---|--------------|---|---|---|----------------|---|--|--|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | | |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | | Sub-Group: Ambient Air | | | | | | | | | | | | |
| Report Issue Date: 25-03-2023 | Test Report No.: RN-230308001A07 | | | | | | | | | | | | | | | | | | |
| Sample ID: 230321AP11007 | Sample Description: Ambient Air | | | | | | | | | | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | | | | | | | | | |
| Issued to: Bokaro Cement Manufacturing Works, Unit of Dalmia Cement (Bharat) Limited Plot No IV/A-7(P)4, Bokaro Industrial Area Balidih Bokaro Steel City, Bokaro-827014 Jharkhand India | | | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 18-03-2023 to 19-03-2023 | | | | | | | | | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | | | | | | | | | | | | | | | |
| Sampling Location: Near Project Office | | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | | A. Temp. (°C): 28 | | | | R.H. (%): 69 | | | | W.C.: Cloudy | | | | W.D.: NW to SE | | | |
| Sample Receiving date: 21-03-2023 | | | | Testing Started: 21-03-2023 | | | | Testing Ended: 24-03-2023 | | | | | | | | | | | |

----Test Results----

| Sl. No. | Parameters | Test Method No. | Unit | Norms as per NAAQS - 2009 | Results |
|---------|---|----------------------|-------------------|---------------------------|--------------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 | µg/m ³ | 100 | 68.51 |
| 2. | Particulate Matter (PM _{2.5}) | IS 5182 Part 24:2019 | µg/m ³ | 60 | 34.08 |
| 3. | Sulphur Dioxide (SO ₂) | IS 5182 Part-02 | µg/m ³ | 80 | 14.14 |
| 4. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06 | µg/m ³ | 80 | 28.24 |
| 5. | Ammonia (NH ₃) | IS 5182 Part 25 | µg/m ³ | 400 | 19.20 |
| 6. | OZONE (O ₃) | IS 5182 Part 09 | µg/m ³ | 100 | 25.18 |
| 7. | ARSENIC (as As) | USEPA I.O. 3.2 | ng/m ³ | ---- | BDL (MDL-02) |
| 8. | LEAD (as Pb) | IS 5182 Part 22 | µg/m ³ | 1.0 | 0.03 |
| 9. | NICKEL (Ni) | IS 5182 Part 26 | ng/m ³ | ---- | BDL (MDL-4) |

----End of Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | As per the Environmental (Protection) Rule - 1986 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Rajiv Kumar Singh & Team

| | | |
|---|---------------------|----------------------|
| Specific Contractual Notes:- 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the IEM. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue. 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com | Quality Checked by | Authorized Signatory |
| | <i>Shreyas</i> | <i>S. C. Jain</i> |
| | (Shreyas Sonal) | (S. C. Jain) |
| On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Dy. Quality Manager | Director |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | |
|--|-------------------------------------|---|-------------------|---|-----------------------------|--------------|---|------------------------|---|---------------------------|---|----------------|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | | | Sub-Group: Ambient Air | | | | | | | | | |
| Report Issue Date: 25-03-2023 | Test Report No.: RN-230308001A07 | | | | | | | | | | | | | | | | |
| Sample ID: 230321AP11007 | Sample Description: Ambient Air | | | | | | | | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | | | | | | | |
| Issued to: Bokaro Cement Manufacturing Works, Unit of Dalmia Cement (Bharat) Limited Plot No IV/A-7(P)4, Bokaro Industrial Area Balidih Bokaro Steel City, Bokaro-827014 Jharkhand India | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 18-03-2023 to 19-03-2023 | | | | | | | | |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series | | | | | | | | | | | | | | | | | |
| Sampling Location: khutri Village | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 28 | | | R.H. (%): 69 | | | W.C.: Cloudy | | | W.D.: NW to SE | | | | | |
| Sample Receiving date: 21-03-2023 | | | | | Testing Started: 21-03-2023 | | | | | Testing Ended: 24-03-2023 | | | | | | | |

---Test Results---

| Sl. No. | Parameters | Test Method No. | Unit | Norms as per NAAQS - 2009 | Results |
|---------|---|----------------------|-------------------|---------------------------|--------------|
| 1. | Particulate Matter (PM ₁₀) | IS 5182 Part 23:2006 | µg/m ³ | 100 | 62.61 |
| 2. | Particulate Matter (PM _{2.5}) | IS 5182 Part 24:2019 | µg/m ³ | 60 | 31.08 |
| 3. | Sulphur Dioxide (SO ₂) | IS 5182 Part-02 | µg/m ³ | 80 | 12.14 |
| 4. | Nitrogen Dioxide (NO ₂) | IS 5182 Part-06 | µg/m ³ | 80 | 26.24 |
| 5. | Ammonia (NH ₃) | IS 5182 Part 25 | µg/m ³ | 400 | 17.20 |
| 6. | OZONE (O ₃) | IS 5182 Part 09 | µg/m ³ | 100 | 21.18 |
| 7. | ARSENIC (as As) | USEPA I.O. 3.2 | ng/m ³ | ---- | BDL (MDL-02) |
| 8. | LEAD (as Pb) | IS 5182 Part 22 | µg/m ³ | 1.0 | 0.05 |
| 9. | NICKEL (Ni) | IS 5182 Part 26 | ng/m ³ | ---- | BDL (MDL-4) |

---End of Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | As per the Environmental (Protection) Rule - 1986 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Rajiv Kumar Singh & Team

| | | |
|--|---------------------|----------------------|
| Specific Contractual Notes:- 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the MD. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue. 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com | Quality Checked by | Authorized Signatory |
| | (Shreya Sonal) | (Dr. C. Jain) |
| On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Dy. Quality Manager | Director |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Scharai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018

Noise Level report



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|-------------------------------------|---|--------------------------|---|---|------------------------------------|---|---|--|---|---|----------------------------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 7 |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | | | | Sub-Group: Ambient Noise Levels (Excluding Vibration) | | | | | | | | | |
| Report Issue Date: 26-03-2023 | | | | | | | | | Test Report No.: RN-230308001N2 | | | | | | | | | |
| Sample ID: 230321AP13002 | | | | | | | | | Sample Description: Ambient Noise | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | | | | | | | | | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | |
| Issued to: Bokaro Cement Manufacturing Works, Unit of Dalmia Cement (Bharat) Limited Plot No IV/A-7(P)4, Bokaro Industrial Area Balidih Bokaro Steel City, Bokaro-827014 Jharkhand India | | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 17-03-2023 to 18-03-2023 | | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 9989:1981 | | | | | | | | | | | | | | | | | | |
| Sampling Location: Near Project Office | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 25 | | | R.H. (%): 55 | | | W.C.: Cloudy | | | W.D.: NW - SE | | | | | | |
| Sample Receiving date: 21-03-2023 | | | | | | Testing Started: 21-03-2023 | | | | | | Testing Ended: 24-03-2023 | | | | | | |

---Test Result---

| Sl. No | Parameter | Method | Unit | Day Time | Night Time | Limits |
|--------|------------------------------|--------------|-------|----------|------------|--------------|
| 1. | Equivalent Sound Level (Leq) | IS 9989:1981 | dB(A) | 67.3 | 53.4 | D-75 N-70 |

---End of Reports---

Note: -

1. Day time shall mean from 6.00 a.m. to 10.00 p.m.
2. Night time shall mean from 10.00 p.m. to 6.00 a.m.
3. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
4. dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
5. A "decibel" is a unit in which noise is measured. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
6. Leq: It is an energy mean of the noise level, over a specified period.

| | |
|-------------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit |
| Limit is Specified | As per Noise Pollution (Regulation and Control) Rules - 2000 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Amit Sinha & Team

| | |
|---|--|
| Specific Contractual Notes - 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the MD. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue. 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Quality Checked by _____ Authorized Signatory (Shreya Sohal) Dy. Quality Manager |
| | Dr. S. C. Jain Director |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|------------------------------|---|-------------------|---|-----------------------------|---|---|---|---|---------------------------|---|---------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | Sub-Group: Ambient Noise Levels (Excluding Vibration) | | | | | | | | | | | | |
| Report Issue Date: 26-03-2023 | | | | | | | | | Test Report No.: RN-230308001N5 | | | | | | | | | |
| Sample ID: 230321AP13005 | | | | | | | | | Sample Description: Ambient Noise | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | | | | | | | | | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | |
| Issued to: | | | | | | | | | | | | | | | | | | |
| Bokaro Cement Manufacturing Works, Unit of Dalmia Cement (Bharat) Limited Plot No IV/A-7(P)4, Bokaro Industrial Area Balidih Bokaro Steel City, Bokaro-827014 Jharkhand India | | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 17-03-2023 to 18-03-2023 | | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 9989:1981 | | | | | | | | | | | | | | | | | | |
| Sampling Location: Near Gorawali Temple | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 25 | | | R.H. (%): 55 | | | W.C.: Cloudy | | | W.D.: NW - SE | | | | | | |
| Sample Receiving date: 21-03-2023 | | | | | Testing Started: 21-03-2023 | | | | | Testing Ended: 24-03-2023 | | | | | | | | |

---Test Result---

| Sl. No | Parameter | Method | Unit | Day Time | Night Time | Limits |
|--------|------------------------------|--------------|-------|----------|------------|--------------|
| 1. | Equivalent Sound Level (Leq) | IS 9989:1981 | dB(A) | 44.5 | 40.1 | D-75 N-70 |

---End of Reports---

Note: -

- Day time shall mean from 6.00 a.m. to 10.00 p.m.
- Night time shall mean from 10.00 p.m. to 6.00 a.m.
- Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
- A "decibel" is a unit in which noise is measured. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
- Leq: It is an energy mean of the noise level, over a specified period.

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit |
| Limit is Specified | As per Noise Pollution (Regulation and Control) Rules - 2000 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Amit Sinha & Team

Specific Contractual Notes: -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/complaints, please send an email at qm.iemco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by: _____ Authorized Signatory

Shreya Sood

(Shreya Sood)

Dy. Quality Manager

Dr. S. C. Jain

(Dr. S. C. Jain)

Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | | |
|---|----------------|---|------------------------------|---|-----------------------------|---|---|---|---|---------------------------|---|--------------|---|---|---------------|---|---|---|--|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | |
| Discipline: | Chemical | | Group: Atmospheric Pollution | | | | | | Sub-Group: Ambient Noise Levels (Excluding Vibration) | | | | | | | | | | |
| Report Issue Date: | 26-03-2023 | | | | | | | | Test Report No.: RN-230308001N6 | | | | | | | | | | |
| Sample ID: | 230321AP13006 | | | | | | | | Sample Description: Ambient Noise | | | | | | | | | | |
| Challan No./P.O. No.: | 4548023834/237 | | | | | | | | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | |
| Issued to: | | | | | | | | | | | | | | | | | | | |
| Bokaro Cement Manufacturing Works. Unit of Dalmia Cement (Bharat) Limited Plot IV/A-7(P) 4, Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | | | Sampling Date: 17-03-2023 to 18-03-2023 | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 9989:1981 | | | | | | | | | | | | | | | | | | | |
| Sampling Location: Thakurtand Village | | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | | | A. Temp. (°C): 25 | | | | R.H. (%): 55 | | | W.C.: Cloudy | | | W.D.: NW - SE | | | | |
| Sample Receiving date: 21-03-2023 | | | | | Testing Started: 21-03-2023 | | | | | Testing Ended: 24-03-2023 | | | | | | | | | |

---Test Result---

| Sl. No | Parameter | Method | Unit | Day Time | Night Time | Limits |
|--------|------------------------------|--------------|-------|----------|------------|--------------|
| 1. | Equivalent Sound Level (Leq) | IS 9989:1981 | dB(A) | 45.8 | 39.3 | D-75 N-70 |

---End of Reports---

Note: -

- Day time shall mean from 6.00 a.m. to 10.00 p.m.
- Night time shall mean from 10.00 p.m. to 6.00 a.m.
- Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
- A "decibel" is a unit in which noise is measured. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
- Leq: It is an energy mean of the noise level, over a specified period.

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit |
| Limit is Specified | As per Noise Pollution (Regulation and Control) Rules - 2000 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Amit Sinha & Team

| | | |
|--|---------------------|----------------------|
| Specific Contractual Notes - 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the MD. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue. 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com | Quality Checked by | Authorized Signatory |
| | (Shreya Sonal) | (Dr. S. C. Jain) |
| | Dy. Quality Manager | Director |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | |
|---|------------------------------|---|-------------------|---|-----------------------------|---|---|---|---|---------------------------|---|---------------|---|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| Discipline: Chemical | Group: Atmospheric Pollution | | | | | Sub-Group: Ambient Noise Levels (Excluding Vibration) | | | | | | | | | | | | |
| Report Issue Date: 26-03-2023 | | | | | | | | | Test Report No.: RN-230308001N7 | | | | | | | | | |
| Sample ID: 230321AP13007 | | | | | | | | | Sample Description: Ambient Noise | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | | | | | | | | | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | |
| Issued to: Bokaro Cement Manufacturing Works. Unit of Dalmia Cement (Bharat) Limited Plot IV/A-7(P) 4, Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 17-03-2023 to 18-03-2023 | | | | | | | | | |
| Protocol: CPCB Guideline & IS Method 9989:1981 | | | | | | | | | | | | | | | | | | |
| Sampling Location: Khutri village | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 28 | | | R.H. (%):69 | | | W.C.: Cloudy | | | W.D.: NW - SE | | | | | | |
| Sample Receiving date: 21-03-2023 | | | | | Testing Started: 21-03-2023 | | | | | Testing Ended: 24-03-2023 | | | | | | | | |

---Test Result---

| Sl. No | Parameter | Method | Unit | Day Time | Night Time | Limits |
|--------|------------------------------|--------------|-------|----------|------------|--------------|
| 1. | Equivalent Sound Level (Leq) | IS 9989:1981 | dB(A) | 49.3 | 41.6 | D-75 N-70 |

---End of Reports---

Note: -

- Day time shall mean from 6.00 a.m. to 10.00 p.m.
- Night time shall mean from 10.00 p.m. to 6.00 a.m.
- Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.
- dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.
- A "decibel" is a unit in which noise is measured. "A", in dB(A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.
- Leq: It is an energy mean of the noise level, over a specified period.

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit |
| Limit is Specified | As per Noise Pollution (Regulation and Control) Rules - 2000 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Akanksha Sourabh

Sample Drawn By: Amit Sinha& Team

Specific Contractual Notes: -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked By: Authorized Signatory


(Shreya Bopal)
Dy. Quality Manager


Dr. S. C. Jain
Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018

Ground Water level report for the year 2022-23

| DALMIA CEMENT BHARAT LIMITED, BOKARO | | | | | | | | | | | | | |
|--|--------------------------------|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Ground Water level monitoring report for the year 2022-23 | | | | | | | | | | | | | |
| Sr.no | Village Location | Apr-22 | May-22 | Jun-22 | Jul-22 | Aug-22 | Sep-22 | Oct-22 | Nov-22 | Dec-22 | Jan-23 | Feb-23 | Mar-23 |
| | Unit | Depth of ground water level in feet | | | | | | | | | | | |
| 1 | Pakhriatand (Near Anganwadi) | 23.8 | 24.5 | 24.9 | 26.3 | 23.4 | 11.5 | 13.9 | 14.5 | 19.8 | 21.7 | 21.4 | 20.1 |
| 2 | Tupkadih (Near Electric pole) | 19.9 | 20.7 | 21.0 | 22.6 | 20.9 | 11.7 | 12.0 | 12.7 | 16.9 | 19.6 | 17.2 | 15.7 |
| 3 | Godawali (Near Temple) | 10.5 | 11.2 | 11.9 | 12.4 | 9.7 | 3.7 | 3.6 | 3.9 | 6.3 | 8.3 | 7.8 | 6.3 |
| 4 | Bhutkuru (Near Primary school) | 20.1 | 20.7 | 20.8 | 20.3 | 19.8 | 11.5 | 13.1 | 14.3 | 17.1 | 18.1 | 19.5 | 17.8 |

GROUND WATER QUALITY REPORT NEAR VILLAGE AREA



Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|---|---|------------------|---|---|---|---|--------------------------|---|---|---|---|----------------------|---|---|--|--|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | | | | | | | | | | | | | | | | | |
| Discipline: | Chemical | | | | | Group: | | | | | Water | | | | | Sub-Group: | | | | | Ground Water | | | | | | | | | | | | | | |
| Report Issue Date: | 27-03-2023 | | | | | | | | | | Test Report No.: | | | | | | | | | | RN-230308001GW1 | | | | | | | | | | | | | | |
| Sample ID: | 230321WA01001 | | | | | | | | | | Sample Description: | | | | | | | | | | Ground Water (Dug well) | | | | | | | | | | | | | | |
| Challan No./P.O. No.: | 4548023834/237 | | | | | | | | | | Challan No./ P.No. Date: | | | | | | | | | | 17-09-2022 | | | | | | | | | | | | | | |
| Issued to: | Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of Industry: | Cement | | | | | | | | | | Customer Representative: | | | | | | | | | | Sanjeev Verma | | | | | | | | | | | | | | |
| Sample Drawn by: | IEM Team | | | | | | | | | | Sampling Date: | | | | | | | | | | 19-03-2023 | | | | | | | | | | | | | | |
| Protocol: | CPCB Guideline & IS Method 3025 Part-01 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sampling Location: | Bhutkuru | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | A. Temp. (°C): 27 | | | | | R.H. (%): 61 | | | | | W.C.: Cloudy | | | | | W.D.: North to South | | | | | | | | | | | | | | | | | | | |
| Sample Receiving date: | 21-03-2023 | | | | | Testing Started: | | | | | 21-03-2023 | | | | | Testing Ended: | | | | | 24-03-2023 | | | | | | | | | | | | | | |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Limit | | Results |
|---------|----------------------------------|-------|-------------------|------------|---------------|--------------|
| | | | | Acceptable | Permissible | |
| 1. | pH value at 25°C | ---- | IS 3025 (Part-11) | 6.5 – 8.5 | No Relaxation | 7.09 |
| 2. | Turbidity | NTU | IS 3025 (Part-10) | 1 | 5 | 4.1 |
| 3. | Colour | Hazen | IS 3025 (Part-04) | 5 | 15 | 5.0 |
| 4. | Odour | ---- | IS 3025 (Part-05) | Agreeable | Agreeable | Agreeable |
| 5. | Total Dissolved Solids (TDS) | mg/l | IS 3025 (Part-16) | 500 | 2000 | 693.0 |
| 6. | Calcium (as Ca+2) | mg/l | IS 3025 (Part-40) | 75 | 200 | 110.62 |
| 7. | Total Alkalinity (as CaCO3) | mg/l | IS 3025 (Part-23) | 200 | 600 | 225.0 |
| 8. | Total Hardness (as CaCO3) | mg/l | IS 3025 (Part-21) | 200 | 600 | 452.0 |
| 9. | Chloride (as Cl) | mg/l | IS 3025 (Part-32) | 250 | 1000 | 89.33 |
| 10. | Free Residual Chlorine | mg/l | IS 3025 (Part-26) | 0.2 | 1.0 | BDL(MDL-2.0) |
| 11. | Sulphate (as SO4 ⁻²) | mg/l | IS 3025 (Part-24) | 200 | 400 | 95.67 |
| 12. | Magnesium (as Mg+2) | mg/l | IS 3025 (Part-46) | 30 | 100 | 42.77 |

----END Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2021 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes: -

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by _____ Authorized Signatory

(Shreya Sonal) (S. C. Jain)

Dy. Quality Manager Director

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management



Accredited by Jharkhand State Pollution Control Board, JSPCB
 Certified by ISO 9001:2015 (Quality Management System)
 ISO 45001:2018 (Occupational Health & Safety Management System)

Test Report

| | | |
|--|---|---------------------------|
| Discipline: Chemical | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW1 | |
| Sample ID: 230321WA01001 | Sample Description: Ground Water (Dug well) | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | |
| Type of Industry: Cement | Customer Representative: Sanjeev Verma | |
| Sample Drawn by: IEM Team | Sampling Date: 19-03-2023 | |
| Protocol: CPCB Guideline & IS Method 3025 Part-01 | | |
| Sampling Location: Bhutkuru | | |
| Field Meteorological Information | A. Temp. (°C): 27 | R.H. (%): 61 |
| | W.C.: Cloudy | W.D.: North to South |
| Sample Receiving date: 21-03-2023 | Testing Started: 21-03-2023 | Testing Ended: 24-03-2023 |

---Test Result---

| Sl. No. | Tested Parameter | Unit | Method No. | Limit | | Results |
|---------|-------------------------------|------|-------------------|------------|---------------|-----------|
| | | | | Acceptable | Permissible | |
| 1. | Taste | --- | IS 3025 (Part-07) | Agreeable | Agreeable | Agreeable |
| 2. | Nitrate (as NO ₃) | mg/l | IS 3025 (Part-34) | 45 | No Relaxation | 8.30 |
| 3. | Fluoride (as F ⁻) | mg/l | IS 3025 (Part-60) | 1.0 | 1.5 | 1.09 |

---END Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2021 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by _____ Authorized Signatory

Shreyasna
 (Shreyasna)
 Dy. Quality Manager



Director



Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251, Email - iem2012@rediffmail.com





Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | |
|--|---|---|-----------------------------|---|---|---------------------------|----------------------------------|---|--|---|---|----------------------|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Discipline: Chemical | Group: Residues and Contaminants in Water | | | | | | Sub-Group: Trace Metals elements | | | | | | | | | | |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW1 | | | | | | | | | | | | | | | | |
| Sample ID: 230321RC01001 | Sample Description: Ground Water (Dug well) | | | | | | | | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | | | | | | | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 19-03-2023 | | | | | | | | |
| Protocol: IS Method & CPCB Guideline | | | | | | | | | | | | | | | | | |
| Sampling Location: Bhutkuru | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 27 | | | R.H. (%): 61 | | | W.C.: Cloudy | | | W.D.: North to South | | | | | |
| Sample Receiving date: 21-03-2023 | | | Testing Started: 21-03-2023 | | | Testing Ended: 24-03-2023 | | | | | | | | | | | |

----Test Result----

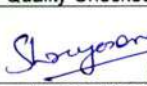
| Sl. No. | Tested Parameter | Unit | Method No. | Limits | Results |
|---------|------------------|------|------------------|----------------------|------------------|
| 1. | Copper | mg/l | APHA 3111 B.2017 | 0.5-1.5 | BDL (MDL – 0.01) |
| 2. | Chromium | mg/l | APHA 3111 B.2017 | 0.05 - No Relaxation | BDL (MDL – 0.04) |
| 3. | Lead (Pb) | mg/l | APHA 3111 B.2017 | 0.01 - No Relaxation | BDL (MDL – 0.04) |
| 4. | Manganese (Mn) | mg/l | APHA 3111 B.2017 | 0.1 - 0.3 | BDL (MDL – 0.08) |

----End Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2022 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

| | | |
|---|--|----------------------|
| Specific Contractual Notes - 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the MD. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue. 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at gm.iemeco@gmail.com On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Quality Checked by | Authorized Signatory |
| |  (Shreya Sonal) | |
| | Dy. Quality Manager | Director |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management



Accredited by Jharkhand State Pollution Control Board, JSPCB
 Certified by ISO 9001:2015 (Quality Management System)
 ISO 45001:2018 (Occupational Health & Safety Management System)

Test Report

| | | |
|---|--|---|
| Discipline: Chemical | Group: Residues and Contaminants in Water | Sub-Group: Trace Metals elements |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW1 | |
| Sample ID: 230321RC01001 | Sample Description: Ground Water (Dug well) | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | |
| Type of Industry: Cement | Customer Representative: Sanjeev Verma | |
| Sample Drawn by: IEM Team | Sampling Date: 19-03-2023 | |
| Protocol: IS Method & CPCB Guideline | | |
| Sampling Location: Bhutkuru | | |
| Field Meteorological Information | A. Temp. (°C): 27 | R.H. (%): 61 |
| | W.C.: Cloudy | W.D.: North to South |
| Sample Receiving date: 21-03-2023 | Testing Started: 21-03-2023 | Testing Ended: 24-03-2023 |

---Test Result---

| Sl. No. | Tested Parameter | Unit | Method No. | Limits | Results |
|---------|------------------|------|-------------------|---------------------|------------------|
| 1. | Iron (Fe) | mg/l | APHA 3111 B.2017 | 1.0 - No Relaxation | 0.25 |
| 2. | Aluminium (Al) | mg/l | IS 3025 Part - 55 | 0.03 - 0.2 | BDL (MDL - 0.01) |

---End Report---

| | |
|-------------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2022 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

| | | |
|---|---------------------|----------------------|
| Specific Contractual Notes :- 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the MD. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue. 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at qm.iemco@gmail.com | Quality Checked by | Authorized Signatory |
| | (Shreya Sonal) | (S. C. Jain) |
| | Dy. Quality Manager | Director |



Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251, Email - iem2012@rediffmail.com





Institute for Environmental Management



Accredited by Jharkhand State Pollution Control Board, JSPCB
 Certified by ISO 9001:2015 (Quality Management System)
 ISO 45001:2018 (Occupational Health & Safety Management System)

Test Report

| | | | | | |
|--|--|-----------------------------|---|---------------------------|----------------------|
| Discipline: Biological | | Group: Water | | Sub-Group: Ground Water | |
| Report Issue Date: 27-03-2023 | | | Test Report No.: RN-230308001GW01 | | |
| Sample ID: 230321MB01001 | | | Sample Description: Ground Water (Dug well) | | |
| Challan No./P.O. No.: 4548023834/237 | | | Challan No./ P.No. Date: 17-09-2022 | | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | |
| Type of Industry: Cement | | | Customer Representative: Sanjeev Verma | | |
| Sample Drawn by: IEM Team | | | Sampling Date: 19-03-2023 | | |
| Protocol: CPCB Guideline & IS Method 3025 Part-01 | | | | | |
| Sampling Location: Bhutkuru | | | | | |
| Field Meteorological Information | | A. Temp. (°C): 27 | R.H. (%): 61 | W.C.: Cloudy | W.D.: North to South |
| Sample Receiving date: 21-03-2023 | | Testing Started: 21-03-2023 | | Testing Ended: 24-03-2023 | |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Limit | Results |
|---------|------------------|------|---------------|--|---------------|
| 1. | Total Coliform | mg/l | IS 1622: 1981 | Shall not be detectable in any 100 ml sample | BDL (MDL-1.8) |
| 2. | E. Coli | mg/l | IS 1622: 1981 | Shall not be detectable in any 100 ml sample | BDL (MDL-1.8) |

---END Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2oC and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2022 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Khushi

Sample Drawn By: Rajiv Kr. Singh & Team

Specific Contractual Notes:-

1. The laboratory accepts responsibility for content of this report.
2. This report shall not be reproduced except in full, without written approval of the MD.
3. This report is intended for only guidance and not for legal purpose or for advertisement.
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by _____ Authorized Signatory

Shreya Sonal
 (Shreya Sonal) _____ (S. C. Jain)
 Dy. Quality Manager _____ Director



Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251, Email - iem2012@rediffmail.com





Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|---|---|---|--------------------------|---|---|--------------|-------------------------|---|----------------------|---|----------------|---|---|---|---|---|------------|--|--|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | | | |
| Discipline: | Chemical | | | Group: | | | | Water | | | | | | | | | | | | |
| Report Issue Date: | 27-03-2023 | | | Sub-Group: | | | | Ground Water | | | | | | | | | | | | |
| Sample ID: | 230321WA01002 | | | Test Report No.: | | | | RN-230308001GW2 | | | | | | | | | | | | |
| Challan No./P.O. No.: | 4548023834/237 | | | Sample Description: | | | | Ground Water (Dug well) | | | | | | | | | | | | |
| Challan No./P.No. Date: | 17-09-2022 | | | | | | | | | | | | | | | | | | | |
| Issued to: | Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | | | | | | | | | | | | | | | |
| Type of Industry: | Cement | | | Customer Representative: | | | | Sanjeev Verma | | | | | | | | | | | | |
| Sample Drawn by: | IEM Team | | | Sampling Date: | | | | 19-03-2023 | | | | | | | | | | | | |
| Protocol: | CPCB Guideline & IS Method 3025 Part-01 | | | | | | | | | | | | | | | | | | | |
| Sampling Location: | POKHARIA TAND | | | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | A. Temp. (°C): 27 | | | R.H. (%): 61 | | | W.C.: Cloudy | | | W.D.: North to South | | | | | | | | | | |
| Sample Receiving date: | 21-03-2023 | | | Testing Started: | | | | 21-03-2023 | | | | Testing Ended: | | | | | | 24-03-2023 | | |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Limit | | Results |
|---------|--|-------|-------------------|------------|---------------|---------------|
| | | | | Acceptable | Permissible | |
| 1. | pH value at 25°C | ---- | IS 3025 (Part-11) | 6.5 – 8.5 | No Relaxation | 6.81 |
| 2. | Turbidity | NTU | IS 3025 (Part-10) | 1 | 5 | 1.2 |
| 3. | Colour | Hazen | IS 3025 (Part-04) | 5 | 15 | 5.0 |
| 4. | Odour | ---- | IS 3025 (Part-05) | Agreeable | Agreeable | Agreeable |
| 5. | Total Dissolved Solids (TDS) | mg/l | IS 3025 (Part-16) | 500 | 2000 | 363.0 |
| 6. | Calcium (as Ca+2) | mg/l | IS 3025 (Part-40) | 75 | 200 | 38.48 |
| 7. | Total Alkalinity (as CaCO3) | mg/l | IS 3025 (Part-23) | 200 | 600 | 170.0 |
| 8. | Total Hardness (as CaCO3) | mg/l | IS 3025 (Part-21) | 200 | 600 | 164.0 |
| 9. | Chloride (as Cl) | mg/l | IS 3025 (Part-32) | 250 | 1000 | 31.76 |
| 10. | Free Residual Chlorine | mg/l | IS 3025 (Part-26) | 0.2 | 1.0 | BDL (MDL-2.0) |
| 11. | Sulphate (as SO ₄ ²⁻) | mg/l | IS 3025 (Part-24) | 200 | 400 | 51.22 |
| 12. | Magnesium (as Mg+2) | mg/l | IS 3025 (Part-46) | 30 | 100 | 16.52 |

----END Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2021 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes:-

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by

Shreya Sonal

(Shreya Sonal)

Dy. Quality Manager

Authorized Signatory

(D. C. Jain)

(D. C. Jain)

Dy. Director

Corporate office - A-8, Medi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management



Accredited by Jharkhand State Pollution Control Board, JSPCB
 Certified by ISO 9001:2015 (Quality Management System)
 ISO 45001:2018 (Occupational Health & Safety Management System)

Test Report

| | | |
|--|---|---------------------------|
| Discipline: Chemical | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW2 | |
| Sample ID: 230321WA01002 | Sample Description: Ground Water (Dug well) | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | |
| Type of Industry: Cement | Customer Representative: Sanjeev Verma | |
| Sample Drawn by: IEM Team | Sampling Date: 19-03-2023 | |
| Protocol: CPCB Guideline & IS Method 3025 Part-01 | | |
| Sampling Location: POKHARIA TAND | | |
| Field Meteorological Information | A. Temp. (°C): 27 | R.H. (%): 61 |
| | W.C.: Cloudy | W.D.: North to South |
| Sample Receiving date: 21-03-2023 | Testing Started: 21-03-2023 | Testing Ended: 24-03-2023 |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Limit | | Results |
|---------|-------------------------------|------|-------------------|------------|---------------|-----------|
| | | | | Acceptable | Permissible | |
| 1. | Taste | ---- | IS 3025 (Part-07) | Agreeable | Agreeable | Agreeable |
| 2. | Nitrate (as NO ₃) | mg/l | IS 3025 (Part-34) | 45 | No Relaxation | 6.60 |
| 3. | Fluoride (as F ⁻) | mg/l | IS 3025 (Part-60) | 1.0 | 1.5 | 1.03 |

----END Report----

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2021 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked and Authorized Signatory

Shreya Soni
 (Shreya Soni)

Dy. Quality Manager, Ranchi Director



Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251, Email - iem2012@rediffmail.com





Institute for Environmental Management

Accredited by Jharkhand State Pollution Control Board, JSPCB
National Accreditation Board for Testing Laboratory (NABL) vide TC-11515
Certified By ISO 9001:2015 (QMS) & ISO 45001:2018



Test Report

| | | | | | | | | | | | | | | | | | |
|--|---|---|-------------------|-----------------------------|---|--------------|---|----------------------------------|--|---|---|----------------------|---|---|---|---|---|
| ULR No.: | T | C | 1 | 1 | 5 | 1 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Discipline: Chemical | Group: Residues and Contaminants in Water | | | | | | | Sub-Group: Trace Metals elements | | | | | | | | | |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW2 | | | | | | | | | | | | | | | | |
| Sample ID: 230321RC01002 | Sample Description: Ground Water (Dug well) | | | | | | | | | | | | | | | | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | | | | | | | | | | | | | | | | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | | | | | | | | | | | | | | | | |
| Type of Industry: Cement | | | | | | | | | Customer Representative: Sanjeev Verma | | | | | | | | |
| Sample Drawn by: IEM Team | | | | | | | | | Sampling Date: 19-03-2023 | | | | | | | | |
| Protocol: IS Method & CPCB Guideline | | | | | | | | | | | | | | | | | |
| Sampling Location: POKHARIA TAND | | | | | | | | | | | | | | | | | |
| Field Meteorological Information | | | A. Temp. (°C): 27 | | | R.H. (%): 61 | | | W.C.: Cloudy | | | W.D.: North to South | | | | | |
| Sample Receiving date: 21-03-2023 | | | | Testing Started: 21-03-2023 | | | | Testing Ended: 24-03-2023 | | | | | | | | | |

---Test Result---


| Sl. No. | Tested Parameter | Unit | Method No. | Limits | Results |
|---------|------------------|------|------------------|----------------------|------------------|
| 1. | Copper | mg/l | APHA 3111 B.2017 | 0.5-1.5 | BDL (MDL – 0.01) |
| 2. | Chromium | mg/l | APHA 3111 B.2017 | 0.05 - No Relaxation | BDL (MDL – 0.04) |
| 3. | Lead (Pb) | mg/l | APHA 3111 B.2017 | 0.01 - No Relaxation | BDL (MDL – 0.04) |
| 4. | Manganese (Mn) | mg/l | APHA 3111 B.2017 | 0.1 - 0.3 | BDL (MDL – 0.08) |

---End Report---

| | |
|------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2022 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

| | | |
|--|--|----------------------|
| Specific Contractual Notes :- 1. The laboratory accepts responsibility for content of this report. 2. This report shall not be reproduced except in full, without written approval of the MD. 3. This report is intended for only guidance and not for legal purpose or for advertisement. 4. Any complaint about this report should be communicated in writing within 7 days of its issue 5. Total liability of Institute for Environmental Management will be limited to invoiced amount only. 6. In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Quality Checked by | Authorized Signatory |
| |  (Shreya Sora) Dy. Quality Manager | |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804251, Email - iem2012@rediffmail.com

ISO 9001:2015
ISO 45001:2018



Institute for Environmental Management



Accredited by Jharkhand State Pollution Control Board, JSPCB
 Certified by ISO 9001:2015 (Quality Management System)
 ISO 45001:2018 (Occupational Health & Safety Management System)

Test Report

| | | |
|---|--|---|
| Discipline: Chemical | Group: Residues and Contaminants in Water | Sub-Group: Trace Metals elements |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW2 | |
| Sample ID: 230321RC01002 | Sample Description: Ground Water (Dug well) | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | |
| Type of Industry: Cement | Customer Representative: Sanjeev Verma | |
| Sample Drawn by: IEM Team | Sampling Date: 19-03-2023 | |
| Protocol: IS Method & CPCB Guideline | | |
| Sampling Location: POKHARIA TAND | | |
| Field Meteorological Information | A. Temp. (°C): 27 | R.H. (%): 61 |
| | W.C.: Cloudy | W.D.: North to South |
| Sample Receiving date: 21-03-2023 | Testing Started: 21-03-2023 | Testing Ended: 24-03-2023 |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Limits | Results |
|---------|------------------|------|-------------------|---------------------|------------------|
| 1. | Iron (Fe) | mg/l | APHA 3111 B.2017 | 1.0 - No Relaxation | 0.22 |
| 2. | Aluminium (Al) | mg/l | IS 3025 Part - 55 | 0.03 - 0.2 | BDL (MDL - 0.01) |

----End Report----

| | |
|-------------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2022 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Anshu Gupta

Sample Drawn By: Rajiv Kumar Singh & Team

Specific Contractual Notes -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue.
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by

Authorized Signatory

(Shreya Sonal)

(Dr. S. C. Jain)

Dy. Quality Manager

Director



Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,
Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251, Email - iem2012@rediffmail.com





Institute for Environmental Management



Accredited by Jharkhand State Pollution Control Board, JSPCB
 ISO 9001:2015 (Quality Management System)
 Certified by ISO 45001:2018 (Occupational Health & Safety Management System)

Test Report

| | | |
|---|--|----------------------------------|
| Discipline: Biological | Group: Water | Sub-Group: Ground Water |
| Report Issue Date: 27-03-2023 | Test Report No.: RN-230308001GW02 | |
| Sample ID: 230321MB01002 | Sample Description: Ground Water (Dug well) | |
| Challan No./P.O. No.: 4548023834/237 | Challan No./ P.No. Date: 17-09-2022 | |
| Issued to: Dalmia Cement (Bharat) Ltd. (Jharkhand Cement Works) Plot IV/A-7(P), Bokaro Industrial Area, PO-Balidih, Dist: - Bokaro, Jharkhand 827014 | | |
| Type of Industry: Cement | Customer Representative: Sanjeev Verma | |
| Sample Drawn by: IEM Team | Sampling Date: 19-03-2023 | |
| Protocol: CPCB Guideline & IS Method 3025 Part-01 | | |
| Sampling Location: POKHARIA TAND | | |
| Field Meteorological Information | A. Temp. (°C): 27 | R.H. (%): 61 |
| | W.C.: Cloudy | W.D.: North to South |
| Sample Receiving date: 21-03-2023 | Testing Started: 21-03-2023 | Testing Ended: 24-03-2023 |

----Test Result----

| Sl. No. | Tested Parameter | Unit | Method No. | Limit | Results |
|---------|------------------|------|---------------|--|---------------|
| 1. | Total Coliform | mg/l | IS 1622: 1981 | Shall not be detectable in any 100 ml sample | BDL (MDL-1.8) |
| 2. | E. Coli | mg/l | IS 1622: 1981 | Shall not be detectable in any 100 ml sample | BDL (MDL-1.8) |

----END Report----

| | |
|-------------------------------|---|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2oC and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation | MDL: Minimum Detection Limit, BDL: Below Detection Limit |
| Limit is Specified | IS 10500 :2022 |
| Remark | Sample Comply with prescribed specification. |

Tested By: Khushi

Sample Drawn By: Rajiv Kr. Singh & Team

Specific Contractual Notes: -

- The laboratory accepts responsibility for content of this report.
- This report shall not be reproduced except in full, without written approval of the MD.
- This report is intended for only guidance and not for legal purpose or for advertisement.
- Any complaint about this report should be communicated in writing within 7 days of its issue
- Total liability of Institute for Environmental Management will be limited to invoiced amount only.
- In case of feedback/ complaints, please send an email at qm.iemeco@gmail.com

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization.

Quality Checked by _____ Authorized Signatory

Shreyasona
(Shreya Sonali) Director

Dy. Quality Manager _____ Director



Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony, Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251, Email - icm2012@rediffmail.com

