ADITYA BIRLA

UltraTech

UTCL/Dhar/Env/2023-24/

Date: 12.09.2024

To
The Member Secretary,
M.P. Pollution Control Board
Paryawaran Parisar, E-5, Arera Colony
Bhopal – 462 016 (M.P.)

Sub.: Submission of Environment Statement (Form-V) for the FY- 2023-24 of our M/s. UltraTech Cement Limited (Unit: Dhar Cement Works) regarding.

Ref.: Air/water consent no. AW-60991 dated 06.09.2024, Validity up to 31.07.2025 and Hazardous Waste Authorization No. H-55884 dated 14.05.2022, Validity 28.02.2027 (PCB ID-30589)

Dear Sir,

This is in reference to above mentioned subject & condition mentioned in Air Water consent and Hazardous Waste Authorization and Notification of Ministry of Environment and Forest (MoEF) dated 13th March 1992, we are submitting here with the Environment Statement Report (Form-V) for the financial year 2023-24 of our M/s. UltraTech Cement Limited (Unit: Dhar Cement Works).

Hope you will find the same in order.

Thanking you,

Yours Faithfully
For UltraTech Cement Limited
(Unit: Dhar Cement Works)

(Vijay Chhabra)
President & Unit Head
Encl: Form-V

Copy to:

1. The Regional Officer, Deputy Director General of Forests (C), MOEF&CC, Integrated Regional Office, E-5, Kendriya Paryavaran Bhawan, E-5 Arera Colony, Link Road-3, Ravishankar Nagar, Bhopal – 462016 (M.P.)
2. The Regional Officer (Dhar) M.P. Pollution Control Board, Vikash Bhawan, Sector-2, Pithampur, Dhar (M.P)
3. The RD, CPCB Regional Office, Paryawaran Parisar, E-5, Arera Colony Bhopal – 462 016 (M.P.)

ENVIRONMENTAL STATEMENT

REPORT

2023-2024

FOR

CEMENT PLANT

(Unit: Dhar Cement Works)

At
Village - Tonki, Tehsil -Manawar,
District - Dhar (Madhya Pradesh)

APPLICANT

M/s. UltraTech Cement Limited

(Unit: Dhar Cement Works)
Village - Tonki, Tehsil - Manwar,
District - Dhar MP - 454 446

PREPARED BY

J.M. EnviroNet Pvt. Ltd.

(Registered EIA Consultant Organization from NABET-QCI)
Certificate No NABET/EIA/2023/RA 0186
Emaar Digital Greens, Tower – B, Unit No. 1517,
Golf Course Ext. Road, Sector – 61,
Gurugram (Haryana) – 122 011

About Aditya Birla Group

Aditya Birla Group is in the League of Fortune 500. Anchored by an extraordinary force of over 187,000 employees belonging to 100 nationalities, the Group is built on a strong foundation of stakeholder value creation. With over seven decades of responsible business practices, our businesses have grown into global powerhouses in a wide range of sectors – from metals to cement, fashion to financial services and textiles to trading. Today, over 50% of the Group revenues flow from overseas operations that span over 40 countries in North and South America, Africa, Asia and Europe.

About UltraTech

UltraTech Cement Limited is the cement flagship company of the Aditya Birla Group. A USD 8.4 billion building solutions powerhouse, UltraTech is the largest manufacturer of grey cement and ready mix concrete (RMC) and one of the largest manufacturers of white cement in India. It is the third largest cement producer in the world, excluding China. UltraTech is the only cement company globally (outside of China) to have 100+ MTPA of cement manufacturing capacity in a single country. The Company's business operations span UAE, Bahrain, Sri Lanka and India.

UltraTech has a consolidated capacity of 154.86 Million Tonnes Per Annum (MTPA) of grey cement. UltraTech has 24 integrated manufacturing units, 33 grinding units, one Clinkerisation unit and 8 Bulk Packaging Terminals. UltraTech has a network of over one lakh channel partners across the country and has a market reach of more than 80% across India. In the white cement segment, UltraTech goes to market under the brand name of Birla White. It has one White Cement unit and three Wall Care putty units, with a current capacity of 1.98 MTPA. With 307 Ready Mix Concrete (RMC) plants in 134 cities, UltraTech is the largest manufacturer of concrete in India. It also has a slew of speciality concretes that meet specific needs of discerning customers. Our Building Products business is an innovation hub that offers an array of scientifically engineered products to cater to new-age constructions.

UltraTech pioneered the UltraTech Building Solutions (UBS) concept to provide individual home builders with a one-stop-shop solution for building their homes. This is the first pan-India multi-category retail chain catering to the needs of individual home builders (IHBs). The purpose of this initiative is to engage with home builders at all stages of the construction cycle, empower them with quality construction products and services, and assist in the completion of their dream homes.

UltraTech is a founding member of Global Cement and Concrete Association (GCCA). It is a signatory to the GCCA Climate Ambition 2050 and has committed to the Net Zero Concrete Roadmap announced by GCCA. UltraTech is focused on accelerating the decarbonisation of its operations. It has adopted new age tools like the Science Based Targets Initiative (SBTi) and Internal Carbon Price as well as set ambitious environmental targets through both EP100 and RE100.

UltraTech is the first company in India and the second company in Asia to issue dollar-based sustainability linked bonds. UltraTech works to actively contribute to the social and economic development of the communities in which it operates in. The Company's social initiatives focus on education, healthcare, sustainable livelihoods, community infrastructure and social causes.

UltraTech reaches out to more than 1.6 million beneficiaries in over 507 villages in 16 states across India.

Dhar Cement Works

Dhar Cement Works of M/s UltraTech Cement Limited located at Vill. – Tonki, Tah – Manawar, Dist. – Dhar (M.P.). Unit produces Grey Cement and Clinker, having Clinker capacity 6.0 MTPA & cement production capacity of 5.2 MTPA. & WHRB of capacity 31.0 MW has been established for power generation by utilization of waste heat from Preheater & cooler. Dhar Cement Works is located by the side of State Highway (NH – 52 Extn.) connecting Manawar to Dhar. The nearest railway station is Indore which is distance from plant about 135 km. from the site by road. The nearest Indore airport is about 135 km. from the site by road.

Introduction

Environment is not the usual catchy word linked to pollution but now it is a sacred term, everyone wants a congenial environment with fragrant air, sweet smelling air and the cold elixir like water. Now this all need not only the techniques and technology, but more comprehensive strategy called management and apart from all this, one needs strong commitment and obviously, it requires certain tools like Environmental Statement, Auditing, Assessment and Evaluation.

The objective is not to meet the standards and complete the consent conditions laid by Government agencies or Pollution Control Boards but the real objective is to obtain consent from our ecosystems and their components. No certificate is more valid than this. The environment management of Dhar Cement is not just a routine one but it is a fact sheet of cohesive efforts of people, executives, labors and other employees. The Dhar Cement is not a new plant but factually it is new since to see the emission from its stacks is like to see a rare bird in the blue sky. The Environment Management System here is excellent and produced results. This is one company, which perhaps in too less a time of its inception got the ISO 9001, 45001,50001 and 14001.

At a time of high crisis in the cement sector with non-profit situation in production, the approach of the company's top executives has been environmentally positive, since it has gone for most expensive pollution control system, prepared energy conservation strategies, planned its resources management structure and managed the mines and spent a good sum of money for this purpose. The Dhar Cement is thus a symbol of industrial environment management by any parameters, yardstick, standard or scrutiny.

The ES will thus offer the industry, to examine and get examined the processes, technologies and management, all the three components to diagnose the problems, explore the potential problem points, prepare the plan to combat and abate the problems, of course keeping in view the objectives and policies of the company and environment both. The aim thus is to maintain best possible balance between raw materials and resources utilized and final marketable output, so that environmental beam remains horizontal. The equation is thus set to minimize the losses, not only the raw material or water or energy but also any type of loss.

GEOGRAPHY, GEOLOGY & CLIMATIC CONDITIONS

PLANT LOCATION:

The proposed project site is located near Villages Tonki, Temarni, Sondual & Golpura Tehsil Manawar, District Dhar, Madhya Pradesh.

SH-38 (~ 3 Km in West direction from the project site) & NH-3(~ 36 Km in East direction from the project site) is very well connected to the project site. Nearest town is Manawar, approx. ~ 4 km in SW direction from project site. Nearest railway station is Mhow at approx. ~ 80 km in NE direction from project site. Nearest Airport is Indore Airport ~ 82 Km in NE direction from the project site.

CLIMATIC CONDITIONS:

The climate of Dhar is of humid subtropical type and thus this part of Madhya Pradesh has usually warm and temperate climate. Summer, rainy and winter are three seasons experienced in this district. Maximum temperature reaches upto avg. 31.40 C in the month of June and January remains the coldest month when temperature is avg. 11.40C

MANUFACTURING PROCESS DESCRIPTION

Cement Process Description

Our Cement Plant is based on Dry Process Technology for Cement manufacturing with Pre-Heater and Pre-Calciner Technology. The type of cement manufactured will be OPC, PPC. The cement manufacturing process largely comprises of the following steps:

- Limestone Handling and Storage
- Raw Mix Preparation & Homogenization
- Coal Handling & Storage
- Clinkerization & Cement Production
- Cement Grinding & Storage
- Cement Packaging & Dispatch

A. Limestone Handling and Storage

The crushed limestone from mines crusher has been transported through belt conveyor and material has been stacked in covered limestone pre-blending stockpiles shed. An overland belt conveyor provided to transport the material from crusher to the stockpile in covered storage shed. Limestone has been reclaimed transversely from the stockpiles by the reclaimer and conveyed to the Raw Mill hoppers for grinding of raw meal. Other additives and corrective materials are mixed during grinding limestone in raw mill in appropriate proportion for desired quality of clinker.

B. Raw Mix Preparation & Homogenization

Raw Material Reclaiming and Transport- The crushed limestone is transported to limestone yard through series of belt conveyors and store in a pile through automatic stacker machine. Once the pile of required quantity and quality is achieved then reclaimer is used to reclaim the stockpile material. Additives/correctives are added in the stockpile. By using stacker and reclaimer machines, pre-blending takes place to minimize fluctuation in crushed limestone quality. The pile of limestone is continuously reclaimed, when raw mill is in operation and stored in hopper at raw mill section. Magnetic Separators and metal detector are installed over the belt conveyors to remove any foreign materials. Reclaimed material has been transported to raw mill feed bin hoppers by a system of conveyor belts installed on structural steel gantries.

Raw Mill Feed- The limestone along with additives and correctives are transported from their respective feed bins via weigh feeders and belt conveyor to the raw mill system. For the raw mill feeding feed hoppers have been provided viz. limestone, iron sludge/ ore /additives. The feed bins are designed as mass-flow steel bins resting on load cells.

Meal Grinding- Raw Mill is used to grind the raw mix which is capable to meet the production needs. The raw meal grinding section comprises of a vertical roller mill, mill fan, separator & cyclone as well as a ductwork and control dampers. The product after grinding from raw mill is known as Raw Meal. Finished product from the raw mill will meet fineness of 12% residue on 90 micron sieve and 1.5 % residue on 200 micron sieve.

Raw Meal Transport and Storage- Raw mill product has been collected at the bottom of the cyclones and at the baghouse material from the filter hoppers is collected by a system of air slides, chain conveyors and screw conveyors and transport to a bucket elevator feeding the product to the top of the homogenizing silo. Homogenizing silo prerequisite for raw meal blending to achieve consistent quality of kiln feed. This also ensure regulated feed with minimum variation in quality for smooth operation of kiln.

C. Coal Handling & Storage

The process of making clinker & power requires heat, therefore coal/ pet coke has been used as fuel in cement plant. Raw Coal / Pet coke received (Indian/Imported) is stored in covered storage shed in coal yard, conveyed to coal mill for grinding, and finally stored in fine coal bins before used in pyro-processing. Coal unloading and stacking/reclaiming are fully automated mechanical process. Provision for use of alternate fuels like agro-waste, Plastic waste,RDF/MSW and industrial wastes (hazardous & nonhazardous waste materials) also being considered. Separate covered storage shed, Three Shredders of capacity 20 TPH each & Solid Alternate Fuel feeding system of capacity 15 TPH and liquid AFR system have been provided.

D. Clinkerization & Cement Production

Raw Meal Transport to Kiln Feed - From the homogenizing silo the raw meal is extracted to the Kiln feed bin below the silo.

Kiln Feed - From the Kiln feed bin the Kiln feed is transported via the Pre-heater bucket elevator to the top of the Pre-heater tower metered through Rotoscale / Pfister or appropriate equipment.

Pre-heating - To make best use of the energy supplied to the kiln system for clinker manufacture, a kiln system with 6-stage preheaters, inline pre calcination and separate tertiary air duct has been provided. In cyclone pre-heater system, an efficient heat transfer takes place to finally disperse the raw material particles, when they come in contact with hot gases from kiln. The raw meal, which is fed into the top stage gas duct, is carried by hot gas steam into cyclone. The material gets separated from gas in cyclones and then travels downwards and through meal chute is discharged into next lower stage gas duct. In this way, material comes into contact with high temperature gases and gets pre-heated and partially calcined and then enters the pre-calcinator.

Pre-calcining and Kiln -These groups consist of an in-line low NOx pre - calciner along with provision of Hot Disc / equivalent combustion chamber for proper fuel ignition (tertiary air duct from the kiln hood) and a three support for each rotary kiln. The pre - calciner is inline calciner of the riser duct or vessel type calciner. Tertiary air required for the pre - calciner which is provided from hot air taken from the kiln hood. In the pre - calcinator, further calcination takes place by firing pulverized coal/pet coke, to provide the necessary heat in the kiln and the Pre - calciner located at the bottom of the pre - heater, and then the material is discharged to the kiln. The

feed travels down as the kiln rotates. The chemical reaction completes when the material reaches the burning zone and cement clinker is formed. SNCR system also has been provided for controlling NOx emissions with in the norms.

Pyro - Processing - Suitable sensors for temperature, pressure, drafts, gas analysis have been provided located at strategic points for process information. CCTV (Closed Circuit Television) have been provided to give the operator inside view of the Kiln. The steady state operation data are utilized by the operators to obtain clinker of consistent quality. Kiln shell temperature scanning, which could be synchronized with the Kiln rotary motion is provided.

Clinker Cooler - A new generation, high heat recuperation efficiency (minimum 75%) grate clinker cooler has been provided. The cooler is capable to cope with fluctuations and disturbances in the kiln, which may occur during kiln operation. The grate system of the cooler (closed aeration) allows for optimum clinker distribution at the cooler inlet and for controlled and uniform aeration and cooling of individual grate sections. The clinker cooler is equipped with an integrated clinker crusher. The clinker cooler will be designed for clinker outlet temperature of max 65 Deg C above ambient. The cooler discharge has been considered above the ground level to avoid any pit or tunnel. The tertiary air extraction is located at kiln hood. The clinker cooler waste gas will be dedusted in cooler ESP. The dedusting system will be designed for maximum dust content in cleaned exit gas of 30 mg /Nm3. Cleaned gas from clinker cooler has vented through stack. On-line dust monitoring equipment has been provided at the cooler stack. Dust from cooler ESP hoppers has been transported to the clinker pan conveyor to clinker silo. Hot clinker discharged from the kiln will drop on the grate cooler and get cooled. The cooler discharge the clinker onto the pan / bucket conveyor, from where it is transported to the clinker silo.

Clinker Transport and Storage - The clinker stored from main clinker silo get transported via deep pan conveyor / BC to the cement mill section and clinker loading hoppers for dispatch purpose will also be considered. The clinker storage has been envisaged in RCC silo of capacity 100,000 Ton. An off spec clinker silo of 1,000 Ton is also considered with provision for extraction to road trucks. Clinker will be extracted from the bottom of the clinker silos and fed to the clinker hoppers in the cement grinding section through a belt conveyor. A provision of load out silo has been kept for clinker dispatches to the grinding unit. Clinker from the clinker silo has been transported to load out hoppers with discharge points to facilitate loading of trucks simultaneously. Each discharge point will be equipped with a weighbridge.

E) Cement Grinding & Storage

For cement grinding, the following main alternatives are usually available:
Closed Circuit Ball Mill (CCBM)
Ball Mill and Roller Press (BMRP) combination
Close Circuit Roller Press (CCRP)
Vertical Roller Mill (VRM)
Clinker, gypsum, fly ash and performance improver have been extracted from their respective hoppers and fed to the cement mill (VRM). Cement Mill grind the feed to a fine powder and the mill discharge is fed to an elevator, which will take the material to a separator, which separates fine product and the coarse product. The cement, so provided will be transported to RCC cement silos for packing & dispatch.

F) Cement Packaging & Dispatch

The cement silos also capable of complete emptying by an appropriate design of the silo bottom and the aeration system. Silo extraction systems with multiple outlets and collecting hoppers

have been provided. Cement storage silos have been provided with truck bulk loading facilities including weighbridges underneath the silos. Mobile loading spouts to suit a large variety of road trucks and trailers have been provided. Transport of cement from cement silo to packing machines by means of air slides and bucket elevators have been provided. To enable simultaneous transport of cement from silos to packing machines independent transport lines consisting of air slides and bucket elevators have been provided and these are provided with all necessary diverters, connections and dedusting equipment. The packing capacity for the project is designed considering 100% cement dispatch.

Waste Heat Recovery Power Plant (31 MW)

M/s. UltraTech Cement Ltd. installed Waste Heat Recovery system of 31 MW capacity including both unit.. In the cement plant, Waste heat recovery system will consist of two waste heat recovery boilers viz.

1. Pre-Heater (PH) boiler : PH boiler (2 Nos Line-1 & 2 Nos Line-2) after Pre-Heater and recovers heat from Pre-Heater exhaust gases.
2. Clinker Cooler (AQC) boiler: Clinker cooler (3 Nos Line-1 & 3 Nos Line-2) or Air Quenching cooler AQC) boiler installed after Clinker cooler and recovers heat from Clinker cooler exhaust gases.

For Pre-Heater Boiler

The flue gas, at 285 Deg C, from the top of the Preheater enter the boiler and after boiler the temperature of the flue gas will be 120 Deg C, which is used for drying of raw material in Raw Mill. When the boiler in shut down the flue gas will enter the Bag house / ESP.

For AQC Boiler

The flue gas, at 600 Deg C, from the mid tap of the AQC is enter the boiler and after boiler the temperature of the flue gas will be 120 °C, which is used / rejected in Atmosphere through existing ESP Fan. In this load on cooler ESP will be on lower side. The balance in Final is maintained by control dampers in AQC WHRB and ESP inlet duct. When the boiler in shut down the flue gas will enter the ESP and after ESP the same circuit is followed.

Benefits of Waste Heat Recovery Power Plant

Benefits of 'waste heat recovery' can be broadly classified in two categories:

1. ***Direct Benefits***: Recovery of waste heat has a direct effect on the efficiency of the process. This is reflected by reduction in the utility consumption & costs and process cost.
2. Indirect Benefits:

Reduction in pollution: A number of toxic combustible wastes such as carbon monoxide gas, sour gas, carbon black off gases, oil sludge, and other plastic chemicals etc, releasing to atmosphere if/when burnt in the incinerators serves dual purpose i.e. recovers heat and reduces the environmental pollution levels.

Reduction in equipment sizes: Waste heat recovery reduces the fuel consumption, which leads to reduction in the flue gas produced. This results in reduction in equipment sizes of all flue gas handling equipments such as fans, stacks, ducts, burners, etc.

- ***Reduction in auxiliary energy consumption:*** Reduction in equipment sizes gives additional benefits in the form of reduction in auxiliary energy consumption like electricity for fans, pumps etc.

[FORM – V]
(See rule 14)
Environmental Statement for the financial year ending the 31st March 2024
PART – A (General Information)

1	(a) Name of the Industry:	M/s. UltraTech Cement Ltd. (Unit: Dhar Cement Works) Village - Tonki, Tah - Manawar Dist –Dhar(M.P.) Pin Code– 454446
	(b) Registered Office:	'B' Wing Ahura Center, 2nd Floor, Mahakali Caves Road, Andheri (East), Mumbai 400093.
	(c) Chief Executive at Dhar Cement Works	Mr. Vijay Chhabra, (President & Unit Head)
(2)	Industry Category	Red (Cement Manufacturing)
(3)	Production Capacity	Clinker – 6.0 MTPA Cement – 5.20MTPA WHRS – 31.0 MW
(IV)	Year of Establishment	Cement plant Line-1: March, 2018 WHRS Line-1: November,2018 Cement Plant Line-2: November, 2022 WHRS Line-2: July, 2023
(V)	Date of last Environmental Statement Submitted	26.09.2023

PART – B

Water and Raw Material Consumption

(i)***Water Consumptionin m3/Day:***

A. Cement Plant

Process: Nil

cooling: 1200.1

Domestic: 30.8

Name of Products	Process & cooling water consumption per unit of product output (m^3/ton)	
	During the Current financial Year (2022-23)	During the Current financial Year (2023-24)
Clinker	0.105	0.070
Cement	0.135	0.111

B. WHRS

Process: Nil

cooling: 107

Domestic: Common facility for cement plant & WHRS

Name of Products	Process & cooling water consumption per unit of product output (m^3/ton)	
	During the Current financial Year (2022-23)	During the Current financial Year (2023-24)
Electricity	0.153 (Liter/Kwh)	0.329 (Liter/Kwh)*

*Higher than previous year due commissioning of WHRS of L-2.

(ii) Raw Material & Fuel Consumption

Name of the Raw material	Name of Product	Consumption of Raw material per unit product output (Ton/ ton of product)	
		During the Current financial Year (2022-23)	During the Current financial Year (2023-24)
Limestone	Clinker	1.54	1.44
Additive		0.02	0.06
Coal (Imported)		0.03	0.010
Pet Coke (Indigenous/ Imported)		0.06	0.074
AFR		0.02	0.013
Gypsum	Cement	0.043	0.040
Fly ash		0.34	0.32

Note: Values of Limestone and Coal calculated per MT of Clinker.

Values of Gypsum calculated per MT of Cement

Production Details

S No.	Production	During the Current financial Year (2022-23)	During the Current financial Year (2023-24)
1.	Clinker	2892955 MT	4874899 MT
2.	Cement	2935490 MT	4059662 MT
3.	WHRS	8.96 MW	18.15 MW

PART – C
Pollution discharged to environment/unit of output
(Parameter as specified in the consent issued)

Pollutants	Quantity of pollutants Discharged Discharged Tonne/day Tonne /day Tonne/day	Concentration of pollutants in discharges (mass/volume)	Concentration of pollutants in discharges (mass/volume)
a. Water	The cement plant based on dry process technology, hence there is no trade effluent water generation from cement plant process. • The water only required for spraying in mills and cooling of plant machinery/ equipment, which is recirculated & recycled back into the system. • Domestic waste water generated from Plant & transport office is being treated through 10 KLD 03 Nos STP and reutilized in horticulture/Plantation.	No water pollutants directly discharging to Environment. Sewage water STP & WHRS effluent treated result is below	Complying with the prescribed Standards. No variation observed from the standards.

Domestic Sewage: We have installed STP capacity of 10 KLD 02 Nos. and one STP 20 KLD. We are maintaining prescribed parameters within limit.

STP-1 (Near canteen)					
Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.	Prescribed Norms	Remark
Parameters	Measured Units **Avg. (mg/l)**				
pH	**7.63**		-	6.5 - 9.0	No Domestic Effluent discharged to outside as 100% treated waste utilized for development greenbelt/ horticulture
Suspended Solids	24.7		-75.3	100 mg/l.	
BOD3 Day 270C	21.4		-28.6	30 mg/l.	
COD	45.8		-81.7	250 mg/l.	
Oil & Grease	BDL*		BDL	10 mg/l.	
Fecal Coliform (FC) MPN	339.3		-83.8	1000 mg/l	

*Below Detection Limit

STP-2 (Near Transport office)					
Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.	**Prescribed Norms**	Remark
Parameters	Measured Units **Avg. (mg/l)**				
pH	**7.56**		-	6.5 - 9.0	No Domestic Effluent discharged to outside as 100% treated waste utilized for development greenbelt/ horticulture
Suspended Solids	43.3		-56.8	100 mg/l.	
BOD3 Day 270C	22.3		-25.8	30 mg/l.	
COD	55.7		-77.7	250 mg/l.	
Oil & Grease	BDL*		BDL	10 mg/l.	
Fecal Coliform (FC) MPN	320.8		-84.7	1000 mg/l	

*Below Detection Limit

Treated Effluent of WHRS: Not applicable as discharge quantity was Nil. The treated effluent waste water quality is as below

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.	**Prescribed Norms**	Remark
Parameters	Measured Units **Avg. (mg/l)**				
pH	**7.48**		-	6.5 - 9.0	No Effluent discharged to outside as 100% treated waste utilized for dust suppression on the roads
Suspended Solids	53.8		-46.2	100 mg/l.	
BOD3 Day 270C	18.4		-38.6	30 mg/l.	
COD	56.0		-77.6	250 mg/l.	
Oil & Grease	BDL*		BDL	10 mg/l.	
TDS	726.2		-65.4	2100 mg/l.	
Chlorides	173.5		-82.6	1000 mg/l.	

*Below Detection Limit

(b) Air

Source Emission (2023-24)

(1) Pollutants (PM)	**Parameter**	**Quantity of pollutants discharged (mass/day) Ton/Day**	**Concentration of pollutants discharged (mass/volume) mg/Nm³**	**Percentage of variation from prescribed standards with reasons.**	**Air Pollution Control Equipment**
Raw Mill + Kiln -1	PM	0.209	13.15	-56.18	Bag House/ low Nox
	SO2	0	BDL (DL 5.0)	-95	
	NOx	7.89	497.30	-17.12	
Raw Mill + Kiln -2	PM	0.251	14.52	-51.60	
	SO2	0	BDL (DL 5.0)	-95	
	NOx	6.87	397.40	-33.77	
Coal Mill -1	PM	0.027	13.07	-56.45	Bag house
Coal Mill -2	PM	0.025	12.77	-57.44	
Clinker Cooler -1	PM	0.156	17.90	-40.33	ESP
Clinker Cooler-2	PM	0.133	12.64	-57.87	
Cement Mill-1	PM	0.057	11.91	-60.29	Bag house
Cement Mill-2	PM	0.062	12.28	-59.06	
Cement Mill-3	PM	0.042	10.99	-63.36	

(-) Concentration is lower than the prescribed limit.

Ambient Air Quality Monitoring during the year 2023-24 (In Core Zone)

Parameter	PCB Norms (µg/m3)	Near Raw Water Storage Tank (Near Main Gate)			Near Gate NO.2			Near BRU Unit			Near Power Switch yard		
		Min	Max	Avg.	Min	Max	Avg.	Min	Max	Avg.	Min	Max	Avg.
PM10	100	33.6	63.8	51.5	35.9	68.6	54.3	36.2	66.9	54.8	34.7	65.4	52.3
PM2.5	60	21.0	48.3	35.5	25.2	50.4	38.5	23.6	47.4	38.7	22.7	47.1	36.4
SO2	80	8.4	15.3	11.4	9.1	15.6	12.2	8.0	15.9	12.3	8.6	15.8	11.8
NOx	80	11.2	19.3	14.5	13.1	22.3	16.5	14.5	21.7	17.2	12.1	19.3	15.0
CO	4 mg/m3	<1.0			<1.0			<1.0			<1.0		

PART D
Hazardous Waste

(As specified Under Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016)

Hazardous Wastes	Total Quantity (Ton)	
	During the Current financial Year (2022-23)	During the Current financial Year (2023-24)
a) From Process	1.Used Oil (Cat. 5.1): **1.200** 2.Discarded containers (Cat. 33.1): 17.320	1.Used Oil (Cat. 5.1): **5.48** 2.Discarded containers (Cat. 33.1): Nil
b) From Pollution Control Facilities.	Nil	Nil

PART – E
Solid Wastes

	Total Quantity	
	During the previous financial Year	During the Current financial Year
a) From process	No solid waste is generated from the cement manufacturing process.	No solid waste is generated from the cement manufacturing process.
b) Form pollution control facilities	All fine material collected in dedusting hoppers of APCDs are reused in process. Therefore no	All fine material collected in dedusting hoppers of APCDs are reused in process. Therefore no waste generation from

<table>
<tr><td></td><td>waste generation from pollution control facility.</td><td>pollution control facility.</td></tr>
<tr><td>c) (1) Quantity recycled or re-utilized within the unit</td><td>100% reutilized in process.</td><td>100% reutilized in process.</td></tr>
<tr><td>(2) Sold</td><td colspan="2"><u>Other Waste</u>
<table>
<tr><th>S. No.</th><th>Type of Waste</th><th>Source of Waste</th><th>Method of Disposal</th><th>TOTAL Quantity in Tons</th></tr>
<tr><td>1</td><td>Metal Scrap</td><td>Mech.</td><td>C-Recycling</td><td>1788</td></tr>
<tr><td>2</td><td>Burst Bags</td><td>Packing plant</td><td>C-Recycling</td><td>22</td></tr>
<tr><td>3</td><td>Refractory</td><td>PH, Kiln & Cooler</td><td>B-Reuse</td><td>793</td></tr>
<tr><td>4</td><td>Rubber</td><td>Mech., E&I</td><td>C-Recycling</td><td>121</td></tr>
<tr><td>5</td><td>Cables/Wires</td><td>E&I</td><td>C-Recycling</td><td>67</td></tr>
<tr><td>6</td><td>Wooden scrap (Packing Wood & Other)</td><td>Store</td><td>B-Reuse</td><td>312</td></tr>
<tr><td>7</td><td>Other Scrap</td><td>Cement Plant/Mines</td><td>C-Recycling</td><td>0.48</td></tr>
</table></td></tr>
<tr><td>(3) Disposed</td><td colspan="2">NIL</td></tr>
</table>

PART – F

Please specify the characterizations (in terms of composition of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous waste: All the used Oil and waste oil generated from the different sections of plant is being collected in empty drums and barrels and then sent to store department for proper handling and storage. The store department stores all collected hazardous waste at specified location as per Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 1989 amendment 2003, 2008, 2010 & 2016 from where the hazardous waste is being sold out to SPCB authorized recyclers.

The Annual returns for the FY 2023-24 in prescribed FORM-4 under Hazardous Waste Rules has been submitted to MPPCB on 23.04.2024 vide our office letter no. UTCLDhar/HW/Annual Return/2023-24 as well as uploaded on MPPCB XGN.

J.M. ENVIROLAB PVT. LTD.

Approved from MoEF&CC & Certified - ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

TEST REPORT

Name and address of unit:	M/s. UltraTech Cement Limited (Unit: Dhar Cement Works), Village- Tonki, Tehsil- Manawar, District- Dhar-454446, Madhya Pradesh	Report No.:	JME/O/240309001/N
		Reporting Date:	15/03/2024
		Analysis Completion Date:	15/03/2024
		Ref. No.:	NIL
		Analysis Start Date:	09/03/2024
Sample Description:	Used Oil	Receipt Date:	09/03/2024
Sampling Location :	Cement Plant	Sampling Date:	08/03/2024
Sample Collected by:	JMEPL TEAM	Sampling Type:	Composite
Contact Person:	Mr. Lalit Shankar Bhatt (Manager-Environment)	Packing Status :	Temporary Sealed

TEST RESULTS

S. No.	Parameter	Protocol	Result	Unit	Limits
1.	Polychlorinated biphenyls (PCBs)	As Per CPCB Guidelines	BDL (DL 2.0)	ppm	<2.0
2.	Lead	As Per CPCB Guidelines	5.98	ppm	100
3.	Arsenic	As Per CPCB Guidelines	0.42	ppm	5
4.	Cadmium + Nickel + Chromium	As Per CPCB Guidelines	7.05	ppm	500
5.	Poly Aromatic Hydrocarbon (PAH)	As Per CPCB Guidelines	0.78	%	6

Note: BDL- Below Detection Limit, DL- Detection Limit

End of Report

Solid Waste

Solid waste generated from process operations is especially through spillage of the various raw materials or the finished product i.e. cement. This spilled material is being recycled into the process. Hence, there is no solid waste generated during the process of cement manufacturing.

- Solid waste generated from pollution control equipment (i.e. ESP's Bag Houses & bag filters etc.) & process, recycled back into the system and reutilized.
- Regular sweeping of spillage is done and collected material is utilized in process.
- Road & Paved areas regular sweeping is done machine and manually and sweeping dust is disposed in safe manner.
- Various solid waste like refractory bricks and mild steel scrap etc. generated are from unit is disposed to vendors.
- waste are generated from packaging, rejection of old, during replacement activities etc.

S. No	Other Wastes Material which is being sent to outside parties for recycle/reuse	Type or MOC
1	MS Scrap (Chain bucket roller, Tin tapper, Raling pipe, Tor steel, old used Machinery, GI sheet, MS Heavy scrap etc)	Mild steel
2	Aluminum Scrap	Aluminium
3	Rubber Scrap	Poly vinyl chloride
4	card board / cartoon scrap	paper pulp
5	Plastic & PVC Scrap	Poly vinyl chloride
6	Wooden Scrap	Wooden
7	Old Used conveyor Belt	Rubber

PART – G

Impact of Pollution Control Measures on the Conservation of Natural Resources and Consequently Cost of Production

The following points will present a summary of the net impact of the pollution control measures on resource minimization.

1. Water is becoming a precious commodity and is more so in a case of the Dhar Cement Works & water requirement for domestic purpose, where water is in scarce. There is a fruitful effort going on for conservation of water. 03 nos. of STP have been provided for treatment of Domestic wastewater. After treating in sewage treatment plant is used for horticulture purpose and treated effluent wastewater from WHRS after proper neutralization being used for dust suppression on road & greenbelt purpose.
2. Rainwater is diverted through water channels to pits of mines and in plant pond from the plant premises.
3. Use of petcock (refinery waste) as a fuel instead of coal, this resolves the problem of oil refinery for disposal of sludge at their ends.
4. High calorific value of pet coke enables quality department to use low-grade Limestone, resulting in saving in high-grade limestone and subsequently it leads to conservation of minerals & natural coal.
5. Installation of Group Solar power plant of *capacity 15.0 MW has been installed as renewable energy sources.*
6. *WHRS of capacity 31 MW has been installed for utilization of Waste heat from PH & Cooler.*
7. Extensive plantation in and around the plant: **Green belt/Plantation Details:** - Dhar Cement works has planted about 107622 Nos. of trees in its cement plant, and worker colonies as on 31.03.2024 with an average survival rate of 88%. We have plated native sepsis at around premises.
8. Good house keeping

   Following measures have taken for good house -

   a. We have provided covered storage sheds for raw materials stocks piles like Limesone, Coal & Additive.
   b. All conveyor belts are covered with GI sheet.
   c. Clinker, Cement & Fly ash are being stored in silos.

d. Treated wastewater from WTP & WHRS and from STP is being utilized for plantation/greenbelt development & for dust suppression with in the plant premises.
e. Rainwater harvesting system adopted. Rainfall water conservation at Mines pit & in plant pond is being done.
f. All the unpaved approach roads of plant have made concreted inside the plant.
g. Development of plantation and greenery along the road and unused areas is going on in phase manner.
h. Regular cleaning of approach CC road & flooring by 03 nos. of road sweeping machines.

Dhar Cement works using alternate fuel in its Cement Kiln and obtained regular permission from MPPCB.

Alternate Fuel Feeding System at Dhar Cement Works:-

We have installed a state of the art plastic waste shredder machine. This is a fully automated machine in which the trucks loaded with plastic waste can be directly unloaded in the hoppers. From the hoppers plastic waste is being transported through a small covered belt conveyor to the shredder, which shreds the plastic waste into very small pieces. After that, the shredded plastic waste is pneumatically conveyed to closed storage bunkers. From the storage bunkers, the plastic waste is being transported through covered conveyor belt of alternate fuel feeding system which fed the shredded waste in the cement manufacturing process. Shredded material transfers in grabber pit and grabber feed material in hopper. The belts transporting the alternate fuels are fully covered and bag filters are provided at every transfer point. The entire alternate fuel feeding system is fully automatic and is controlled through programmable logic controllers (PLC).

Shredding Machine

Grabber feed Material at hopper

Material transfer through Belt.

Details of Utilization of Wastes as a fuel during 2023-24

1. **Non-hazardous Waste:**

Non Hazardous Waste Quantity	Quantity (MT)
Plastic	32119.757
MSW/RDF	50648.853
Agro Waste/biomass	6708.434
FMCG/Beverage Waste	202.21
Old Cloths/Rags (Embroidery Waste)	12.468
Polyster waste	86.281
Tyre Fiber Waste	82.318
Other solid Non hazardous waste (Bio Coal)	6048.21
Other solid Non hazardous waste (Coal Dust)	41.461
Total	95949.992

2. **Hazardous Waste:** Other Industries Waste (HW & NHW Co-processed as AFR in Cement Kiln (MT

S No.	Category of Hazardous Wastes	Type of Hazardous Waste	Quantity (MT) 2023-24
1	21.1 (HW)	Process wastes, residues and sludges	138.37
2	21.1 (NHW)	Process wastes, residues and sludges	2175.65
3	23.1	Wastes or residues (not made with vegetable or animal materials)	297.351
4	26.1	Process waste Sludge/Residue Containing acid, Toxic Metals, Organic compounds	94.89
5	28.1	Process Residue and wastes	1.939
6	29.1	Process wastes or residues	1.972
7	35.3	Chemical sludge from waste water treatment	3312.148
Total			6022.32

Cement plants are best option for disposal of wastes via valorization:

- High Temperature
- Alkaline environment
- Oxygen rich atmosphere.
- Complete scrubbing of exhaust gases due to counter current flow of raw material.
- Inclusion of ash and residual metals within the clinker structure.
- Kiln lines equipped with ESP / Bag filters.

Conclusion: -

Co-processing of all the wastes in the cement rotary kiln is called "Valorization" which has following environmental benefits: -

- High temperature, alkaline environment and oxidizing atmosphere of the cement kiln ensure complete destruction of waste.

- Complete scrubbing of exhaust gas due to counter current flow of raw materials resulting in trapping of heavy metals, sulphur and other pollutants within clinker.
- Inclusion of ashes and residual metals from the wastes within the clinker crystal structure.
- No waste is generated that requires subsequent processing.

ENERGY MANAGEMENT

No country, industry or a modern civilization can afford to be developed without energy. The industries require enough of it and cement industry in itself is an energy intensive process. In such a case it becomes more important rather obligatory for the industry to reduce the energy may be electrical or thermal use per ton of clinker/cement, since ultimately it reduce to the saving of industry. Now cement is a key player product of market especially developing countries thus it is important to save thermal or electrical energy, which will mean a strategy based on field experience, keen observations and regular implementations.

DHAR CEMENT WORKS CONSERVATION OF ENERGY

TOTAL ENERGY REQUIREMENT AND CONSUMPTION

ENERGY	2023-24
Specific Heat Consumption Kcal/Kg Clinker	698.0
KWh/Ton of Cement (From mining to Clinkerisation)	51.29
KWh/Ton Cement (Grinding & Packing)	32.46
Total KWh/Ton Cement Produced	**69.68**

ENERGY AND RESOURCE MANAGEMENT

Energy & Resources	2023-24
1. Electrical Energy KWh/Ton Cement	69.68
2. Specific Heat Consumption Kcal/Kg Clinker	698.0

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

In current financial year of 2023-24 an expenditure of about Rs. 2300.5 lacs has been made for better environment management. The expenditure statement and proposal offers an encouraging picture of environmental quality maintained in the current year and hopefully to be managed in future Expenditure on Environmental Protection.

S. No.	Major Environment Expenditures FY 2023-24	INR (Lacs)
1	Total Cost for Electricity consumption (for bag house, filter bags, ESP)	1966.80
2	Treatment of sewage and effluent cost (operational and Maintenance cost)	1.986

3	Environment Monitoring Cost	16.38
5	CGWA NOC /Hydroloogical report / Comprehensive Report/ study	7.20
6	Legal fee (EC/CTO/CTE/Authorization Fee etc.)	54.42
7	CEMS & AAQMS (operational and Maintenance cost)	2.987
8	Tree Plantation/ Maintenace and Watering of Plantation	243.79
9	Water Sprinkling for Road Maintenace Expenses	4.67
10	Biomedical waste disposal	1.77
11	WED-2021 Celebration	0.488
	Total	2300.5

A. The list of major Pollution Control Devices installed as under:

DETAILS OF ONLINE MONITORING EQUIPMENT'S:

Sr.No.	Equipments	Make	Locations	Quantity (Nos.)
1	Continuous Emissions Monitoring systems(CEMS)	Durag L-1 Induxel L-2	1.0 RM & Kiln BH L-1 2.0 RM & Kiln BH L-2 3.0 Coal Mill BH L-1 4.0 Coal Mill BH L-2 5.0 Cooler ESP L-1 6.0 Cooler ESP L-2 7.0 Cement Mill -1BH 8.0 Cement Mill-2 BH 9.0 Cement Mill-3 BH	09
2	Gas Analyser for SO2 & NOx	ABB L-1 Adage L-2	1.0 RM & Kiln BH L-1 2.0 RM & Kiln BH L-2	02
3	Continuous Ambient Air Quality Monitoring System (CAAQMS)	Chemtrols	1.0 Near Main Gate 2.0 Switch Yard	02
4	Continuous Ambient Air Quality Monitoring System (CAAQMS)	Swan	1.0 Near Gate No.3 2.0 Near Gate No.4	02
5	Metrological Station	Metone	1.0 Near Main Gate 2.0 Switch Yard	02

Photographs of CEMS & CAAQMS

Line-1 and Line-2 Stack Sox , NOx and Opacity Meter (PM) Analyser

Nox Analyser RMBH Stack

L-2 Sox & NOx Analyzer RMBH Stack

L-1 Sox & NO Opacity Meter(PM) L-1 RMBH Stack

Opacity Meter(PM) L-2 RMBH Stack

Opacity Meter(PM) L-1 Coal BH Stack

Opacity Meter(PM) L-2 Coal BH Stack

Opacity Meter(PM) L-1 Cooler ESP Stack

Opacity Meter(PM) L-2 Cooler ESP Stack

Opacity Meter CM BH Stackl-1

Opacity Meter CM BH Stack-2

Opacity Meter CM BH Stack-3

CAAQMS- 1 Near Main Gate

CAAQMS- 2 Near Power Switch Yard

CAAQMS- 3 Near Gate No.4

CAAQMS- 4 Near Gate No.3

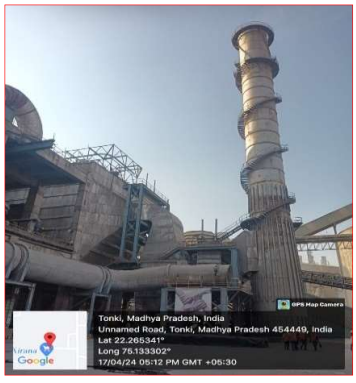
List OF Pollution Control Equipment's at Various Section of Cement Plant

S.No.	Unit	Pollution Control Equipment
01	Raw Mill / Kiln Bag house Stack L-1 & L-2	Bag House
02	Coal Mill Bag house Stack L-1 & L-2	Bag House
04	Clinker Cooler ESP Stack L-1 & L-2	ESP
05	Cement Mill- 1 Bag house Stack	Bag House
06	Cement Mill-2 Bag house Stack	Bag House
07	Cement Mill-3 Bag house Stack	Bag House

Photographs of bag house & ESP

Line-1 Raw Mill Baghouse

Line-1 Coal Mill Bag house



Line-1 Cooler ESP

Line-1 Cement Baghouse

Line-2 Cement Baghouse

Installed SNCR For NOx Control

Line-2 Raw Mill Baghouse

Line-2 Coal Mill Baghouse

Line-2 Cooler ESP

Cement Mill-3Baghouse

Bag filters installed at various transfer points for L-1 Cement Plant

Sr. No.	Pre / Post Clinkerisation	Description	QTY	Location	Name of Equipment
A	LS Crusher and Transport system				
1	Pre	LS Crusher house	1	211BF1	Bagfilter
2	Pre	211BC1/211BC2	1	211BF2	Bagfilter
3	Pre	Screen/211BC4/211BC3	1	211BF3	Bagfilter
4	Pre	211BC4/211BC6	1	211BF4	Bagfilter
5	Pre	211BC6 to 211 BC7	1	211BF5	Bagfilter
6	Pre	Surge hopper / 211BC7 / Apron feeder / BC 8	1	211BF6	Bagfilter
7	Pre	211BC8/211BC9 (OLBC)	1	211BF8	Bagfilter
8	Pre	211BC9 (OLBC) to stacker belt 211BCA	1	211BF9	Bagfilter
B	**Additive Transport system**				
1	Pre	At BRU	1	231BF1	Bagfilter
2	Pre	231BC1 / Crusher / 231 BC2	1	231BF2	Bagfilter
3	Pre	For 231BC2 to 231BC3 stacker belt	1	231BF3	Bagfilter
4	Pre	311BC1 &311BC2	1	311BF1	Bagfilter
C	**Raw Material grinding system**				
1	Pre	Lime stone hopper and 311BC2	1	311BF2	Bagfilter

2	Pre	321 BC1 / 321 BC2 /Additive hoppers	1	321BF1	Bagfilter
3	Pre	331WF1,331WF2,331WF3,331WF4 and 331BC1	1	331BF1	Bagfilter
4	Pre	331BC1/331BC2	1	331BF3	Bagfilter
5	Pre	361BC2	1	361BF1	Bagfilter
6	Pre	361BC4(Reject Circuit)	1	361BF2	Bagfilter
7	Pre	Product transport	1	391BF1	Bagfilter
8	Pre	Product transport	1	391BF2	Bagfilter
9	Pre	Hot dust bin	1	421BF2	Bagfilter
D	Coal storage and transport system				
1	Pre	Coal transport BRU-1	1	L11BF1	Bagfilter
2	Pre	Coal transport BRU-2	1	L11BF2	Bagfilter
3	Pre	L11BC1 / L11BC2	1	L11BF3	Bagfilter
4	Pre	L21BC1 TO L21 BC2	1	L21BF1	Bagfilter
5	Pre	L21BC2 / L21 BC3	1	L21BF2	Bagfilter
6	Pre	L21BC3 / L21 BC4	1	L21BF3	Bagfilter
E	**Coal grinding system**				
1	Pre	L21BC4 / L21 BC5 / Hoppers	1	L41BF2	Bagfilter
2	Pre	L41WF1,L41WF2,reject hopper	1	L41BF3	Bagfilter
3	Pre	Bag filter for Bin-1	1	451BF1	Bagfilter
4	Pre	Bag filter for Bin-2	1	481BF1	Bagfilter
F	**Pyro Processing System**				
1	Pre	Blending Silo(391SB1) and Bucket elevator top	1	391BF3	Bagfilter
2	Pre	Silo extraction & 411 AS1	1	411BF1	Bagfilter
3	Pre	411AS2 & 411BE1 boot / 431 BE 1 boot/ 431FM1,431FM2, 431AS4	1	411BF2	Bagfilter
4	Pre	411BE1 top & 411AS3	1	411BF3	Bagfilter
5	Pre	431BE1 top & 431AS5 (PH top)	1	431BF1	Bagfilter
6	Pre	Cooler crusher / 491DP1	1	491BF1	Bagfilter
7	Pre	491SB1(Clinker Silo)	1	491BF2	Bagfilter
8	Pre	491BI1(Unburnt clinker silo)	1	491BF3	Bagfilter
G	**Clinker transport system**				
1	Post	511DP1	1	511BF1	Bagfilter
2	Post	511DP2	1	511BF2	Bagfilter
3	Post	511DP3	1	511BF3	Bagfilter
H	**Clinker grinding system**				
1	Post	531HP2	1	511BF4	Bagfilter
2	Post	gypsum & Hoppers,K21BC2,3,4,5,6 Mill -1	1	K21BF3	Bagfilter
3	Post	gypsum & Hoppers,K21BC2,3,4,5,6 mill 2	1	K21BF4	Bagfilter
4	Post	Weigh feeders mill-1	1	531BF1	Bagfilter
5	Post	Reject circuit	1	561BF1	Bagfilter
6	Post	Reject circuit	1	561BF2	Bagfilter
7	Post	Product transport	1	591BF1	Bagfilter
8	Post	Product transport	1	591BF2	Bagfilter
9	Post	532HP1	1	512BF1	Bagfilter

10	Post	Mill-2 additive hoppers	1	K22BF1	Bagfilter
11	Post	Weigh feeders mill-2	1	532BF1	Bagfilter
12	Post	Mill Reject circuit	1	562BF1	Bagfilter
13	Post	Reject circuit	1	562BF2	Bagfilter
14	Post	Product transport	1	592BF1	Bagfilter
15	Post	Product transport (Added New)	1	592BF2	Bagfilter
I	**Fly ash storage and feeding system**				
1	Post	Fly ash silo top	1	K21BF5	Bagfilter
2	Post	Fly ash silo extraction and bin feed	1	K21BF6	Bagfilter
3	Post	Fly ash unloading and bucket elevator boot	1	K21BF7	Bagfilter
4	Post	Fly ash feeding System Bin	1	K31BF1	Bagfilter
5	Post	Fly ash feeding air slides to mill-1	1	K31BF2	Bagfilter
6	Post	Fly ash feeding air slides to mill-2	1	K32BF1	Bagfilter
J	**Cement Silo(4 cement silo)**				
1	Post	Bag filter for silo feeding elevator Silo -1	1	591 BF3	Bagfilter
2	Post	Bag filter for silo feeding elevator silo -2	1	591 BF4	Bagfilter
3	Post	Bag filter for cement silo-3	1	591 BF5	Bagfilter
4	Post	Bag filter for cement silo-4	1	591 BF6	Bagfilter
5	Post	Bag filter for bin-1	1	611BF1	Bagfilter
6	Post	Bag filter for bin-2	1	611BF2	Bagfilter
7	Post	Bag filter for bin-3	1	611BF3	Bagfilter
8	Post	Bag filter for bin-4	1	611BF4	Bagfilter
9	Post	Bag filter for air slide silo-1 & BE boot	1	611BF5	Bagfilter
10	Post	Bag filter for air slide silo-2 & BE boot	1	611BF6	Bagfilter
11	Post	Bag filter for air slide silo-3 & BE boot	1	611BF7	Bagfilter
K	**Packing Plant**				
1	Post	Bag filter for packer1 and Elevator	1	641BF1	Bagfilter
2	Post	Bag filter for packer2 and Elevator	1	641BF2	Bagfilter
3	Post	Bag filter for packer2	1	641BF3	Bagfilter
4	Post	Bag filter for packer3 and Elevator	1	641BF4	Bagfilter
5	Post	Bag filter for packer3 a	1	641BF5	Bagfilter
6	Post	Bulk Loading	1	651BF1	Bagfilter
L	**GYSPSUM TRANSPORT**				
1	Post	Gypsum transport- BRU	1	K21BF1	Bagfilter
2	Post	K21BC1/K21BC2	1	K21BF2	Bagfilter
		Total	**82**		

Bag filters installed at various transfer points for L-2 Cement Plant

Sr. No.	Pre / Post Clinkerisation	Description	QTY	Bag Filter Tag No.	Bag filter Final Volume (m3/hr)
1	pre	L2TT6	1	212BF1	10000M3/HR
2	pre	L2TT7	1	312BF1	8000M3/HR
3	Pre	RAW MILL HOPPER TOP	1	312BF2	25000M3/HR

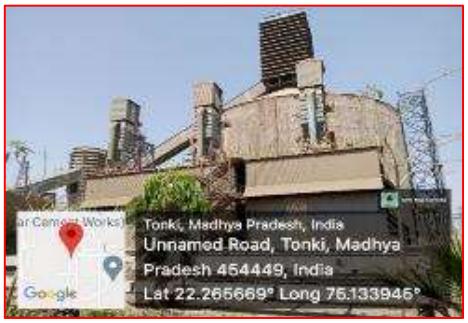
4	Pre	RAW MILL HOPPER TOP	1	322BF1	15000M3/HR
5	Pre	RAW MAT EXCTRACTION	1	332BF1	30000M3/HR
6	Pre	RAW MILL REJECT BLDG	1	362BF1	15000M3/HR
7	Pre	RAW MILL REJECT BLDG	1	362BF2	15000M3/HR
8	Pre	RAW MILL CYCLONE BLDG	1	392BF1	10000M3/HR
9	Pre	RAW MILL CYCLONE BLDG	1	392BF2	10000M3/HR
10	Pre	RAAW MILL SILO TOP	1	392BF5	25000M3/HR
11	Pre	RAAW MILL SILO INSIDE	1	412BF1	8000M3/HR
12	Pre	RaAW MILL SILO AIR SLIDE	1	412BF2	8000M3/HR
13	Pre	HOT DUCT BIN	1	422BF2	5000M3/HR
14	Pre	PHT BLDG +37M	1	432BF1	15000M3/HR
15	Pre	PHT BLDG TOP	1	432BF2	15000M3/HR
16	Pre	FINE COAL BLDG	1	452BF1	3000M3/HR
17	Pre	FINE COAL BLDG	1	452BF2	3000M3/HR
18	Pre	COOLER DISCHARGE	1	472BF1	12500M3/HR
19	Pre	FINE COAL BLDG	1	472BF2	1500M3/HR
20	Pre	FINE COAL BLDG	1	482BF1	3000M3/HR
21	Pre	REJECT SILO TOP	1	492BF1	15000M3/HR
22	Pre	CLINKER SILO TOP	1	492BF2	60000M3/HR
23	pre	COAL BRU	1	L11BF1	20000M3/HR
24	pre	L2TT5	1	L21BF1	5500M3/HR
25	Pre	RAW COAL HOPPER TOP	1	L22BF2	20000M3/HR
26	Pre	RAW COIAL HOPPER	1	L42BF1	12500M3/HR
27	Pre	SILO EXCT DPC1	1	512BF1A	12500M3/HR
28	Pre	SILO EXCT DPC2	1	512BF2	12500M3/HR
29	Pre	SILO EXCT DPC3	1	512BF3	12500M3/HR
30	Post	CLINKER TRPTATION	1	512BF5	6500M3/HR
31	Post	TT-3 Top	1	512BF6	7500M3/HR
32	Post	L2TT4 & L2TT3	1	512BF6A	7500M3/HR
33	Post	Clinker Bulk Loading	1	512BF7	25000M3/HR
34	Post	CLINKER TRPTATION	1	513BF5	5000M3/HR
35	Post	CLINKER TRPTATION	1	513BF6	12500M3/HR
36	Post	CLINKER TRPTATION	1	513BF7	10000M3/HR
37	Post	CEMENTMILL	1	533BF1	25000M3/HR
38	Post	L2TT2	1	533BF2A	6500M3HR
39	Post	L2TT1	1	533BF2B	6500M3HR
40	Post	CEMENTMILL	1	563BF1	12500M3/HR
41	Post	CEMENTMILL	1	563BF2	15500M3/HR
42	Post	CEMENTMILL	1	593BF1	7500M3/HR
43	Post	CEMENTMILL	1	593BF2	7500M3/HR
44	Post	CEMENTMILL	1	593BF3	5000M3/HR
45	Post	CEMENTMILL	1	593BF4	7500M3/HR

46	Post	CEMENTMILL	1	593BF5	7500M3/HR
47	Post	CEMENTMILL	1	593BF6	7500M3/HR
48	Post	PACKING PLANT	1	613BF1	5000M3/HR
49	Post	PACKING PLANT	1	613BF2	5000M3/HR
50	Post	PACKING PLANT	1	613BF3	5000M3/HR
51	Post	PACKING PLANT	1	613BF4	5000M3/HR
52	Post	PACKING PLANT	1	613BF5	5000M3/HR
53	Post	PACKING PLANT	1	623BF1	8000M3/HR
54	Post	PACKING PLANT	1	623BF2	15000M3/HR
55	Post	PACKING PLANT	1	623BF3	15000M3/HR
56	Post	PACKING PLANT	1	643BF1	30000M3/HR
57	Post	PACKING PLANT	1	643BF2	30000M3/HR
58	Post	FLY ASH	1	K23BF1	5000M3/HR
59	Post	FLY ASH	1	K23BF2	5000M3/HR
60	Post	FLY ASH	1	K33BF1	12500M3/HR
61	Post	FLY ASH	1	K33BF2	15000M3/HR
		Total	61		

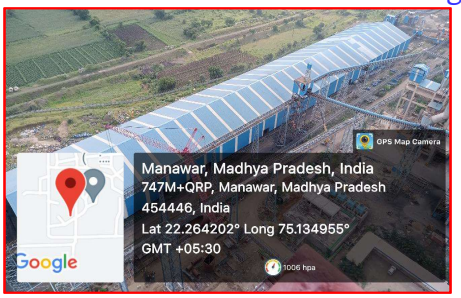
SUMMARY OF AIR POLLUTION CONTROL EQUIPMENTS

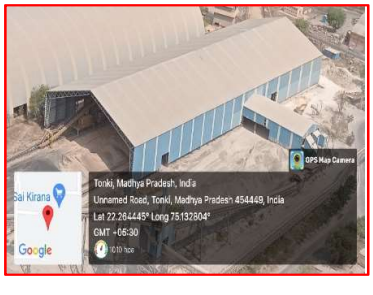
Bag House	***7***
ESP	***2***
Bag Filter	***143***

Photographs of Silo's, Covered Shed, Covered Conveyor Belts & Bag filters



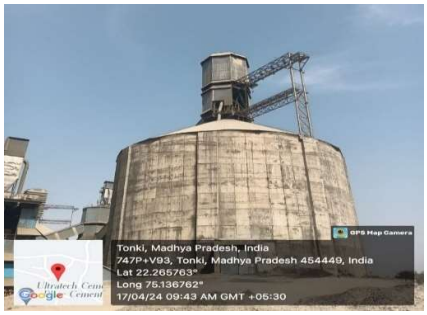
Bag filter Installed at transfer point





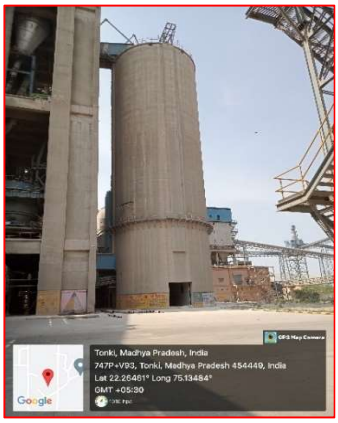
Coved shed for Raw Materials, Coal, Limestone, Additive

Silo for Storage of Clinker L-1



Silo for Storage of Clinker L-2

Line-1 Raw Mill Storage Silo



Line-2 Raw Mill Storage silo

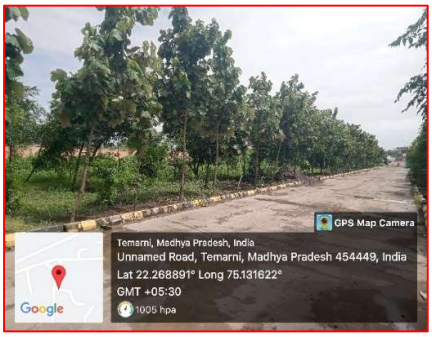
Cement Silo-5 Nos

Road Sweeping Machine

Concrete flooring

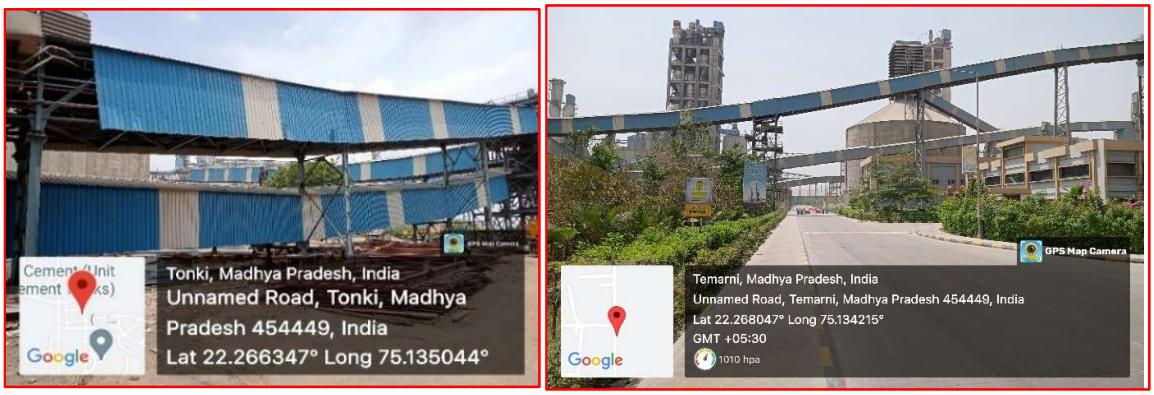
Fly ash in closed bulkers

Tarpaulin covered vehicle / closed bulkers



Plantation Photographas

Plantation



All the material transportation belts are fully covered

Manual Ambient air quality-monitoring stations Provided at plant boundary

Waste Water Management

Sewage treatment Plant (STP) is functioning well for treatment of Domestic waste water. The treated waste water is utilized for horticultural and gardening purpose. During the year 2023-24 on an avg. basis 17.06 KLD treated water generated from STP.

Details of technology adopted: For the treatment of Domestic Waste Sewage from plant premises, we have 02 Nos. Sewage Treatment Plant of Capacity 10KLD & one of Capacity 20 KLD designed by M/S JRMS ENGINEERING WORKS, Kolkata. Treated water is being utilized in horticulture purposes. 'ZERO DISCHARGE CONDITION IS BEING MAINTAINED".

1. **STP Plant details:** Unit has installed 02 Nos. CAAQMS 10 KLD and one 20 KLD Sewage treatment plant.

PART – I

Any Other Particulars in Respect of Environmental Protection and Abatement of Pollution

The Part – I of any ES/EA report is perhaps the best scale to measure various parameters of the plans, targets, achievements and ultimate impact, which the ecosystem will receive and reflect. Because, putting in money is one part and assessment of its affectively in terms of environment protection is different. The company has made sincere efforts to visualize the general Environmental Scenario from ecological angle, so that, further improvements if required, could be technically tackled to respect the environment. Some highlights are mentioned here.

1. The Environment Management Cell:

The Dhar Cement Works produces gray cement. The management initiatives are more specific and objective based as a result, and unit has constituted an Environment Management cell with full compatibility and coordination. The "Environment Cell" is responsible for the monitoring of air and water pollution, maintenance of pollution control equipment, daily monitoring of CEMS data connected to CPCB & MPPCB servers, regular checkup of leakage points and spillage and other general environmental activities including caring the green belt and the environment of the mines. In addition, in Dhar Cement Works other than above responsibilities they meet the requirements of EMS and review nonconformance in a time frame work. The environment cell comprises experienced technical personnel. The interaction of audit team with Environment Cell has been more than satisfactory.

2. **Pollution Monitoring and Control Equipment's :**

The industry has already made heavy investments in purchase of these two classes of equipment's and is planning to go in for more sites and monitors at process points and numbers. The cells regularly conduct the monitoring work. The audit team too has undergone joint monitoring along with independent observation for ambient air and stack emissions and water quality all around the area as per monitoring schedule & go for inspection time to time for routine checkup.

3. **Mine Management and Raw Material Storage:**

The industry has three limestone mines named Sitapuri, Mohanpura & New Auction Block limestone mines having lease areas 965 hectares,1026 & 344.783 hectares respectively on lease up to May 08, 2044, April 19, 2042 & June 16,2072 respectively & excellent grade limestone is available in both mines. The overall status of mined material and strategies of other resources to minimize the environmental contamination those increase environmental protection.

4. Green Belt Development/Plantation: Dhar Cement works has planted about 107622 Nos. of trees in its cement plant, and worker colonies as on 31.03.2024 with an average survival rate of 88%. Green belt development program has been started in the remaining open spaces of the premises. The species to be planted are selected based on their dust tolerance, low water requirement and sustain to grow in area as suggested by local DFO.

5. Energy and Resource Management:

The Dhar Cement Works has stabilized its production processes. The fact is that cement production is highly energy intensive and resource exploitive, it is too critical for cement industries to manage these two aspects, which are rather key issues of environment management in general.

There is no scope for renewable energy source in cement plant. However, in Dhar Cement Works alternate fuel i.e. refinery waste (pet coke) is used. Apart from this Solar Power Plant of capacity 15.0 MW has been installed at Dhar Cement as renewal energy sources of energy.

We have also installed WHRS of capacity 31.0 MW for power generation by utilization of waste heat from Preheater & Cooler and by process optimization capacity of power generation.

6. Impact Assessment on Ecosystem Components:

As mentioned earlier, the entire objective of the pollution control and management is to protect the natural environment or in ecological terms the structure and function of the ecosystem. Infect, the purpose of this Environment Statement Report is ultimately to inspect and assess what impact the industry has given to surrounding, what are the real achievement in terms of environment and whether the efforts made by the company has been effective and to what extent? To assess this impact, analysis of various environment components have been done and data as annual average are present in the tables. The comments on the analysis are placed below.

A. Soil Quality Studies:

Since the soil receives the total fallout of the ambient load, soil characteristics can give the impact on these ecosystem components, which is of key importance in plant growth. The parameters analyzed the composite soil samples including a wide range including the microbiological aspects. The fallout from the ambient environment is minimum the changes may not occur as visible symptoms.

B. Water Quality System:

The water quality analysis, for this area is important, much because dust fallout can further leach to deeper layers. The parameters analyzed for the water samples from the project site & nearby village are within the normal range of the standard water quality.

7. Risk Management:

A. Obligate Implementation:

1. Wearing of helmets
2. Safety training to employees.
3. Wearing of heat resistant aprons and suits to kiln workers

B. Checkups:

1. All the potential risk points.
2. Round the clock monitoring of safety equipment's and machines.
3. Intensive Human health examination.

C. Training & Mock Trails:

1. Safety drills
2. Fire fighting
3. Reporting and feedback system training.

D. Health Care and Welfare:

1. Safety shoes, Gumboots.
2. Helmets
3. Treatment facilities in hospital and health checkups.

E. Programme Participation:

1. Safety Week
2. World Environment Day
3. Earth Day.

7. Environment Risk Assessment:

It may be broadly defined as a scientific enterprise in which facts and assumptions are used to estimate the potential for adverse effects on human health or the environment that may result from exposures to specific pollutions or other toxic agents. Risk management, as the term is used by the Environment Protection Agency (EPA) and other regulatory agencies, refers to a decision making process which involves such consideration as risk assessment, technology feasibility, economic information about cost and benefits, statutory requirements, public concerns and other factors. Risk communication is the exchange of information about risk.

At Dhar Cement Works the risk management is done through various activities like training to top management officials and workers, various safety devices, regular health checkup and celebration of participation program i.e. world environment day & safety week etc. in the plant premises. At the site various pollution control equipment's are installed for minimization and trapping of dust. Also, green belt development program is going on in the premises.

At Dhar Cement Works money is not only spending for pollution control equipment's but also for other issues which directly or indirectly effect the environment. Also in Dhar Cement Works there is on Site Emergency program.

The industry works in a best framework of risk assessment and management with comprehensive and fast preparedness for any eventuality. There is no such environmental risk because industry have no environmental impact at any level i.e. virtually, green plant, green action and green management to achieve green productivity.

8. Noise Levels & Respirable Particle Levels:

In the cement industry, some noise occurs at certain points only and the only sector, which attracts our attention in mining through blasting. Bearing this, at all points in premises the noise levels are well within the norms laid by the authorities.

The other health hazardous of apparent significance is level of PM_{10} & $PM_{2.5}$, which exhibits that a large fraction of the ambient SPM is above this level i.e. above 10 µg/m3 thus the risk of the respiratory hazard is too low.

9. Social Environment Management:

The Dhar Cement Works is one industry worth recognition for its social welfare schemes for the nearby villages. A dedicated team of Rural development Department is working for CSR at surrounding area covering six Panchayats / Group gram panchayats covering total 16 villages:

- **Total Coverage Gram Panchayats – 13**
  Manawar Block - Tonki, Temrani, Devra, Muhali, Sondul, Morad, Sitapuri, Udiyapur,Borlai, Chirakhan.
  Gandhwani block - Karondia, Badhiya and Ghursal.
- **Villages – 16** :Tonki, Temrani, Devra, Muhali, Golpura, Sondul, Morad, Sitapuri, Udiyapur, Borlai, Chirakhan, Awral, Andiyav, Karondia, Borlai and Ghursal.

Major Intervention Areas – Education Upliftment, Community Health, Sustainable Livelihood, Infrastructure Development, Social Empowerment. CSR Expenditure in FY -2023-24.

Details of community welfare measures for rural development undertaken in the nearby villages are as *under:*

Expenses under CER Corporate Environment Responsibility as on 31.03.2024	
Core Area	**Total Expenses Incurred (Crores)**
Education and Capability Enhancement	2.024
Health Care & Covid-19	3.464
Sustainable livelihood	4.692
Infrastructure Development	25.922
Social Empowerement & Welfare	0.659
Total Expenses	36.761

ENVIRONMENT MANAGEMENT CELL

Dhar Cement Works, Manawar

In order to maintain the environmental quality within the standards, regular monitoring of various environmental components is being done. Dhar Cement Works have a full-fledged Environmental Management Cell (EMC) reporting directly to Unit Head. The EMC team is being taking care of pollution monitoring aspects and implementation of control measures as per the stipulated conditions in the Consent Orders or Authorization issued by the various statutory bodies i.e. State Pollution Control Board, Central Pollution Control Board, Ministry of Environment & Forest, Central Ground Water Authority etc. A team of qualified and efficient engineers with technical staff has deputed for maintenance, up keeping and monitoring the pollution control equipment.

OBJECTIVES OF ENVIRONMENT CELL:

- Monitoring of stacks, ambient air quality, fugitive emission, noise, water, testing waste water quality.
- Compliance of conditions given in various statutory clearances and conducting different studies related with Environment
- Preparation and submission of Environment Statement, water report, monthly, quarterly, half yearly monitoring report & yearly return.
- Compliance of other regulatory requirements
- Implement water conservation and harvesting initiates.
- Development of environmental awareness among the plant person as well as at surrounding schools & villages.
- Highlighting major environmental activities to external agencies
- Ensure Implementations of newly notified guidelines.

KEY ACTIVITIES OF ENVIRONMENT CELL

- Development of Environmental Feed Back & Reporting and reviewing system, where information flows from bottom to top.
- Monitoring / Measurement of various parameters like Air, Water and Noise etc.
- Inspection of bag filters installed at transfer points.
- Full scale treatment of sewage and management of treated sewage and check the treated waste water quality of STP performance.
- Arrange for repairs and maintenance of pollution monitoring and control systems.
- Co-ordination with various departments for effective implementation of pollution control measures to ensure statutory compliance.

- Organize testing of Water, Hazardous waste from external agencies to ensure compliance.
- Calibration of monitoring equipments.

We have an organizational structure for Environment Management to carry out implementation of Environment measures envisaged at site in enclosed guidance of Corporate Environment Head and under direct supervision of Unit Head

Corporate Environment policy and organization is as under:

Corporate Environment Policy

UltraTech Cement Ltd. has always been conscious about the impact of our activities in spheres of employee welfare measures, social and community initiatives and environment sustainability. This environmental policy represents our general position on environmental issues, the policies and practices we apply in conducting our business. We make continuous efforts to be compliant with all applicable local environmental laws and regulations.

We will proactively commit towards:

1. Conducting all operations in accordance to new and recent environmental and statutory laws and regulations.
2. Efficient and sustainable extraction and utilization of natural resources.
3. Adoption and application of state of the art technology to minimize environmental impacts of our operation.
4. Waste minimization through focus on end-of-life management by incorporating waste to energy/fuel systems through safe and approved methods and ensuring to become Plastic Positive.
5. Influence our suppliers to adopt practices for resource conservation and waste reduction.
6. Limiting the dependency on coal-based power by increasing the share of renewable energy and Waste Heat Recover Systems (WHRS).
7. Make continuous efforts to minimize fresh water consumption by increased use of harvested/ recycled water in our operations across all UTCL units and contributing towards becoming Water Positive.
8. Implement and continually improve the Environmental Management System across all our operations.
9. Monitor and report the environmental performance of all our units through regular inspections and audits for corrective actions and continual improvement.
10. Reporting of compliances and non-compliances to the concerned regulatory authorities and other stakeholders with measures to address non-compliances on priority

Kailash Jhanwar
Managing Director

November 2020

ENVIRONMENT MANAGEMENT CELL			
1.	Name	:	Shri Vijay Chhabra
	Designation	:	President & Unit Head
	Qualification	:	Chartered Accountant
2.	Name	:	Shri Jyoti K Singh
	Designation	:	FH - Technical
	Qualification	:	B. E (Mech)
3.	Name	:	Shri Lalit Shankar Bhatt
	Designation	:	Manager – Environment
	Qualification	:	M.Sc., PG-Diploma (Env-Management)
4.	Name	:	Shri Nitesh Malviya
	Designation	:	Asst. Officer
	Qualification	:	M Sc. in Environment

POLLUTION MONITORING EQUIPMENTS AND FACILITIES

S.No	***Name of Equipments***	***Make/Supplier***	***Model***	***Quantity***
1	*Fine Particulate Sampler*	*Envirotech*	*APM550*	*05*
2	*Reparable Dust Sampler*	*Envirotech*	*APM 460 DXNL*	*05*
3	*High Volume Sampler*	*Envirotech*	*APM 430*	*02*
4	*Stack Monitoring Kit*	*Polltech Instrument Pvt. Ltd.*	*PEM – SMK-10*	*01*
5	*Stack Monitoring Kit*	*Envirotech*	*VSS1*	*1*
6	*PM10 High Volume Sampler*	*Polltech Instrument Pvt. Ltd.*	*PEM-RDS-4*	*02*
7	*Sound Level Mater*	*Lutron*	*SL-4033SD*	*01*
8	*Water Testing Kit (Multi parameters photo meter)*	*Hanna*	*HTB-3399*	*01*
9	*Refrigerator*	*Whirpool*	*-*	*01*
10	*Weighting Balance*	*Mettler*	*Toledo*	*01*
11	*Gas Attachement*	*Envirotech*	*APM411E*	*05*
12	*TDS Meter*	*Lutron*	*YK-22CTA*	*01*
10	*PH Meter*	*ESICO*	*1010*	*01*
13	*Oven*	*Sytex*	*-*	*01*
14	*Ground Water Level Indicator*	*Aimil Limited*	*AIM-708*	*01*

STOCK OF RAW MATERIALS
(AS ON 31.03.2024)

S. No.	Imported Coal	Quantity (Tons)
1	Coal (Imported / Pet Coke)	20163.838
2	Crushed Lime Stone	4249.093
3	Red Ochre	0.0
4	Gypsum	6652.145
5	Fly ash	20534.291
6	HDPE Bags (Nos.)	4599.679

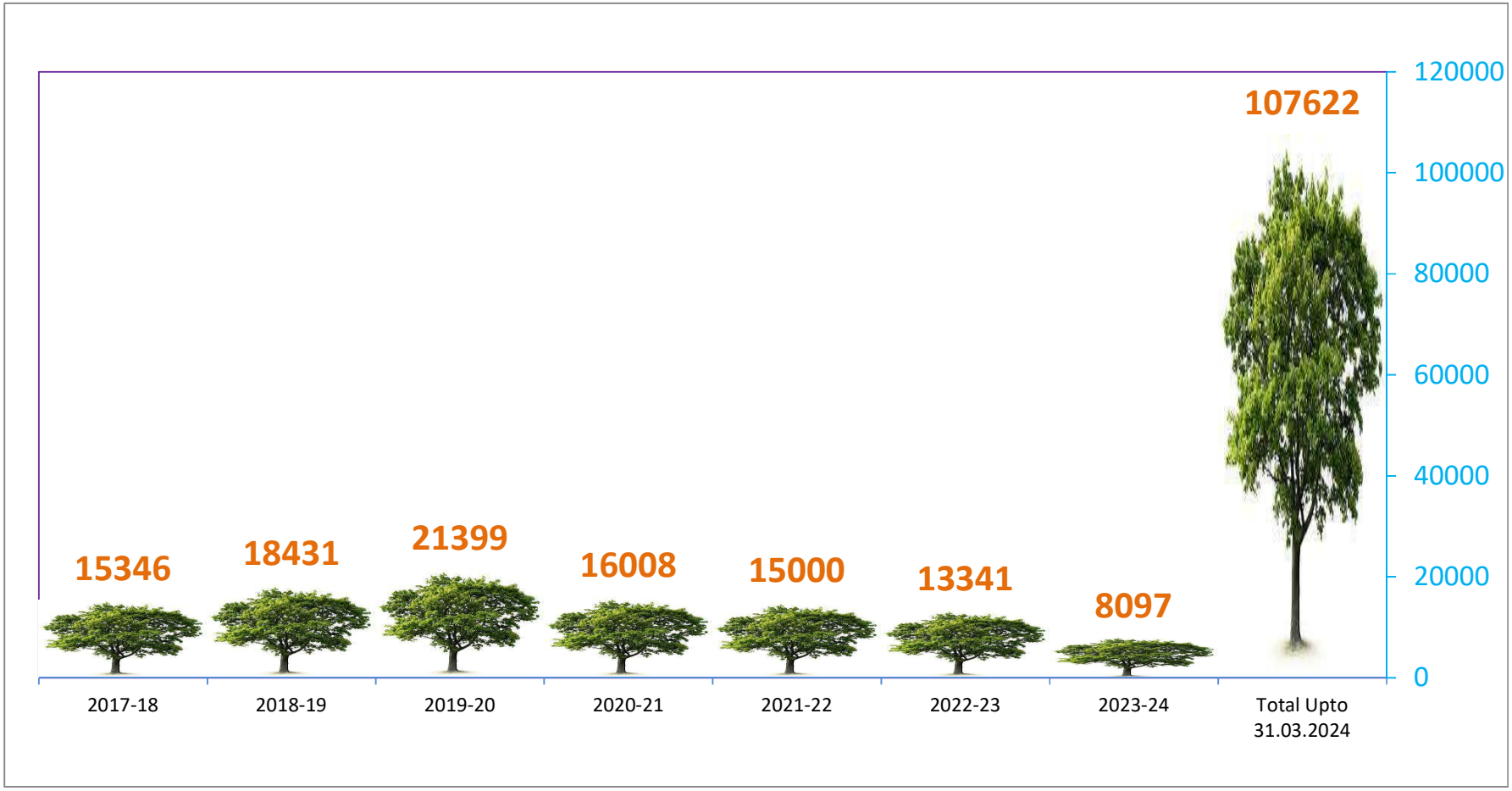
GREEN BELT DEVELOPMENT STATUS

Green belt/Plantation Details: - Dhar Cement works has planted about 107622 Nos. of trees in its cement plant, and worker colonies as on 31.03.2024 with an average survival rate of 88%. We have plated native sepsis at around premises.

IMPORTANT NATIVE PLANT SELECTED AT DHAR CEMENT WORKS

S No.	*Name of Species*
1	*Azadiracta indica (Neem)*
2	*Ficus glomerata (Gular)*
3	*Alstonia scholaris (Saptparni)*
4	*Cassia seamea (Kasadi)*
5	*Terminalia arjuna (Arjun)*
6	*Ficus bengalensis (Bargad)*
7	*Ficus religiosa (Peepal)*
8	*Bahunia purpuria (Kachnar)*
9	*Delbergia sisoo (Shisham)*
10	*Pongamis glabra (Karanj)*
11	*Ficus infectorea (Pilkhan)*
12	*Kajelia pinnata (Balam kheera)*
13	*Cassia fistula (Amaltas)*
14	*Albezia lebak (Siris)*

Green Belt Strengthening At Dhar Cement Works (Nos.)



Ambient Noise Level Monitoring

Ambient Noise Level Monitoring During 2023-24			
S No.	Location	Day Time	Night Time
	Leq. dB(A)		
1	Near Raw water Tank	64.6	59.1
2	Near Coal BRU Unit	68.1	63.2
3	Near Gate No.2	66.3	61.4
4	Near Power Switch Yard	67.5	63.0

NOISE LEVELS AT DIFFERENT SITES OF CEMENT PLANT during 2023-24

S. No.	LOCATIONS	NOISE LEVELS dB (A)
1.	Raw Mill Area-1	77.1-81.8
2.	Raw Mill Area-2	75.7-79.7
3.	Coal Mill Area -1	73.4-77.5
4.	Coal Mill Area -2	72.8.76.9
5.	Clinker Cooler Area -1	78.1-82.1
6.	Clinker Cooler Area -2	79.6-82.1
7.	Cement Mill-1	79.1-82.6
8.	Cement Mill-2	78.9-82.2
9.	Cement Mill-3	74.2-82.5
10.	Packing Plant	75.2-78.8
11.	Compressor House(PH)	79.6-83.9
12.	Pre Heater -1	78.7-80.9
13.	Pre Heater -2	78.6-82.5
14.	Kiln Area -1	80.3-84.5
15.	Kiln Area -2	80.2-83.9
16.	Mechanical Work shop Area	76.0-81.2
17.	Near Turbo Genrater	81.5-84.6
18.	Near Boiler	79.4-82.3
19.	Near Main Gate	65.2-69.5
20.	Truck Loading Area	69.7-73.8
21.	Burner Platform-1	67.2-73.2
22.	Burner Platform-2	69.0-74.1

Fugitive Dust Emissions Report During 2023-24

S No.	Location	Results (microgram/m^3)
1	Near Raw Mill Area L-1	1254-1904
2	Near Raw Mill Area L-2	1537-1832
3	Near Coal Mill Area L-1	954-1337
4	Near Coal Mill Area L-2	950-1578
6	Near Cement Mill-1 Area	1192-1735
7	Near Cement Mill-2 Area	1235-1742
8	Near Cement Mill-3 Area	1310-1761
9	Near Kiln & Cooler area L-1	1032-1506
10	Near Kiln & Cooler area L-2	1072-1688
11	Near Clinker Silo Area L-1	1340-1575
12	Near Clinker Silo Area L-2	1468-1725
13	Stacker & Re claimer Area (LS)	1319-1664
14	Coal Yard Area	802-1529
15	Packing Plant Area	1338-1800
16	Raw Material Storage Area	1470-1841
17	Near Fly-ash Unloading Area	1534-1921
18	Truck Loading Area	1765-2033

SOIL QUALITY ANALYSIS – 2023-24

CIN No: U74220HR2011PTC085756

J.M. ENVIROLAB PVT. LTD.

25 years of success

Approved from MoEF&CC & Certified - ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

TEST REPORT

Sample Number:	JME/DCW/S/01-06	Report No.:	JME/S/240111015-020
Name & Address of Unit:	M/s. UltraTech Cement Limited (Unit: Dhar Cement Works), Village- Tonki, Tehsil- Manawar, District- Dhar-454446, Madhya Pradesh	Reporting Date:	15/01/2024
		Analysis Completion Date	15/01/2024
Sample Description	Soil	Analysis Start Date	11/01/2024
Client Representative : (Name & Designation)	Mr. Lalit Shankar Bhatt (Section Head)	Receipt Date:	11/01/2024
Sample Collected By:	JMELPL Team	Sampling Date:	10/01/2024
		Sampling Type:	Composite
Sampling & Analysis Protocol :	IS-2720/USDA A, Method Manual of Soil Testing in Ind.	Sample Quantity:	2 Kg
		Depth of Sampling:	30 cm

TEST RESULTS

S. No.	Parameters	Unit	Result					
			Near Tonki Village	Near Morad Village	Near Temarany Village	Near Sondul Village	Plant Site	Near Gate No. 3 in Colony
1.	pH at 25°C	-	7.52	7.63	7.22	7.72	7.62	7.81
2.	Conductivity	mS/cm	0.40	0.26	0.36	0.37	0.46	0.36
3.	Soil texture	-	Silt Clay	Silt Clay	Silt Clay	Silt Clay	Silt Clay	Silt Clay
4.	Sand	%	29	32	26	29	23	32
5.	Silt	%	40	38	42	41	43	40
6.	Clay	%	31	30	32	30	34	36
7.	Colour	-	Brown	Brown	Brown	Brown	Brown	Brown
8.	Water Holding Capacity	%	56.03	59.04	56.12	62.10	57.05	58.50
9.	Bulk density	gm/cc	1.51	2.18	1.76	1.58	1.67	1.36
10.	Chloride	mg/kg	246.21	166.42	172.08	202.31	225.14	168.02
11.	Calcium	mg/kg	6730.02	6398.21	7478.03	5672.14	8241.42	6932.10
12.	Sodium	mg/kg	70.0	64.0	74.0	86.0	79.0	62.0
13.	Potassium	kg/hec	186.0	184.0	210.0	246.0	226.0	158.0
14.	Organic matter	%	0.82	0.88	0.79	0.89	0.93	0.89
15.	Magnesium	mg/kg	1618.31	1478.14	2008.21	1318.09	2178.21	1680.45
16.	Nitrogen as N	kg/hec	151.14	171.10	125.25	156.21	135.54	167.50
17.	Phosphorous as P_2O_5	kg/hec	32.51	24.06	26.17	26.15	20.03	24.30
18.	Zinc as Zn	mg/kg	17.42	20.31	18.10	26.10	28.10	20.31
19.	Manganese as Mn	mg/kg	137.41	126.10	146.21	159.16	114.31	116.34
20.	Chromium as Cr	mg/kg	14.04	18.32	24.32	15.17	25.15	20.47
21.	Lead as Pb	mg/kg	28.32	32.13	26.14	42.32	29.10	34.14
22.	Cadmium as Cd	mg/kg	8.21	11.06	18.08	18.42	16.31	14.07
23.	Copper as Cu	mg/kg	20.42	14.16	16.10	25.14	17.22	25.13
24.	Mercury as Hg	mg/kg	BDL(DL5.0)	BDL(DL5.0)	BDL(DL5.0)	BDL(DL5.0)	BDL(DL5.0)	BDL(DL5.0)
25.	Arsenic as As	mg/kg	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)
26.	Nickel as Ni	mg/kg	8.03	14.08	6.31	16.09	20.84	16.00
27.	Fluoride as F	mg/kg	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)	BDL (DL5.0)
28.	Ammonia	mg/kg	BDL (DL2.5)	BDL (DL2.5)	BDL (DL2.5)	BDL (DL2.5)	BDL (DL2.5)	BDL (DL2.5)
29.	Cyanide	mg/kg	BDL(0.02)	BDL(0.02)	BDL(0.02)	BDL(0.02)	BDL(0.02)	BDL(0.02)
30.	Nitrate	mg/kg	BDL(DL2.5)	BDL(DL2.5)	BDL(DL2.5)	BDL(DL2.5)	BDL(DL2.5)	BDL(DL2.5)

BDL – Below Detection Limit, DL - Detection Limit

Kavita Mandal
Tested by

Ritika Saini
Checked by

Rajkumar Yadav
Authorized Signatory

Note:
1. This test report has been at your request and test results pertain to the tested sample received.
2. This reports is for your reference only and not to be used for any legal purpose.
3. Any discrepancy in the test report or any remarks regarding the test results shall be brought to our knowledge within 7 days of the issue of this report.
4. Total liability or any claim in case of dispute is limited to the invoice raised by the laboratory.
5. The sample will be destroyed after retention time unless otherwise specified specially.
6. Endorsement of the product tested by the laboratory is neither inferred nor implied.
7. Report shall not be reproduce except in full without approval of the laboratory.
8. All disputes are subject to exclusive jurisdiction of Jaipur court only.

Reg. Office & Lab.
424, Ground Floor, Udyog Vihar,
Phase-IV, Gurugram-122015 (Haryana)
E-mail: jmenvirolab@hotmail.com | www.jmenvironet.org

Corporate Office
Emaar Digital Greens, Tower-B, Unit No.1517,
Golf Course Ext. Road, Sector-61,
Gurugram-122011(Haryana)

DRINKING WATER QUALITY ANALYSIS RESULTS

CIN No. U74220HR2011PTC086756

J.M. ENVIROLAB PVT. LTD.

25 years of success

Approved from MoEF&CC & Certified - ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

TEST REPORT

Sample Number:	JME/UTCL/W/01-004	Report No.:	JME/W/240110065-068
Name & Address of Unit:	M/s. UltraTech Cement Limited (Unit: Dhar Cement Works), Village- Tonki, Tehsil- Manawar, District- Dhar-454446, Madhya Pradesh	Reporting Date:	16/01/2024
		Analysis Completion Date:	16/01/2024
		Analysis Start Date:	10/01/2024
Sample Description:	Water (Drinking Plant Site)	Receipt Date:	10/01/2024
Client Representative (Name & Designation):	Mr. Lalit Shankar Bhatt (Manager-Environment)	Sampling Date:	09/01/2024
		Preservation:	Refrigerated
Sample collected by:	JMELPL TEAM	Sampling Type:	Composite
Packing Status :	Temporary Sealed	Sample Quantity:	2.0 litre
Protocol Used:	IS:3025 (P-I) & APHA 23rd Edition 2017	Parameter Required:	As per work order

TEST RESULTS

S. No.	Parameters	Unit	Packing Plant Office (RO)	AFR (RO)	Store Building (RO)	Nr Gate No. 03 Colony (RO)	Specification as per IS 10500-2012	
							Requirement Acceptable Limit	Permissible Limit In the Absence of Alternate Source
1.	pH (at 25 °C)	-	7.39	7.58	7.12	7.96	6.5 to 8.5	No Relaxation
2.	Colour	Hazen Unit	BDL(DL 1.0)	BDL(DL 1.0)	BDL(DL 1.0)	BDL(DL 1.0)	5	15
3.	Taste	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4.	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
5.	Turbidity	NTU	BDL(DL 1.0)	BDL(DL 1.0)	BDL(DL 1.0)	BDL(DL 1.0)	1	5
6.	Total Dissolved Solids	mg/l	188.0	262.0	215.0	259.0	500	2000
7.	Total Hardness as CaCO3	mg/l	136.0	149.0	162.0	133.0	200	600
8.	Alkalinity as CaCO3	mg/l	110.0	212.0	134.0	190.0	200	600
9.	Calcium as Ca	mg/l	34.24	31.08	26.19	35.26	75	200
10.	Magnesium as Mg	mg/l	12.29	17.36	16.68	10.94	30	100
11.	Residual free Chlorine	mg/l	BDL(DL 0.20)	BDL(DL 0.20)	BDL(DL 0.20)	BDL(DL 0.20)	0.2	1.0
12.	Boron	mg/l	BDL(DL 0.20)	BDL(DL 0.20)	BDL(DL 0.20)	BDL(DL 0.20)	0.5	2.4
13.	Chloride as Cl	mg/l	32.69	39.42	44.16	30.14	250	1000
14.	Sulphate as SO4	mg/l	8.14	10.07	15.85	9.29	200	400
15.	Fluoride as F	mg/l	0.32	0.59	0.38	0.52	1	1.5
16.	Nitrate as NO3-N	mg/l	1.06	4.24	2.24	1.19	45	No Relaxation
17.	Phenolic Compounds	mg/l	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	BDL(DL 0.001)	0.001	0.002
18.	Cyanide as CN	mg/l	BDL(DL 0.02)	BDL(DL 0.02)	BDL(DL 0.02)	BDL(DL 0.02)	0.05	No Relaxation
19.	Anionic Detergents as MBAS	mg/l	BDL(DL 0.02)	BDL(DL 0.02)	BDL(DL 0.02)	BDL(DL 0.02)	0.2	1
20.	Cadmium as Cd	mg/l	BDL (DL 0.002)	BDL (DL 0.002)	BDL (DL 0.002)	BDL (DL 0.002)	0.003	No Relaxation
21.	Arsenic as As	mg/l	BDL (DL 0.002)	BDL (DL 0.002)	BDL (DL 0.002)	BDL (DL 0.002)	0.01	No Relaxation
22.	Copper as Cu	mg/l	BDL (DL 0.02)	BDL (DL 0.02)	BDL (DL 0.02)	BDL (DL 0.02)	0.05	1.5
23.	Lead as Pb	mg/l	BDL (DL 0.008)	BDL (DL 0.008)	BDL (DL 0.008)	BDL (DL 0.008)	0.01	No Relaxation
24.	Manganese as Mn	mg/l	BDL (DL 0.01)	BDL (DL 0.01)	BDL (DL 0.01)	BDL (DL 0.01)	0.1	0.3
25.	Iron as Fe	mg/l	BDL (DL 0.02)	BDL (DL 0.02)	BDL (DL 0.02)	BDL (DL 0.02)	1	No Relaxation
26.	Chromium as Cr	mg/l	BDL (DL 0.002)	BDL (DL 0.002)	BDL (DL 0.002)	BDL (DL 0.002)	0.05	No Relaxation
27.	Selenium as Se	mg/l	BDL(DL 0.005)	BDL(DL 0.005)	BDL(DL 0.005)	BDL(DL 0.005)	0.01	No Relaxation
28.	Zinc as Zn	mg/l	BDL(DL 0.0005)	BDL(DL 0.0005)	BDL(DL 0.0005)	BDL(DL 0.0005)	5	15
29.	Aluminium as Al	mg/l	BDL(DL 0.03)	BDL(DL 0.03)	BDL(DL 0.03)	BDL(DL 0.03)	0.03	0.2
30.	Mercury as Hg	mg/l	BDL (DL 0.001)	BDL (DL 0.001)	BDL (DL 0.001)	BDL (DL 0.001)	0.001	No Relaxation

BDL – Below Detection Limit, DL - Detection Limit

End of Report

Himani Chaudhary
Tested by

Abhishek Tiwari
Checked by

Rajkumar Yadav
Authorized Signatory

Note:
1. This test report has been at your request and test results pertain to the tested sample received.
2. This reports is for your reference only and not to be used for any legal purpose.
3. Any discrepancy in the test report or any remarks regarding the test results shall be brought to our knowledge within 7 days of the issue of this report.
4. Total liability or any claim in case of dispute is limited to the invoice raised by the laboratory.
5. The sample will be destroyed after retention time unless otherwise specified specially.
6. Endorsement of the product tested by the laboratory is neither inferred nor implied.
7. Report shall not be reproduce except in full without approval of the laboratory.
8. All disputes are subject to exclusive jurisdiction of Jaipur court only.

Reg. Office & Lab.
424, Ground Floor, Udyog Vihar,
Phase-IV, Gurugram-122015 (Haryana)
E-mail: jmenvirolab@hotmail.com | www.jmenvironet.org

Corporate Office
Emaar Digital Greens, Tower-B, Unit No.1517,
Golf Course Ext. Road, Sector-61,
Gurugram-122011(Haryana)

CIN No.: U74220HR2011PTC065756

J.M. ENVIROLAB PVT. LTD.

25 years of success

Approved from MoEF&CC & Certified - ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

TEST REPORT

Sample Number:	JME/UTCL/W/01-004	Report No.:	JME/W/240110065-068/N
Name & Address of Unit:	M/s. UltraTech Cement Limited (Unit: Dhar Cement Works), Village- Tonki, Tehsil- Manawar, District- Dhar-454446, Madhya Pradesh	Reporting Date:	16/01/2024
		Analysis Completion Date:	16/01/2024
		Analysis Start Date:	10/01/2024
Sample Description:	Water (Drinking Plant Site)	Receipt Date:	10/01/2024
Client Representative (Name & Designation):	Mr. Lalit Shankar Bhatt (Manager-Environment)	Sampling Date:	09/01/2024
		Preservation:	Refrigerated
Sample collected by:	JMELPL TEAM	Sampling Type:	Composite
Packing Status :	Temporary Sealed	Sample Quantity:	2.0 litre
Protocol Used:	IS:3025 (P-I) & APHA 23rd Edition 2017	Parameter Required:	As per work order

TEST RESULTS

S. No.	Parameters	Unit	Packing Plant Office (RO)	AFR (RO)	Store Building (RO)	Nr Gate No. 03 Colony (RO)	Specification as per IS 10500- 2012	
							Requirement Acceptable Limit	Permissible Limit in the Absence of Alternate Source
1.	Total Coliform	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent
2.	E. coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent	Absent

Himani Chaudhary
Tested by

Abhishek Tiwari
Checked by

Authorized Signatory

Note:
1. This test report has been at your request and test results pertain to the tested sample received.
2. This reports is for your reference only and not to be used for any legal purpose.
3. Any discrepancy in the test report or any remarks regarding the test results shall be brought to our knowledge within 7 days of the issue of this report.
4. Total liability or any claim in case of dispute is limited to the invoice raised by the laboratory.
5. The sample will be destroyed after retention time unless otherwise specified specially.
6. Endorsement of the product tested by the laboratory is neither inferred nor implied.
7. Report shall not be reproduce except in full without approval of the laboratory.
8. All disputes are subject to exclusive jurisdiction of Jaipur court only.

Reg. Office & Lab.
424, Ground Floor, Udyog Vihar,
Phase-IV, Gurugram-122015 (Haryana)
E-mail: jmenvirolab@hotmail.com | www.jmenvironet.org

Corporate Office
Emaar Digital Greens, Tower-B, Unit No.1517,
Golf Course Ext. Road, Sector-61,
Gurugram-122011(Haryana)