Ambuja Cement

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Registered Post

Ref.: ACH/EMD/F-20/09(01)/2024 Date 25.09.2024

Regional Officer,
H.P. State Pollution Control Board,
S.C.F. - 6,7 & 8, Sector-IV, Parwanoo
Distt. Solan (H.P.)

Sub: Environmental Statement for the year 2023 – 2024 for Unit - Rauri and Kashlog Limestone Mines.

Dear Sir,

Enclosed please find an Environmental Statement Report for the year 2023-2024 for plant & mines for Unit – Rauri and Kashlog Limestone Mines.

The report is being put forth in seriatim for your kind perusal please.

Yours faithfully,
For **Ambuja Cements Ltd. (Unit Rauri)**

Hem Raj Sharma

(Environment)

Cc: **Member Secretary, HP State Pollution Control Board, "Him Parivesh" Phase III, New Shimla (H.P.) Pin-171 009**

Inspector General of Forests (C), MoEF&CC, Integrated Regional Office, Shimla 1st & 2nd Floor, C.G.O. Complex, Longwood, Shimla – 171001

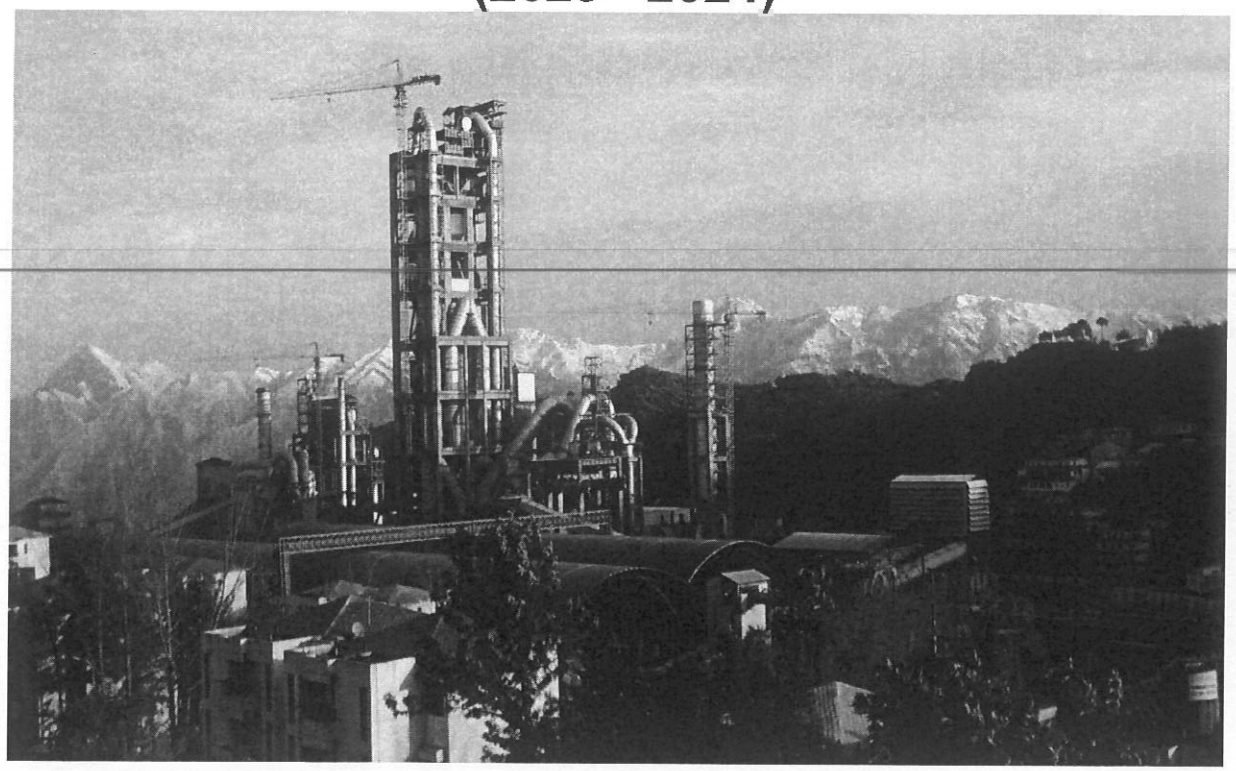
Ambuja Cements Limited
Unit – Suli & Rauri (Darlaghat)
Village Suli, P.O. Darlaghat,
Tehsil Arki, Distt. Solan, Himachal Pradesh - 171102
www.ambujacement.com

CIN: L26942GJ1981PLC004717

Registered Office:
Adani Corporate House
Shantigram, S. G. Highway
Khodiyar, Ahmedabad – 382 421, Gujarat, India
Ph.: +91 79-2555 5555, www.ambujacement.com

Environmental Statement

For
Plant and Mines
(2023 - 2024)



AMBUJA CEMENTS LIMITED
(Unit - Rauri)
Village Suli, P.O. Darlaghat, Teh. Arki,
Distt. Solan
Himachal Pradesh

Ambuja Cement

INDEX

LIST OF TABLES

LIST OF ANNEXURES

1.0 INTRODUCTION OF THE PLANT

Ambuja Cement has started a new plant named Rauri Unit near its old Suli Plant at Darlaghat Teh. Arki, Distt. Solan, Himachal Pradesh with a consented capacity of 2.6 MTPA of Clinker. The plant was commissioned on 27th March 2010. The plant undergoes for expansion of clinker capacity from 2.6 MTPA to 3.0 MTPA and got the CTO in the month of May 2024. The plant is equipped with the latest technology and most modern Air Pollution Control Equipments. The plant has also installed the Waste Heat Recovery System of 11.5 MW for the generation of electricity through the utilization of waste heat.

The organization is maintaining the emission norms well below to the standards laid down by the Government Regulatory Authorities, and taking care for further improvement of environment, by means of optimum utilization of raw material, use of waste material, energy, fuel conservation, afforestation and community development, etc.

Mining activities of Ambuja Cement at Kashlog Limestone Mines are the best example in Indian mining industry scenario for state-of-the-art mining with excellent environmental control and conservation.

2.0 OBJECTIVES & SCOPE

The objective & benefits of this report are:

- To evaluate the performance of process and pollution control systems.
- To identify the areas where further attention is required for better environmental management.
- To identify the areas of waste minimization and abatement measures thereof.
- To create Environmental Awareness.
- To explore the maximum possibility of recycling and recovery.
- To have a sound data base on environment.
- To help in developing culture for self environmental assessment.
- To comply with laws and regulations, company's policy and various applicable standards.

3.0 ENVIRONMENTAL MANAGEMENT & PROTECTION MEASURES

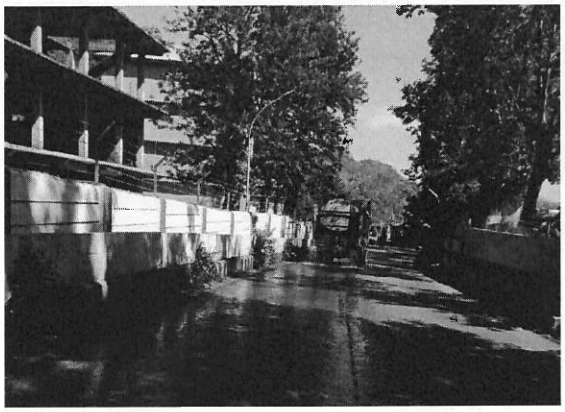
The environment of any area chiefly constitutes the biotic & abiotic factors of that area. Any infiltration of the foreign factors or addition or subtraction of any of the said factors beyond a definite limit causes harm to environment.

Keeping this objective in view and in continuation to our earlier activity in this respect, we have taken various environmental protection and conservation measures.

A. At Plant:

1. All the raw material and clinker is being stored under covered sheds.
2. All roads inside plant are concreted to reduce the fugitive dust emission.

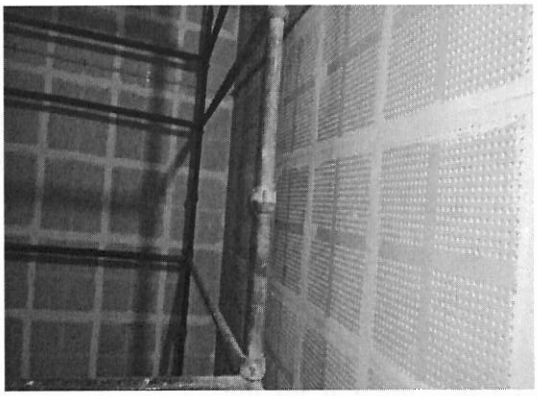
3. Roads are being cleaned with two tenant machines to control the fugitive dust emission.
4. Alternate road is constructed to decongest the traffic due to movement of trucks.



Water Spraying on Roads

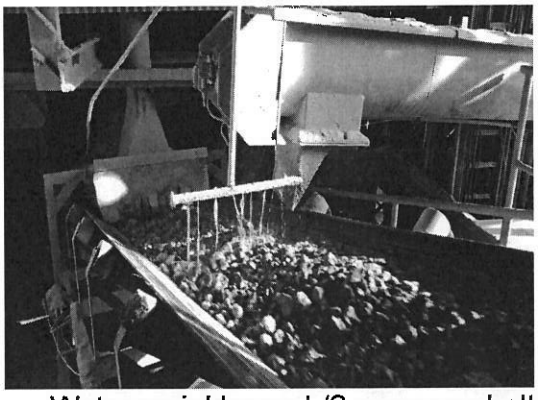
Tennant Road Sweeping Mahcines

5. Limestone is being conveyed through closed conveyor belt.
6. Water sprinklers have been provided to reduce the dust emission.
7. Green Belt is being developed in Plant area and towards Rauri Village in consultation with HFRI Shimla.
8. To reduce the noise emission the major noise producing machineries like Raw Mill and Raw Material Hopper has been provided with acoustic enclosures.
9. Various primary measures has been taken to reduce the NOx emission. All the emissions including NOx are well below the prescribed standards of MoEF&CC.

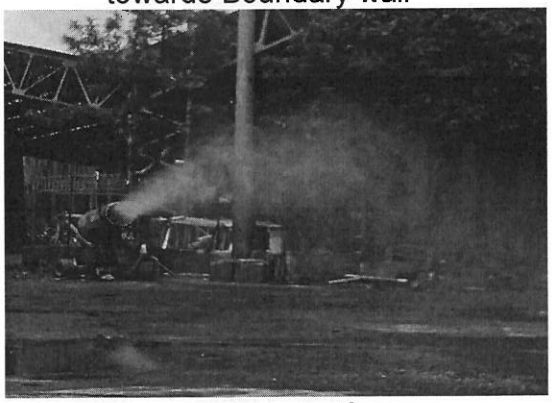


(Inside view) Raw Material Hopper

Tin sheeting and plantation towards Boundary wall



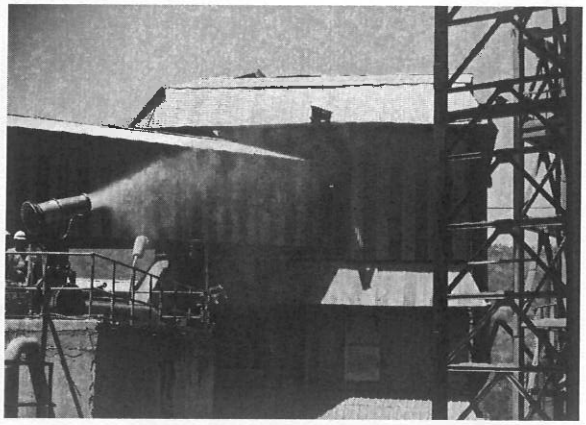
Water sprinkler on L/S conveyor belt



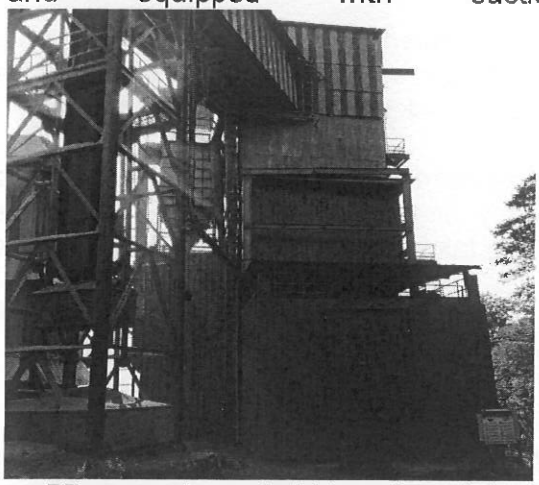
Water sprinkling by fogger

B. At Mines:

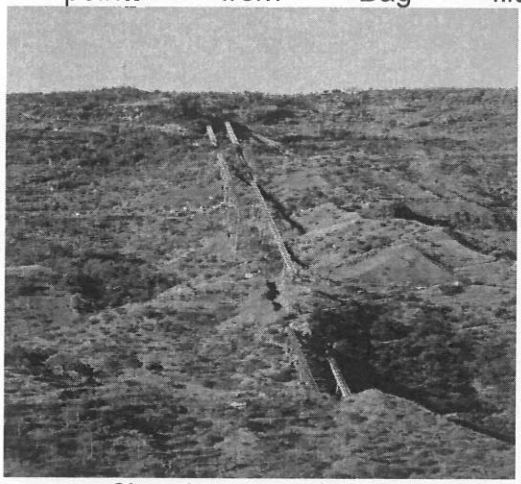
- **Dust suppression at Crusher:-**
  Water sprinkling system has been installed at crusher so that dust is not allowed to become airborne as the dumpers unloaded into the crusher. The foggers are also installed at crusher to suppress the dust due to the movement of dumpers.



- **Suppression of dust on haul roads**
  Regular water spraying by water tankers is a routine exercise to prevent the dust particles from being getting airborne. This serves in top layer compaction of the haul roads and also facilitates in maintenance of haul roads.
- **Suppression of dust before & after blast by spraying water**
  To avoid dust getting airborne before and after blast, water is sprayed on the blast muck pile through **Water jet system** attached to fire tender tanker.
- **Suppression of dust at transfer points** At all material transfer points are covered and equipped with suction points from Bag filters.



BF installed at material transfer point

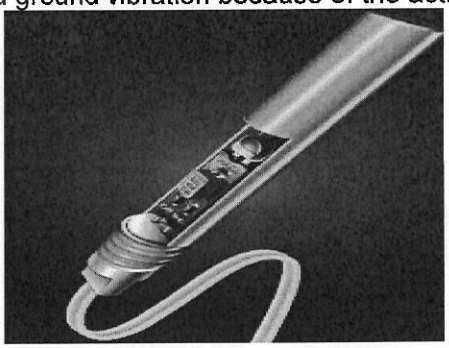


Closed conveyor belt

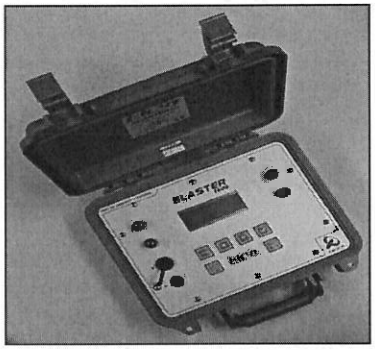
We have successfully commissioned 3 nos. of Over Land Belt Conveyors (OLBC) with 3 nos. tunnels , criss- crossing mountains covering 6.3 Kms from Mangu crusher to Rauri plant for the transportation of Raw Material i.e. Limestone. This is a pollution free conveying as well as environment friendly mode of transportation as compared to road transport.

- We use IKON digital energy control system to blast in critical areas. This system is more precise and accurate and generates less ground vibrations, fly rock and give better fragmentation.

Advanced controlled blasting technique is practiced such as use of NTD, Excel, muffled blasting, optimum quantity of blasting material are practiced to avoid dust generation, fly rock, noise level and ground vibration because of the activity.



i-kon ™ Detonator



i-kon™ Blaster1600S

i-kon™ Logger

i-kon™ Blaster400

Secondary blasting is avoided by use of hydraulic breaker.

FOR CONTROL GROUND VIBRATION & FLY ROCKS

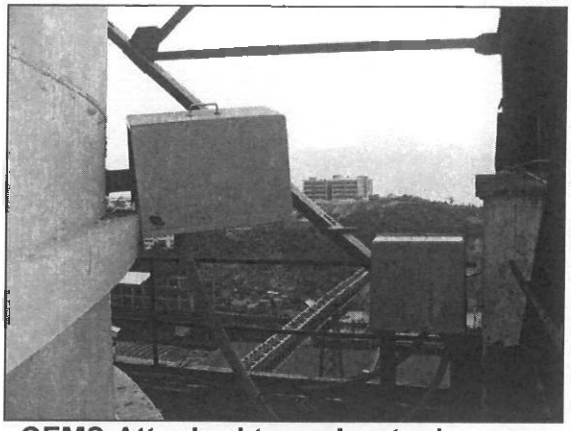
- The use of latest Non-electric system of initiation of the Blast holes by using EXCEL detonators and connectors. It ensures bottom hole initiation of the explosive charge, thereby reducing the ground vibration and fly-rock problem.

- Use of ground vibration and air blast monitoring instrument "Minimate" to monitor the blasts. The instrument reveals efficiency of the blasting activity like deciding Max charge per delay etc. This also allows us to take corrective action, if any, in time.

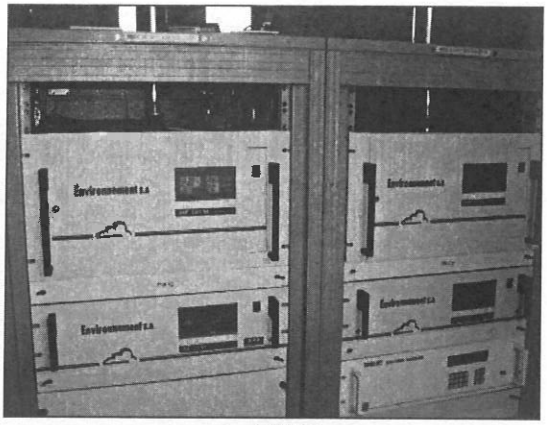
-**No secondary blasting** is done. All the big boulders are broken using a Hydraulic Rock Breaker, thereby eliminating the risk of flying fragments associated with the secondary blasting.

4.0 Monitoring of Air & Water Pollution

A. **Stack:** Continuous Particulate Monitor has been installed at Coal Mill & Clinker Cooler. Continuous Emission Monitoring System has been installed at the main stack attached to Raw Meal & Kiln.



CEMS Attached to main stack

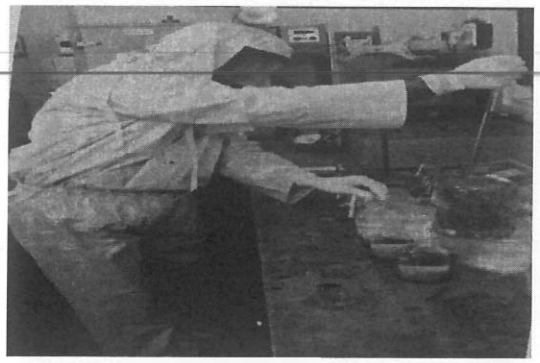


CAAQMS

B. **Ambient Air:** Ambient Air Quality is being monitored in 3 fixed stations on regular basis. The Ambient Air quality monitoring results are enclosed in table -1.
Also, Continuous Ambient Air Quality Monitoring Station is installed to check the ambient air quality. The data of the same is being submitted to CPCB website & SPCB server on realtime basis.

C. **WATER**

Apart from source and fugitive emission monitoring facilities, we have two stationary labs for the analysis of air, water and wastewater parameters. The plant and colony domestic wastewater is treated in Sewage Water Reclamation Plant (SWRP) and recycled water is used by 100 % for plant cooling and greenery development. The treated water quality results are enclosed.

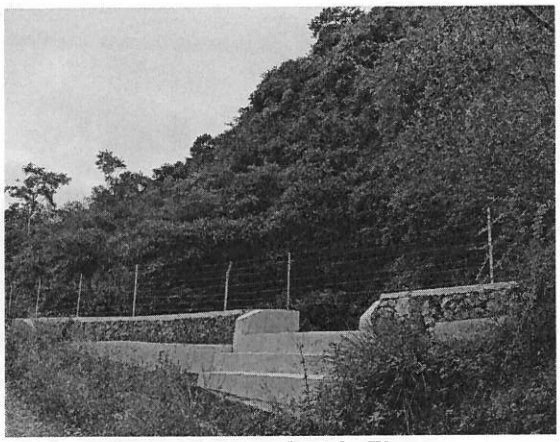


STP Laboratory

5.0 SOIL CONSERVATION

In the mining area soil cover above limestone is almost negligible. Wherever soil is there, it is being carefully scrapped, collected manually and presently being used in re-vegetation/plantation schemes and filling the sapling pits.

Top soil stacked separately for Reclamation and rehabilitation



Check dams/check filters

The watercourse in valleys of the active mining area from where there is possibility of flowing run off water during rains, **Check dams** are built at proper sites & at suitable intervals. **Check walls** are also built in multiple numbers at a regular interval along the watercourse to allow settling of coarse material in the run-off water.

6.0 PLANTATION

At Ambuja Cement, Plantation is an integral part of our activities for environmental protection. This helps us in providing an additional aesthetic look in and around our works including our residential areas. We have started plantation in various sectors since the inception of the project. Plantation details enclosed as table 5.

7.0 ENVIRONMENTAL EXPENDITURE

Company is very much conscious about the environment. Various activities are being carried out to protect the environment. The details of expenditure for the preservation and protection is enclosed as Annexure 1.

Ambuja
Cement

ENVIRONMENTAL STATEMENT

FORM - V

Environmental statement Report of Ambuja Cement for the financial year ending **31st March 2023.**

PART - A

(i)	Name and Address of the Owner/ Occupier of the Industry, operation or process	: **AMBUJA CEMENTS LTD.** (Unit - Rauri) P.O : Darlaghat , Teh. : Arki Distt.: Solan, (HP) - 171 102
(ii)	Date of the last Environmental Statement Report submitted	22nd September 2023

PART-B

WATER AND RAW MATERIAL CONSUMPTION

(I) WATER CONSUMPTION

Name of the Product	Water Consumption per unit of product	
	During the previous financial year	During the Current financial year
	1	2
1. Industrial *	71485 m3	83855 m3
2. Domestic	3412 m3	3815 m3

***- Water used for Industrial cooling purpose.**

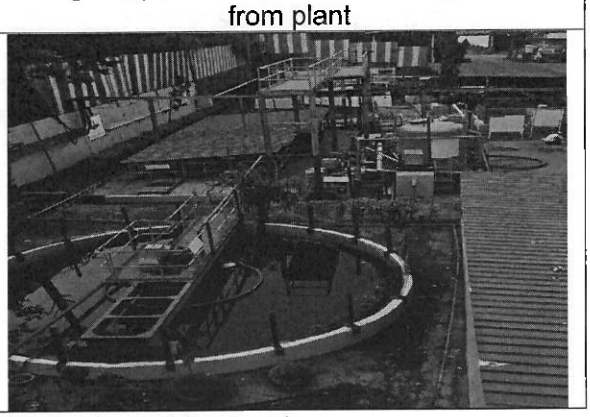
(II) RAW MATERIAL CONSUMPTION

Name of Raw Material	Name of product	Consumption of raw material per unit of output	
		During the previous financial year (2022-2023)	During the current financial year (2023-2024)
1. Lime stone	Clinker	0.8711	0.876
2. Shale		0.0965	0.095
3. Iron Ore/ Red /Brown Ochre/Mill Scale/Bauxite/Aluminium Oxide Balls		0.0325	0.029
4. Coal/Petcoke		0.0852	0.086

Ambuja Cement

PART – C

POLLUTION GENERATED
(PARAMETER AS SPECIFIED IN THE CONSENT ISSUED)

Pollutants	Quality of Pollution Generated	Percentage of variation from prescribed standards with reasons
a. Water	N.A.	Being a dry process, no effluent is generated from plant
A Sewage Water Reclamation Plant of a capacity of 250 CuM/day is operational for the treatment of domestic wastewater. 100% of treated sewage water is recycled for plant cooling & greenery development.		

Results of Sewage Water Reclamation Plant is attached as table- 4

b. Air

Ambient air quality is being monitored at fixed stations in Plant & in Mines, the results of the ambient air quality are enclosed in table – 1 & table - 2 respectively.

PART - D

HAZARDOUS WASTES
(Handling Rules, 2016)

Hazardous Wastes	During the current financial year
a. From process	**No Hazardous waste is generated from process**. However, the waste oil and grease (Lubricants) generated from Mines Heavy Earth Moving Machinery & F.O. Sludge generated from D.G. Sets are handled as per the authorization granted by HPSPCB vide their Letter No. **SOL - PWN - 179 dated 26/04/2019 valid upto 31st Mar. 2024.** Applied for renewal of the same. The annual return has been submitted vide our letter no. ACH/EMD/F-20/06(01)/2024 dated 22/06/2024. Ambuja dispensary has also obtained **Authorization under Bio medical waste management & handling rules** from HP State Pollution Control Board, Shimla vide their letter no. HPSPCB/BMW (18) Ambuja Hospital, - 22384-85 dated 19/10/2019 valid upto 31/03/2024. Applied for the renewal.
b. From pollution control facility	No Hazardous waste is generated from process through pollution control facilities

Ambuja Cement

PART - E

SOLID WASTES

There is no **solid waste generation** from process or activity; however, particulate matter collected through APCE is automatically recycled in the process.

	TOTAL QUANTITY	
	During previous financial year	**During current financial year**
a. From Process	No Solid Waste generation from process.	
b. From Pollution control facility	No solid waste is generated except emission from Pollution control facilities, which are well within the stipulated standard prescribed by HPPCB.	
c. Quantity recycled or re-utilized	100 % of the particulate matter collected through air pollution control equipment is automatically recycled in the process.	

PART – F

Please specify the characteristics (in terms of concentration and quantum of Hazardous as well as solid wastes) and indicate disposal practice adopted for both these categories of waste.

The details of Hazardous Waste have been submitted to board in Annual return form – 4 vide our office letter no. ACH/EMD/F-20/06(01)/2024 dated 22/06/2024.

PART – G

Impact of pollution control measures on conservation of natural resources and consequently on the cost of production.

- Dust collected by pollution control equipment is automatically recycled in the process. This is a benefit to the production. Due to cleanliness, housekeeping, and better pollution control and down time reduction of the plant; dust generation is reduced to the minimum.
- Also in order to conserve the natural resources like coal and petcoke we are using the AFR.
- M/s Ambuja Cements Ltd. Darlaghat has installed the Waste Heat Recovery System to produce the electricity from waste heat of kiln. The capacity of this system is 11.5 MW. RCTO of the same is valid upto 31/03/2028. The key environmental benefits of WHRS are listed below:

1. Reduction of 145000 MT CO2 equivalent emissions to environment per year.
2. AQC & PH boilers acts as pre dust collector (reduces dust load on cooler ESP).
3. Prevention of dispersion of waste heat into the environment.
4. It is a Green energy.
5. It will reduce the electricity load on Govt. power supply.
6. It will help in resource conservation

- Sewage Water Reclamation plant of 250 cubic meters per day capacity is in operation to treat the domestic sewage and 100% of the treated water is reused for plant cooling makeup and greenery development. The Solid Waste (sludge) from Sewage Water Reclamation Plant is used as manure for greenery development in Plant area.

PART - H

Additional investment proposal for environmental protection and abatement of pollution.

An additional expenditure of Rs. 25 Lakh (Twenty Five Lakhs) is proposed for plantation & beautification in Darlaghat Plant & Kashlog Limestone Mines in the next year.
Rs. 30 Lakhs (Thirty lakhs) are proposed for Environment protection measures for Plant & Mines.

PART - I

Any other particulars in respect of environmental protection and abatement of pollution.

Rural development programmes are executed by company through Ambuja Cement Foundation (ACF) which, is an NGO and includes various community development activities like health, hygiene, education, pathway and drinking water supply for the neighboring community. A fully equipped mobile medical van is on use by the company to check health of rural mass of the adjacent locality. In addition to this, the company is providing financial assistance to Panchayat, Societies, and some education institutions.

ENVIRONMENTAL AWARENESS

Ambuja Cements Ltd. Darlaghat has adopted a number of other approaches to promoting environmental education and public awareness. As we all understand that people are fundamental units in ecology which represent varied ethnic religious / economic groups within one location might have different environmental characteristics and for this we have involved them from the point of inception + implementation for the defined purpose/objective thereof. Various types of awareness programmes like World Environment Day, Van Mahotsava and World Ozone Day etc. for the society and employees have been celebrated during the year.

WED and Van Mahotsava Celebration

Awareness programme was focused on the following main points:-

- Increase awareness about trees and love of trees amongst the people.
- Help soil conservation and arrest deterioration of soil fertility.
- Popularize the planting and tending of trees in farms, villages, municipal and public lands for their aesthetic, economic and protective needs.
- Provide fuel and thus release cow dung for use as manure.
- Increase production of fruits and add to the potential food resources of the country.
- Help creation of shelter-belts around agricultural fields to increase their productivity.
- Provide fodder leaves for cattle to relieve intensity of grazing over reserved forests.
- Provide shade and ornamental trees for the landscape. Provide small poles and timber for agricultural implements, house construction and fencing.

Ambuja
Cement

ENVIRONMENTAL STATEMENT

FORM - V

Environmental statement Report of Ambuja Cement for the financial year ending **31st March 2024.**

PART - A

I)	Name and Address of the Owner/: Occupier of the Industry, operation or Process	**KASHLOG LIMESTONE MINES AMBUJA CEMENTS LTD.** P.O : Darlaghat , Teh. : Arki Distt. : Solan, (HP) - 171 102
(ii)	Date of the last Environmental Statement Report submitted	- 22nd September, 2023

PART- B

WATER AND RAW MATERIAL CONSUMPTION

(I) WATER CONSUMPTION

Name of the Product	Water Consumption per unit of product	
	During the previous financial year	During the Current financial year
1. Industrial	15622 m3	23540 m3
2. Domestic	1825 m3	1825 m3

(II) RAW MATERIAL CONSUMPTION

Name of Raw Material	Name of product	Consumption of raw material per unit of output (Per Tonne of Limestone)	
		During the Previous Financial year Tons/Ton of Product (2022-2023)	During the current Financial year Tons/Ton of Product (2023-2024)
Explosive *	Limestone	103.80 gm/MT	86.737 gm/MT
Saw Dust / Rice Husk **	Limestone	6.3 gm/MT	6.670 gm/MT
Diesel ***	Limestone	0.533 Lit/MT	0.520 Lit/MT

*Ammonium Nitrate Fuel Oil (ANFO) explosive is used for blasting limestone in the benches. Maximum charge per blast of 15-16 holes is about 1 tonne. About 100 grams of explosive is used in blasting to extract 1 tonne of limestone.

** Saw dust/Rice husk, locally available waste is used for distributing explosive charge in the blast holes to optimize the explosive consumption & minimize ground vibrations.

*** Diesel is used for operating heavy earth moving machineries engaged in limestone extraction.

Ambuja Cement

PART-C
POLLUTION GENERATED
(PARAMETER AS SPECIFIED IN THE CONSENT ISSUED)

Pollutants	Quality of Pollution Generated	Percentage of variation from prescribed standards with reasons
a. Water	No effluent is generated from mining activity.	N.A.
b. Air	Ambient Air Quality Monitoring results are enclosed as **Table – 2.**	No deviation

PART - D
HAZARDOUS WASTES
(Handling Rules, 2008)

Hazardous Wastes	During the current financial year
a. From process	**No Hazardous waste is generated from mining process. However, the waste oil and grease (Lubricants) generated from Mines Heavy Earth Moving Machinery is handled as per the authorization granted by HPSPCB vide the authorization no. SOL-PWN-114 dated 04/05/2024 valid upto 31/03/2027.** The Annual return has been submitted in form – 4 vide our office letter no. ACH/EMD/F-20/06(02)/2024 dated 22/06/2024.
b. From pollution control activities	**No Hazardous waste is generated from pollution control facilities at the mine.**

PART - E

SOLID WASTES

	TOTAL QUANTITY	
	During the previous financial Year	During the current financial year
a. From process	No Solid Waste / Over burden are generated from mining activities.	
b. From Pollution Control Facility	N.A.	
c. Quantity recycled or reutilised	N.A.	

Ambuja Cement

PART – F

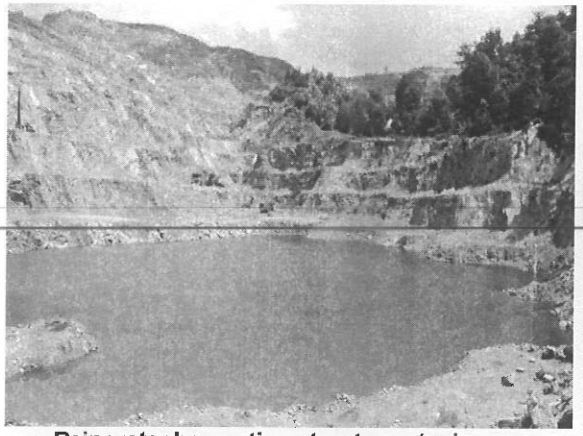
Please specify the characteristics (in terms of concentration and quantum of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of waste.

The details of Hazardous Waste have been also submitted to board in Annual return form – 4 vide our office letter no. ACH/EMD/F-20/06(02)/2024 dated 22/06/2024.

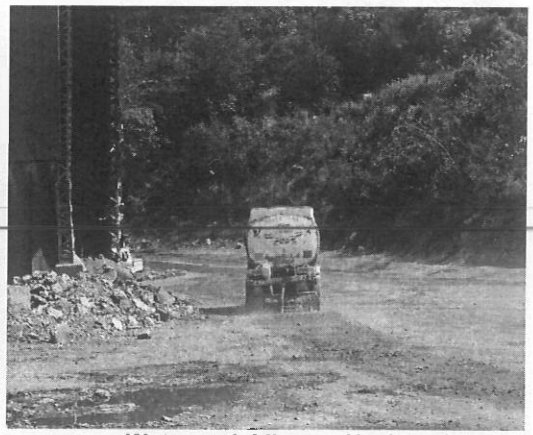
PART – G

Impact of pollution control measures on conservation of natural resources and consequently on the cost of production.Dust suppression by water spraying on the haul road through sprinklers and water tankers help in minimizing the SPM concentration in the mine and Ambient air in surrounding areas. In spraying water through tankers an additive is premixed.

1. Automatic fogger is used at the site of unloading the limestone into the hopper at crushing plant.
2. Rainwater-harvesting ponds have been constructed at the mines. The water filled in the pond helps recharging the local water table.
3. Greening of the mined out area is being done with the involvement of local villagers and the State government authorities.

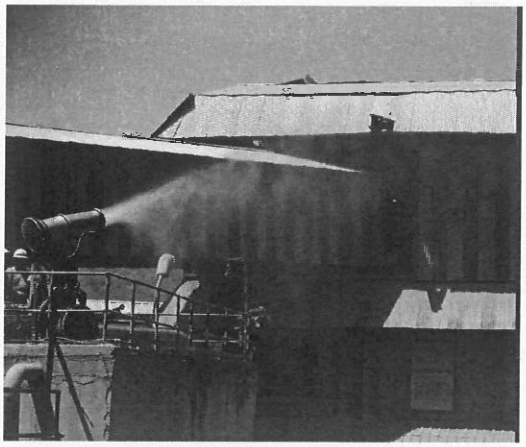


Rain water harvesting structure at mines



Water sprinkling on Haul roads

Water sprinkling at crusher dump hopper



Water fogger system installed at Crusher

4. Geo-jute coir matting technique is being used for stabilizing the slope of the area being reclaimed at the mine. This innovative technique not only controls the soil erosion but also control the loss of nutrients assisting in improving the rate of re-vegetation.

5. For minimizing the dust generated during blasting on the limestone benches, the floor of lower bench/haul roads is being regularly wetted.

PART - H

Additional investment proposal for environmental protection and abatement of pollution.

An additional expenditure of Rs. 25 Lakh (Twenty Five Lakhs) is proposed for maintaining plantation & beautification in Darlaghat Plant & Kashlog Limestone Mines in the next year.
Rs. 30 Lakh (Thirty Lakhs) are proposed for Environment protection measures for Plant & Mines.

PART - I

Any other particulars in respect of environmental protection and abatement of pollution.

1. The company organizes mass awareness programmes in the vicinity of plant and mines.
2. Rural development programmes are executed by company through Ambuja Cement Foundation (ACF) which is an NGO and includes various community development activities like health, hygiene, education, pathway and drinking water supply for the neighboring community. A fully equipped mobile medical van is on use by the company to check health of rural mass of the adjacent locality.
3. In addition to this, the company is providing financial assistance to Panchayat, Societies and some educational institutions.
4. Company is organizing various training programmes for upgrading the environmental management knowledge & skills.

Table- 1

Monthly Average of Ambient Air Quality Monitoring Results Rauri Plant
(PM 10, PM 2.5,SO2 & NO2)
(From April 2023 to March 2024)

MONTH	Rauri - 1				Rauri - 2				Rauri - 3			
	PM 2.5 (µg/m3)	PM 10 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	PM 2.5 (µg/m3)	PM 10 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)	PM 2.5 (µg/m3)	PM 10 (µg/m3)	SO2 (µg/m3)	NO2 (µg/m3)
Apr-23	24.58	64.39	5.13	13.40	27.03	57.39	4.25	13.40	23.26	60.06	5.13	13.10
May-23	25.05	62.02	4.75	11.00	23.96	66.31	5.38	13.90	24.90	60.80	5.50	11.50
Jun-23	21.98	57.20	4.14	8.90	24.04	59.52	4.00	6.10	23.07	53.71	5.14	7.40
Jul-23	12.19	28.52	4.71	10.00	16.61	27.03	3.67	8.400	15.31	20.35	4.71	9.30
Aug-23	11.60	36.10	3.40	6.80	16.14	33.41	3.60	5.60	14.10	32.10	3.40	5.20
Sep-23	20.73	59.68	5.00	11.40	24.90	57.78	4.75	12.10	21.15	53.77	5.50	11.80
Oct-23	18.70	59.27	5.13	10.90	25.00	55.92	3.75	9.10	23.80	58.49	5.50	11.30
Nov-23	30.63	58.78	4.99	12.63	27.55	56.24	5.14	13.57	25.31	59.95	6.13	13.38
Dec-23	30.68	57.21	4.50	12.80	26.82	55.21	5.63	13.00	28.60	59.57	6.38	13.00
Jan-24	32.69	55.15	5.44	13.56	31.11	54.21	4.78	11.06	28.01	53.02	4.44	10.67
Feb-24	30.23	54.06	5.44	13.67	29.29	53.72	5.22	11.11	32.39	55.05	4.89	10.89
Mar-24	30.21	47.59	5.00	13.11	29.31	49.27	5.23	11.44	26.09	51.59	4.00	8.00

Monthly Average of Ambient Air Quality Monitoring Results Rauri Plant
(Lead, Nickel, Arsenic & CO)
(From April 2023 to March 2024)

MONTH	Rauri - 1				Rauri - 2				Rauri - 3			
	Lead (µg/m3)	Nickel (ng/m3)	Arsenic (ng/m3)	CO (mg/m3)	Lead (µg/m3)	Nickel (ng/m3)	Arsenic (ng/m3)	CO (mg/m3)	Lead (µg/m3)	Nickel (ng/m3)	Arsenic (ng/m3)	CO (mg/m3)
Apr-23	ND	ND	ND	0.420	ND	ND	ND	0.470	ND	ND	ND	0.460
May-23	ND	ND	ND	0.500	ND	ND	ND	0.510	ND	ND	ND	0.480
Jun-23	ND	ND	ND	0.470	ND	ND	ND	0.400	ND	ND	ND	0.410
Jul-23	ND	ND	ND	0.260	ND	ND	ND	0.250	ND	ND	ND	0.270
Aug-23	ND	ND	ND	0.210	ND	ND	ND	0.220	ND	ND	ND	0.180
Sep-23	ND	ND	ND	0.450	ND	ND	ND	0.470	ND	ND	ND	0.530
Oct-23	ND	ND	ND	0.440	ND	ND	ND	0.430	ND	ND	ND	0.450
Nov-23	ND	ND	ND	0.440	ND	ND	ND	0.430	ND	ND	ND	0.450
Dec-23	ND	ND	ND	0.430	ND	ND	ND	0.400	ND	ND	ND	0.380
Jan-24	ND	ND	ND	0.410	ND	ND	ND	0.440	ND	ND	ND	0.390
Feb-24	ND	ND	ND	0.430	ND	ND	ND	0.420	ND	ND	ND	0.380
Mar-24	ND	ND	ND	0.430	ND	ND	ND	0.440	ND	ND	ND	0.370

Table-2

Monthly Average of Ambient Air Quality Monitoring Results Kashlog Limestone Mines
(April 2023 to March 2024
(PM 10, PM 2.5, SO2 and NO2)

MONTH	Mines Dormitory				Rathoh				Mangoo				Chandi			
	PM 2.5 µg/m3	PM 10 µg/m3	SO2 µg/m3	NO2 µg/m3	PM 2.5 µg/m3	PM 10 µg/m3	SO2 µg/m3	NO2 µg/m3	PM 2.5 µg/m3	PM 10 µg/m3	SO2 µg/m3	NO2 µg/m3	PM 2.5 µg/m3	PM 10 µg/m3	SO2 µg/m3	NO2 µg/m3
Apr-23	33.00	50.70	5.30	16.00	34.00	51.60	5.30	14.00	32.60	52.60	3.40	7.80	27.80	45.50	3.30	11.10
May-23	35.00	54.10	6.10	12.60	30.90	48.00	5.30	21.10	32.00	51.80	5.40	13.80	30.50	47.70	3.80	8.20
Jun-23	32.59	53.59	5.72	12.07	33.07	52.82	3.70	8.12	34.17	53.03	4.30	12.85	26.87	43.84	4.15	7.58
Jul-23	31.40	49.90	5.30	11.30	32.90	52.20	3.80	9.80	32.00	50.40	4.20	10.10	22.60	41.60	3.80	8.40
Aug-23	34.80	52.30	5.50	10.40	37.00	53.70	5.00	10.00	39.30	54.80	6.00	11.80	35.30	57.50	5.10	9.20
Sep-23	32.13	52.37	5.63	9.91	31.46	52.90	4.88	7.38	36.78	50.88	4.61	9.06	23.53	43.17	3.63	8.13
Oct-23	32.01	54.17	5.65	10.34	31.62	50.95	4.95	9.83	31.34	48.87	5.90	11.63	27.48	47.05	4.35	7.73
Nov-23	32.27	54.07	5.70	9.91	34.13	53.89	4.88	7.38	33.03	53.33	4.61	9.06	32.50	42.11	3.63	8.13
Dec-23	34.76	51.74	5.21	8.14	31.63	54.20	4.26	12.83	32.28	48.19	4.01	10.46	29.24	44.45	3.41	7.63
Jan-24	32.46	53.32	5.20	8.52	28.71	52.73	4.13	12.62	30.10	42.35	4.02	8.38	32.62	42.70	3.47	7.60
Feb-24	32.25	50.78	5.33	8.19	30.30	46.28	4.51	12.11	28.79	44.68	4.20	8.76	29.80	39.33	3.42	7.60
Mar-24	35.26	49.35	5.24	8.52	33.27	47.80	4.18	12.28	35.34	51.84	4.00	7.57	29.93	40.28	3.41	7.42

Monthly Average of Ambient Air Quality Monitoring Results Suli Plant
(April 2023 to March 2024
(Lead, Nickel, Arsenic, CO)

MONTH	Mines Dormitory				Rathoh				Mangoo				Chandi			
	Lead µg/m3	Nickel ng/m3	Arsenic ng/m^3	CO mg/m^3	Lead µg/m3	Nickel ng/m3	Arsenic ng/m^3	CO mg/m^3	Lead µg/m3	Nickel ng/m3	Arsenic ng/m^3	CO mg/m^3	Lead µg/m3	Nickel ng/m3	Arsenic ng/m^3	CO mg/m^3
Apr-23	ND	ND	ND	0.72	ND	ND	ND	0.64	ND	ND	ND	0.62	ND	ND	ND	0.40
May-23	ND	ND	ND	0.66	ND	ND	ND	0.87	ND	ND	ND	0.38	ND	ND	ND	0.34
Jun-23	ND	ND	ND	0.91	ND	ND	ND	0.96	ND	ND	ND	0.58	ND	ND	ND	0.44
Jul-23	ND	ND	ND	0.88	ND	ND	ND	0.76	ND	ND	ND	0.62	ND	ND	ND	0.38
Aug-23	ND	ND	ND	0.64	ND	ND	ND	0.97	ND	ND	ND	0.52	ND	ND	ND	0.40
Sep-23	ND	ND	ND	0.56	ND	ND	ND	0.61	ND	ND	ND	0.48	ND	ND	ND	0.47
Oct-23	ND	ND	ND	0.51	ND	ND	ND	0.58	ND	ND	ND	0.5	ND	ND	ND	0.45
Nov-23	ND	ND	ND	0.58	ND	ND	ND	0.62	ND	ND	ND	0.48	ND	ND	ND	0.42
Dec-23	ND	ND	ND	0.52	ND	ND	ND	0.51	ND	ND	ND	0.44	ND	ND	ND	0.40
Jan-24	ND	ND	ND	0.62	ND	ND	ND	0.53	ND	ND	ND	0.41	ND	ND	ND	0.58
Feb-24	ND	ND	ND	0.60	ND	ND	ND	0.54	ND	ND	ND	0.46	ND	ND	ND	0.56
Mar-24	ND	ND	ND	0.51	ND	ND	ND	0.58	ND	ND	ND	0.5	ND	ND	ND	0.45

Table - 3

Monthly Average of Stack Monitoring Results

(Average Value)

(From April 2023 to March 2024)

MONTHS	Monthly PM Value in mg/Nm3			
	Glass Bag House	Cooler ESP	Coal Mill B/F	Limestone Crusher B/F
Apr-23	4.85	14.99	12.24	17.58
May-23	3.35	13.07	11.07	14.25
Jun-23	4.16	12.68	7.61	16.74
Jul-23	8.44	13.49	16.19	15.27
Aug-23	13.26	12.55	17.74	16.49
Sep-23	12.29	12.74	15.37	13.69
Oct-23	11.86	12.82	6.56	16.47
Nov-23	10.86	12.09	6.25	16.82
Dec-23	11.40	11.98	6.68	13.79
Jan-24	11.34	12.31	7.92	14.65
Feb-24	9.99	8.27	6.68	14.86
Mar-24	11.54	7.53	7.90	15.21

Table - 4

Inlet and Outlet Sewage Water Characteristics (Monthly Average)
(From April 2023 to March 2024)

MONTHS	INLET			OUTLET		
	pH	BOD	TSS	pH	BOD	TSS
Apr-23	8.20	254.00	353.00	7.5	9.00	13.00
May-23	8.30	248.00	344.80	7.5	7.60	12.40
Jun-23	8.10	242.50	334.50	7.5	8.00	11.50
Jul-23	8.10	258.80	350.00	7.4	10.00	12.00
Aug-23	8.20	225.00	347.00	7.5	9.00	11.00
Sep-23	8.10	255.00	357.00	7.5	11.00	12.00
Oct-23	8.10	253.00	353.00	7.5	11.00	12.00
Nov-23	8.10	254.00	354.00	7.5	12.00	11.00
Dec-23	8.10	253.00	352.00	7.4	12.00	10.50
Jan-24	8.10	254.00	354.00	7.50	12.00	10.67
Feb-24	8.10	254.00	352.00	7.40	11.00	11.00
Mar-24	8.10	253.00	351.00	7.46	11.00	11.33

Except pH, all parameters are in mg/lit.

Table 5

TOTAL NOS. OF PLANTS PLANTED
(FROM Apr. 2023TO March 2024)

Area of Plantation	Total
Inside Plant Area	45
Around Plant Area	125
Within Colony Area	30
Inside Mines Area	5200
Total	**5400**

Total plantation inclusive cuttings,Saplings,Shrubs and replacement etc.

Table-6

MONTHLY NOISE MONITORING RESULTS (INSIDE PLANT) AT AMBUJA CEMENTS LTD. (UNIT - RAURI) (From April 2023 TO March 2024)

MONITORING LOCATIION	Apr-23		May-23		Jun-23		Jul-24		Aug-24		Sep-24	
	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
(i) With Vehicular Movement	72.3	70.6	71.7	70.2	66.3	63.7	74.8	72.6	67.1	64.7	72.3	70.6
(ii) Without Vehicular Movement	56.6	54.1	69.3	58.8	55.1	53.5	69.2	67.3	50.4	48.9	56.6	54.1
Coal Dump Hopper	55.4	53.5	63.1	58.5	68.7	64.1	63.2	62.6	72.9	69.6	55.4	53.5
Near Raw Maerial Hopper	76.5	74.1	75.5	74.7	69.2	66.5	80.7	78.2	74.2	71.8	76.5	74.1
GBH (Bear YSS 15)	81.3	80.9	78.3	76.5	63.8	60.2	72.5	71.5	82.9	80.2	81.3	80.9
Raw Mill	84.9	82.3	84.2	83.9	84.3	83.9	84.3	83.1	83.6	82.8	84.9	82.3
Infront of CCR	83.4	81.8	81.6	79.7	68.5	62.1	70.7	67.9	73.4	72.5	83.4	81.8
Compressor House - 1 Inside	84	82.4	84.4	83.3	78.8	76.3	81.4	80.7	78.1	75.1	84	82.4
Compressor House - 1 Outside	82.1	81.7	81.9	80.5	68.4	64.9	80.1	78.3	81.8	80.7	82.1	81.7
Compressor House - 2 Inside	86	85.5	86.3	85.2	82.6	80.5	86.7	84.5	79.3	76.2	86	85.5
Compressor House - 2 Outside	82.1	80.2	80.5	79.4	84.1	83.3	84.1	83.9	82.3	81.9	82.1	80.2
Compressor House - 3 Inside	85.9	84.1	85.7	84.9	75.4	74.8	85.8	81.4	75.1	72.3	85.9	84.1
Compressor House - 3 Outside	83.4	82.9	82.5	81.1	80.1	75.2	82.6	80.1	84.5	81.7	83.4	82.9
Near Coal Mill	84.3	83.4	84.3	83.4	84.6	81.9	83.1	82.4	83.2	82.5	84.3	83.4
(i) With Vehicular Movement	76.4	74.9	76.7	75.1	78.9	76.3	75.4	74.3	80.5	78.1	76.4	74.9
(ii) Without Vehicular Movement	51.7	50.1	62.3	61.5	51.5	49.1	54.1	50.9	58.3	56.8	51.7	50.1

MONITORING LOCATIION	Oct-23		Nov-23		Dec-23		Jan-24		Feb-24		Mar-24	
	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT	DAY	NIGHT
(i) With Vehicular Movement	71.5	68.4	72.3	70.6	72.6	70.1	67.8	66.1	72.3	70.6	67.1	64.7
(ii) Without Vehicular Movement	55.8	54.2	56.6	54.1	55.1	53.2	63.5	58.7	56.6	54.1	50.4	48.9
Coal Dump Hopper	57.4	54.6	55.4	53.5	54.1	52.9	62.2	58.6	55.4	53.5	72.9	69.6
Near Raw Maerial Hopper	74.5	73.8	76.5	74.1	75.5	73.1	74.4	74.1	76.5	74.1	74.2	71.8
GBH (Bear YSS 15)	80.2	79.5	81.3	80.9	80.2	79.1	82.1	82.9	81.3	80.9	82.9	80.2
Raw Mill	83.5	81.6	84.9	82.3	83.5	82.1	83.5	81.2	84.9	82.3	83.6	82.8
Infront of CCR	82.2	80.5	83.4	81.8	84.1	81.2	80.4	78.6	83.4	81.8	73.4	72.5
Compressor House - 1 Inside	83.1	81.3	84	82.4	83.7	81.2	83.2	82.1	84	82.4	78.1	75.1
Compressor House - 1 Outside	81.7	80.6	82.1	81.7	81.8	80.5	86.5	84.7	82.1	81.7	81.8	80.7
Compressor House - 2 Inside	85.2	84.3	86	85.5	85.2	84.2	84.1	83.6	86	85.5	79.3	76.2
Compressor House - 2 Outside	81.8	79.5	82.1	80.2	81.5	80.1	86.4	87.3	82.1	80.2	82.3	81.9
Compressor House - 3 Inside	84.5	83.8	85.9	84.1	84.7	82.1	82.2	81.5	85.9	84.1	75.1	72.3
Compressor House - 3 Outside	82.6	81.5	83.4	82.9	82.5	80.1	85.6	84.1	83.4	82.9	84.5	81.7
Near Coal Mill	83.7	82.6	84.3	83.4	83.7	81.2	83.3	82.5	84.3	83.4	83.2	82.5
(i) With Vehicular Movement	75.1	75.6	76.4	74.9	75.2	72.1	80.4	75.2	76.4	74.9	80.5	78.1
(ii) Without Vehicular Movement	51.4	51.5	51.7	50.1	52.6	50.5	54.8	52.6	51.7	50.1	58.3	56.8

Table - 4

Monthly Average of Gyana Khad Water Quality Analysis Report
April 2023 to March 2024

MONTH	SAMPLING POINTS	PARAMETERS			
		pH	TSS	TDS	DO
Apr-23	1	7.3	32.0	298.0	5.9
	2	7.8	51.7	342.0	5.0
	3	7.7	39.1	336.0	5.6
	4	7.6	38.7	330.0	6.1
May-23	1	7.2	47.6	378.2	4.3
	2	7.4	65.4	413.0	4.0
	3	7.3	50.5	398.4	4.4
	4	7.2	44.4	384.9	4.5
Jun-23	1	7.4	31.6	363.5	4.5
	2	7.7	44.1	400.4	3.6
	3	7.5	38.3	379.1	4.1
	4	7.4	35.4	368.1	4.5
Jul-24	1	7.3	40.5	360.3	4.0
	2	7.7	48.9	376.3	3.5
	3	7.6	34.8	360.4	4.2
	4	7.4	28.8	348.5	4.2
Aug-24	1	7.6	26.7	366.2	4.2
	2	7.8	36.1	390.5	3.6
	3	7.7	27.4	376.1	4.2
	4	7.6	24.8	370.1	4.4
Sep-24	1	7.4	24.7	367.6	4.0
	2	7.4	33.6	380.9	3.6
	3	7.5	25.6	369.6	4.7
	4	7.1	24.0	365.1	4.2
Oct-23	1	7.5	30.9	300.0	5.2
	2	7.7	42.2	345.1	4.6
	3	7.5	36.1	322.6	5.0
	4	7.4	29.2	319.0	5.3
Nov-23	1	7.3	41.1	346.4	4.9
	2	7.7	54.7	369.6	3.9
	3	7.6	43.1	352.6	4.5
	4	7.4	36.6	339.4	4.5
Dec-23	1	7.5	41.1	345.2	5.5
	2	7.5	53.3	367.5	4.6
	3	7.4	48.8	354.8	4.1
	4	7.3	37.6	338.0	4.6
Jan-24	1	7.4	36.1	314.8	4.8
	2	7.7	48.6	375.1	4.1
	3	7.5	45.4	352.0	4.6
	4	7.5	40.1	340.0	4.8
Feb-24	1	7.4	19.9	294.0	6.6
	2	7.7	39.4	321.1	5.7
	3	7.6	31.1	313.6	6.5
	4	7.5	25.3	306.3	7.2
Mar-24	1	7.4	30.3	319.4	5.1
	2	7.6	43.2	359.0	4.4
	3	7.4	38.3	347.0	5.0
	4	7.4	34.9	335.1	5.2
	AVERAGE	**7.5**	**38.0**	**352.1**	**4.7**

Except pH all the parameters are in mg/lit.

Sampling Points

1. 500mts. Upstream of First Nallah before joining Gyana Khad.
2. 500mts. Upstream of Second Nallah before joining Gyana Khad.
3. V-Notch installed in Gyana Khad. (SE Side of ML Area)
4. 500mts. Downstream from V-Notch of Gyana Khad.

EXPENSES RELATED TO ENVIRONMENTAL PROTECTION AND OTHER ENVIRONMENTAL RELATED ACTIVITIES

The following table shows the expenditure for Environment Protection and other environment related activities for the period from April 2023 to March 2024

Sr. No.	Environmental Expenditure Area	Capital/Recurring	Amount
1	Air pollution control equipments maintenance (Bag Filters etc.), STP maintenance, Analyzers and other monitoring equipments	Recurring	1546271
2	Monitoring and analysis of environmental parameters, studies, purchase of small new equipments, plantation, fees, salaries, cess & Site cleaning etc.	Recurring	17934303
3	Air pollution control equipments running expenses	Recurring	66170918
4	Mines – construction of check dams/ check filters, Toe walls etc, Water spraying on haul roads, use of IKON, plantation, soil conservation works, water harvesting etc.	Recurring	3539565
5	Community development works	Recurring	55036278
		Capital	1880802
	Total		146108137

(Rs Fourteen Crore sixty one Lakh Eight thousand One Hundred Thirty Seven)

Annex-2

H.P.STATE POLLUTION CONTROL BOARD
FORM X
REPORT BY STATE BOARD ANALYST
(See Rule 26)

Report No: 66133/W-9714 **19/10/2023**

I hereby certify that I **Rama Kant Awasthi , SO**, State Board Analyst duly appointed under sub-section (3) of section 53 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) received on **28/09/2023** from **Anurag Raina, JEE**, HP State Pollution Control Board **RO Parwanoo** a **Grab** sample of **Final Outlet of STP** of **Ambuja Cements Limited (Suli Plant), Cement Village Suli, P.O. Darlaghat, Tehsil Arki, District Solan, H.P. 171102, Arki** Distt. **Solan Parwanoo**, H.P. **171102** on dated **27/09/2023** for analysis. The sample was in a condition fit for analysis reported below:

I further certify that I have analyzed the aforementioned sample on **28/09/2023** to **19/10/2023** and declare the result of analysis is to be as follows :-

Method of analysis					
IS- 2488(I-V), IS-3025(Part 44): 1933, 'Standard method for examination of water', 23rd edition prepared and published jointly by:-					
1. American Public Health Association 2. American Water Works Association 3. Water Pollution Control Federation					
SAMPLING PARAMETERS					
Sr. No.	**Parameter Name**	**Results**	**Units**	**Permissible Limit**	**Remark/Result Analysis**
1	pH	7.72		6.5-9.0	Within Permissible Limit
2	COD	24.0	mg/L	250	Within Permissible Limit
3	BOD	3.4	mg/L	30	Within Permissible Limit
4	Oil and Grease	0.0	mg/L	10	Within Permissible Limit
5	TSS	3.0	mg/L	99	Within Permissible Limit

The condition of the seals, fastening and container on receipt was as: sealed as **HPPCB262**

Signed this on **19/10/2023**

Remarks of Lab Head:

-

Rama Kant Awasthi , SO
(State Board Analyst)
CL Parwanoo