

Regd. A/D

MCL/Env. Audit - 117(II)/2022-2023/401/

10.09.2022

Sr. Environment Engineer (CPP)  
Rajasthan Pollution Control Board,  
4, Institutional Area,  
Jhalana Doongari,  
Jaipur, (Rajasthan)

Dear Sir,

**Sub.: -Environmental Statement for the year 2021-2022**

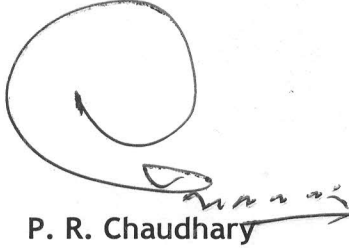
With reference to above subject, we are enclosing herewith an Environmental Statement Report of Unit-I, Colonies & Health Care Facility of M/s Mangalam Cement Ltd., Morak for the period from April-2021 to March-2022.

This is for your kind reference please. Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully

**For Mangalam Cement Ltd. (Unit-I)**



**P. R. Chaudhary**  
Sr. Joint President (O) & FM

Cc to: - The Regional Officer  
Rajasthan Pollution Control Board  
Plot No. Spl. 2A, ParyavaranMarg  
Road No. 6, IndraprasthaIndl. Area  
Kota - 324005

**FORM-V**  
**ENVIRONMENTAL STATEMENT**  
**(See rule 14)**

**Environmental Statement for the financial year ending with 31<sup>st</sup> March 2022**

**PART-A**

1.	Name & address of the owner/ occupier of the industry/ operation or process	Shri. K.C.Jain (Director) Mangalam Cement Ltd. (Unit-I) Aditya Nagar, Village : Morak Distt: Kota (Raj.) Pin code : 326520
2.	Industry Category Primary – (STC Code) Secondary – (STC Code)	Red Category
3.	Production capacity	Cement :- 1.7 MTPA Clinker :- 1.35 MTPA
4.	Year of establishment	1981
5.	Date of last environmental statement submitted	07.09.2021

**PART –B**

Water and Raw Material Consumption:

I. Water consumption in m<sup>3</sup>/day

Process: - NA (As plant is based on Dry process technology)

Cooling: - 93.53 M<sup>3</sup>/day

Domestic: - 256.50 M<sup>3</sup>/Day, which is common for Unit – I, II, III & CPP – I & II and colonies.

Name of Products	Process water consumption per unit of products	
	During Previous financial Year (2020-2021)	During the current financial Year (2021-2022)
1. Cement	0.051	0.040
2. Clinker	0.045	0.028

II. Raw material consumption (Cement Plant)

Name of raw materials*	Name of product	Consumption of raw material per unit of output	
		During Previous financial year (2020-2021)	During Current financial year (2021-2022)
1. Morak lime stone	Cement	1.239	1.237
2. High grade lime stone		0.176	0.154
3. Fly ash		0.321	0.325
4. Gypsum		0.063	0.075
5. Blue dust/ Red Ochre/ Laterite/ etc.		0.064	0.061
6. Coal		0.0123	0.0036
7. Pet Coke		0.098	0.092
8. Waste Stone slurry		0.049	0.048
9. Bio Mass		-	--
10. Carbon Black		-	0.0003

\*Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

Raw Material Consumption (D.G. Set)

Name of raw materials*	Name of product	Consumption of raw material (Ltr)	
		During Previous financial year (2020-2021)	During Current financial year (2021-2022)
H. S. Diesel	Power	592	1377

iii) Power Consumption (KWh/ T of Cement):-

During Previous Financial Year	During Current Financial Year
68.79	67.10

iv) Total Production (MT):-

Production	During Previous Financial Year	During Current Financial Year
Clinker	840229	1220813
Cement	737004	862221.17

Total Power Generation (DG Set) (KWh)

Production	During Previous Financial Year	During Current Financial Year
Power Generation	594	97

**PART-C**

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

Pollutants	Parameter	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants in discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
<b>a) Water</b>	As the plant is being operated on dry process technology, total process water recycled, no liquid effluent is generated from the cement plant.			
<b>b) Kiln Main Stack</b>	PM	0.135 Ton / day	18.81 mg/Nm <sup>3</sup>	No any deviation
	SO <sub>2</sub>	0.112 Ton / day	15.5 mg/Nm <sup>3</sup>	No any deviation
	NO <sub>x</sub>	4.454 Ton / day	623.20 mg/Nm <sup>3</sup>	No any deviation
<b>c) Clinker Cooler Stack</b>	PM	0.091 Ton / day	19.17 mg/Nm <sup>3</sup>	No any deviation
<b>d) Coal Mill Stack</b>	PM	0.0251 Ton / day	15.57 mg/Nm <sup>3</sup>	No any deviation
<b>e) Cement Mill</b>	PM	0.0106 Ton / day	18.25 mg/Nm <sup>3</sup>	No any deviation

**PART-D**

**HAZARDOUS WASTES**

(As specified under Hazardous Wastes (M, H& Transboundary Movement Rules, 2016).

Hazardous Wastes	Total Quantity			
	During previous financial year (2020-2021)		During Current financial year (2021-2022)	
1. From Process (Cement Manufacturing is based on "Dry Process" no Hazardous waste is generated form the process except used oil which is drained from Machinery/ Equipment)	We have Authorization for Hazardous waste Management & Handling for Unit – I, CPP-I & II, D.G. set, Mines		We have Authorization for Hazardous waste Management & Handling for Unit – I, CPP-I & II, D.G. set, Mines	
	Total Quantity Generated from April 2020 to March 2021 (Ltrs.)	10400	Total Quantity Generated from April 2021 to March 2022 (Ltrs.)	15400
	Old stock (Ltrs.)	NIL	Old stock (Ltrs.)	NIL
	Total Used Oil (Ltrs.)	10400	Total Used Oil (Ltrs.)	15400
	Sold-out to registered recycler (Ltrs.)	10400	Sold-out to registered recycler (Ltrs.)	15400
	Balance Quantity (Ltrs.)	NIL	Balance Quantity (Ltrs.)	NIL
Chemical Gypsum	15527.22 MT		NIL	
Waste Mix Liquid & Solid	NIL		NIL	
Plastic Waste	NIL		NIL	
Agro Waste	NIL		NIL	
Tyre Chip	NIL		NIL	
Iron Sludge	511.62 MT		NIL	
2. From pollution control facilities	NA		NA	

**PART-E**

**SOLID WASTE**

Solid Wastes	Total Quantity (Kg)	
	During previous financial year (2020-2021)	During Current financial year (2021-2022)
1. From Process	NIL	NIL
2. From pollution control facilities	Dust Collected in the ESP's, bag house and bag filters are recycled to the system	
3. i) Quantity recycled or reutilised within the unit.	100 %	100 %
ii) Solid	NIL	NIL
iii) Disposed	NIL	NIL

**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 wastes.

**Battery Waste:-**

As specified under Batteries (Management and Handling) Amendment Rules, 2010. We have purchased following new batteries of different categories is common for Cement Plant Unit I, II, III and Captive Power Plant Unit I & II and Mines-

Number of new batteries of categories purchased from the manufacturer / importer / dealer or any other agency.		During 1 <sup>st</sup> April 2021 to 31 <sup>st</sup> March 2022.
Common for Cement Plant Unit I, II, III and Captive Power Plant Unit I & II and Mines		
Category	i) No. Of Batteries	ii) Approximate weight (In MT)
i) Automotive		
a) Four Wheeler	70	2.287
ii) Industrial		
a) UPS	731	8.899
Total	801	11.186

Number of used batteries of categories mentioned in Sl. No. 3 and Tonnage of scrap sent manufacturer / dealer / importer / registered recycler / or any other agency to whom the used batteries scrap was sent.		During 1 <sup>st</sup> April 2021 to 31 <sup>st</sup> March 2022.
Common for Cement Plant Unit I, II, III and Captive Power Plant Unit I & II and Mines		
Category	iii) No. Of Batteries	iv) Approximate weight (In MT)
i) Automotive	0	4.560 MT
a) Four Wheeler		
ii) Industrial	235	
a) UPS		
Total	235	4.560 MT

Used battery scrap was sent to CPCB authorized recycler

**Hazardous Waste:**

Cement manufacturing is based on "Dry Process". No Hazardous waste is generated from the process except used oil which is drained from Machineries / Equipments. The used oil & lead acid batteries are sold to CPCB authorized recyclers.

**Bio-Medical Waste:**

Bio-Medical waste generated is common for Cement Plant, Power Plant and Mines during Period of January 2021 to December 2022 under the Bio-medical Waste Management Rules 2016 & its amendments are as follows.

Year	Bio-Medical Waste Quantity (Kg) as per Colour Coding			
	Red	Blue	Yellow	White
1 <sup>st</sup> Jan. 2021 to 31 <sup>st</sup> Dec. 2021	1.133	1.518	2.649	0.370

**E- Waste:**

E- Waste disposal is common for Cement Plant, Power Plant and Mines during financial year 2020-2021 and 2021-2022 under the E-Waste (Management) Rules 2016 & its amendments are as follows.

	Total Quantity Disposed	
	During Previous Financial Year (2020-2021)	During current Financial Year (2021-2022)
E-waste disposed	NIL	1240 kg

E-waste was sent to CPCB authorized recycler.

**PART-G****Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.**

M/s Mangalam Cement Limited is being operated on dry process technology, which is cost effective and environmentally clean technology. The advantage of dry process is also in fuel economy. The stack emissions from the plant are controlled by equipment like ESPs & Bag Houses. Bag filters installed at various material transfer points to clean the process and arrest the fugitive emissions. The particulate matter collected in the pollution control equipment is recycled in process and neutralizing the cost of operation of pollution control equipment and hence no cost impact on the production cost.

**PART – H****Additional measures/investment proposal for environmental protection including abatement of pollution.**

Green belt development and tree plantation is our on-going process. In the year 2021-2022 we have planted 510 No's of native species and up to March 2022, 131664 trees have been planted in premises of Unit – I, II, III, CPP – I, CPP – II and colonies.

**PART –I**

MISCELLANEOUS:

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

1. We have full-fledged Environment Department with three separate cells, for monitoring, maintenance of pollution control equipment and Green Belt development.
2. Monitoring of stack emission and ambient air and water quality is being done regularly.
3. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
4. Civil Department is taking care of Housekeeping, water supply & operation of STPs.
5. Horticulture Department is taking care of tree plantation and green belt development. Every year we are doing tree plantation.

We are enclosing herewith following documents:-

**Annexure – 1:-** Stack Emission Monitoring Test Reports

**Annexure – 2:-** Ambient Air Quality (PM10, PM2.5, NOx and SO2)

**Annexure – 3:-** Analysis Report of Treated Domestic Waste Water.

**M/s Mangalam Cement Ltd.  
Unit-I**

**Stack Monitoring Report  
(All values are in Mg/Nm<sup>3</sup>)**

**Period: 2021-2022**

S.No.	Month	Kiln-I Stack			Cooler-I	Cement Mill-I	Vertical Coal Mill-I
		PM	SO <sub>2</sub>	NO <sub>x</sub>			
<b>Prescribed Standards</b>		<b>30</b>	<b>100</b>	<b>800</b>	<b>30</b>	<b>30</b>	<b>30</b>
1	Apr-21	21.30	16.10	652.70	13.20	16.50	18.20
2	May-21	12.70	7.30	620.80	23.80	18.80	17.40
3	Jun-21	21.25	13.70	598.60	22.90	19.85	15.40
4	Jul-21	20.50	5.80	740.00	13.65	16.10	16.48
5	Aug-21	16.50	8.00	604.00	22.00	17.20	12.30
6	Sep-21	15.00	23.90	750.88	21.00	18.60	15.30
7	Oct-21	21.10	23.20	594.00	20.10	19.50	16.10
8	Nov-21	17.10	13.00	675.10	19.40	17.00	16.00
9	Dec-21	15.10	19.00	450.20	10.50	20.00	14.90
10	Jan-22	24.30	18.42	542.85	21.40	17.10	10.96
11	Feb-22	19.45	16.95	570.00	21.20	19.80	14.60
12	Mar-22	21.45	21.20	680.00	20.90	18.50	19.20
<b>Average</b>		<b>18.81</b>	<b>15.55</b>	<b>623.26</b>	<b>19.17</b>	<b>18.25</b>	<b>15.57</b>
<b>Min</b>		<b>12.70</b>	<b>5.80</b>	<b>450.20</b>	<b>10.50</b>	<b>16.10</b>	<b>10.96</b>
<b>Max</b>		<b>24.30</b>	<b>23.90</b>	<b>750.88</b>	<b>23.80</b>	<b>20.00</b>	<b>19.20</b>

## MANGALAM CEMENT LIMITED, MORAK, DIST: KOTA

AMBIENT AIR QUALITY (All values in µg/m<sup>3</sup>)

(Year : 2021-22)

Location Month	Near Railway Gate					Near Work Shop					Near Rack Loading Area					Near Security gate				
	PM 10	PM 2.5	SO2	NOx	CO	PM 10	PM 2.5	SO2	NOx	CO	PM 10	PM 2.5	SO2	NOx	CO	PM 10	PM 2.5	SO2	NOx	CO
Limits	100	60	80	80	4000	100	60	80	80	4000	100	60	80	80	4000	100	60	80	80	4000
Apr-21	61.4	31.4	6.9	14.0	396.0	54.6	27.6	6.9	13.6	444.6	61.8	32.1	7.4	11.2	532.1	56.6	27.6	8.2	15.9	561.3
May-21	58.3	31.6	6.7	14.0	465.8	51.7	26.4	6.7	14.4	404.8	48.7	26.0	4.8	11.4	515.8	48.9	25.3	4.3	13.7	562.7
Jun-21	62.4	33.3	5.8	13.4	479.3	53.4	28.9	6.3	14.3	465.4	55.2	28.7	6.4	14.2	481.4	49.3	25.6	6.3	14.4	484.9
Jul-21	54.3	30.5	5.4	12.7	425.2	48.9	27.3	5.4	12.9	432.1	47.6	25.6	5.3	13.2	451.7	44.9	22.5	5.9	13.9	434.9
Aug-21	53.3	29.6	5.6	13.3	372.4	49.2	25.7	5.7	13.6	369.6	51.6	26.1	5.9	13.0	312.6	46.1	22.6	5.6	13.7	315.4
Sep-21	48.6	24.7	5.2	11.9	361.2	50.7	26.6	5.1	13.8	379.3	47.6	23.1	5.2	11.4	379.8	52.5	28.0	5.8	14.9	355.7
Oct-21	51.9	26.4	4.4	12.0	414.2	53.6	28.7	4.5	14.7	422.0	50.2	23.8	4.6	11.0	418.0	55.9	29.9	7.3	15.6	436.1
Nov-21	59.9	30.0	3.8	11.3	390.8	66.5	32.7	4.6	15.3	398.6	55.9	30.3	4.2	11.2	381.4	66.2	36.5	7.3	17.2	468.9
Dec-21	59.8	30.6	3.6	11.5	375.1	65.6	32.5	4.4	14.8	406.4	59.1	31.4	4.1	11.8	398.6	66.0	36.5	7.6	16.9	437.7
Jan-22	56.4	29.2	3.3	11.0	367.3	60.7	32.3	3.9	13.8	351.7	54.7	29.3	4.4	10.8	367.3	62.6	34.8	6.8	15.5	422.0
Feb-22	63.4	28.8	3.3	11.3	359.5	66.8	32.6	3.7	13.8	359.5	58.2	30.2	3.8	11.3	367.3	69.4	37.0	6.5	17.4	390.8
Mar-22	65.9	31.8	3.8	11.3	390.8	66.5	34.9	3.9	13.3	414.2	61.9	32.9	4.5	11.7	429.8	70.3	40.5	7.8	16.9	375.1
Average	58.0	29.8	4.8	12.3	399.8	57.4	29.7	5.1	14.0	404.0	54.4	28.3	5.1	11.8	419.7	57.4	30.6	6.6	15.5	437.1
Minimum	48.6	24.7	3.3	11.0	359.5	48.9	25.7	3.7	12.9	351.7	47.6	23.1	3.8	10.8	312.6	44.9	22.5	4.3	13.7	315.4
Maximum	65.9	33.3	6.9	14.0	479.3	66.8	34.9	6.9	15.3	465.4	61.9	32.9	7.4	14.2	532.1	70.3	40.5	8.2	17.4	562.7

