Compliance Report of Environment Clearance

For the period from April 2022 to September 2022

(Ref. No. of EC: J-11011/692/2008-IA-II (I) dated 21-02-2018)
of
Cement grinding unit of capacity 4.0 Million TPA cement along with proposed Power Plant 20 MW and Captive Railway Siding
of
M/s Shree Jharkhand Cement Plant
(A unit of Shree Cement Limited)
at Village-Hansda,PO Burudih,
Dist. Saraikela-Kharsawan,
Jharkhand

Sr.No.	Conditions	Compliance Status
A	**Specific Conditions :**	
1	The validity of the present EC will be up to 29th August 2020.	Noted.
2	An amount equal to 5% of total cost proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion and estimated on the basis of Scheduled Rates.	Being Complied. Company is engaged in carrying out extensive CSR activity as under: ➢ Health & sanitation ➢ Education ➢ Women empowerment ➢ Infrastructure development ➢ Cultural and heritage promotion ➢ Ensuring environment sustainability A dedicated team is engaged in carrying out all the social activities around nearby villages. The details and Photograph are enclosed as **Annexure – 1.**

Annexure-1

Sr. No.	Activity Heads	YEARS (RS.)
		2022
1	Educational Program	1,98,000/-
2	Health & Family Welfare	3,30,600/-
3	Sustainable Livelihood & women empowerment	5,200
4	Social Development & Welfare	5,32,226/-
5	Infrastructure Development	79,500/-
GRAND TOTAL		11,45,526/-

CSR ACTIVITIES – (Health & Sanitation) Camp

CSR ACTIVITIES (EDUCATION) – BASIC INFRA

CSR – CULTURAL WORK

CSR – NAMAN PROJECT

Medical Camp at Chilku

Sr.No.	Conditions	Compliance Status
3	Green belt shall be developed equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The green belt shall inter alia cover the entire periphery of the plant.	Being Complied. Plantation activities are done regularly. Out of total plant area of 110 acres, green belt has been developed in 37.2 acres (33.8%) area. Native Plant species are being planted. The details and Photograph are enclosed as **Annexure-2**

PLANTATION DETAILS							
	Planted Species		Nos of trees Planted				
Sr.No.	Botanical Name	Local Name	Up to 2018	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23
1	Mangifera indica	Mango	0	300	20	50	400
2	Azadiracta indica	Neem	1100	290	587	215	20
3	Dalbergia sissoo	Sissoo	0	185	393	200	
4	Terminalia arjuna	Arjuna	500	100	176		
5	Syzygium cumini	Jamun	0	100	0	100	50
6	Millettia pinnata	Karanj	0	60	43		40
7	Anacardium occidentale/Cashew	Kaju	0	50	0	300	20
8	Roystonea regia	Royal Palm	0	97	80		
9	Albizia lebbeck	Siris	927	190	2763	2063	
10	Delonix regia	Golmahar	500	200	580	330	475
11	Mimusops elengi	Baula/Maulsaree	200	0	0		
12	Tectona grandis	Sagwan	400	170	382	100	80
13	Ficus religiosa	Peepal	50	0	35	100	
14	Artocarpus heterophyllus	Kathal	0	0	97	40	50
15	Saraca asoca	Ashoka	0	200	100		
16	Anthocephalus camada	Kadam	0	0	0	300	
17	Psidium guajava	Guava	0	0	0	50	25
18	Tamarindus indica	Emli	0	0	0	30	15
19	Pongamia pinnata		0	0	0	300	
20	pomegranate	Anar					50
Total			3677	1942	5256	4178	1225
Total Numbers of sapling planted till date			16278				
Area Covered			37.2 acre				

EXISTING PLANTATION/GREENBELT DEVELOPMENT

Various Plantation Drive

01 Logistic Area

02 Pond Area

03 Corridor Area

Sr.No.	Conditions	Compliance Status
4	The capital cost Rs 8.72 Crores and annual recurring cost Rs1.93 Crores towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.	Being Complied. Total capital cost towards the Environmental protection measures is total Rs.89.38 Cr approximately. Annual recurring cost towards the environmental protection measures for the period starting from April-2022 to September-2022 is earmarked as below 1. Air Pollution Control Device Maintenance Cost: Rs. 15.94 Lac 2. House Keeping and Vacuum sweeping machine m/c: Rs.2.25 lac 3. Environmental Monitoring & equipment m/c: Rs.14.22 lac 4. Plantation: Rs.3.12 lac 5. STP: Rs.0.12 lac Total cost is Rs.35.65 Lac Approximately.
5	The company shall adopt the system of reporting of non-compliances/ infringements to the Board of Directors once in six months and at the time of any incidence.	Being Complied. Company has a well-established Corporate Environmental Policy. Environment, Social and Governance Committee (ESG) committee review all the environment compliances. All the issues of environment are being discussed in the committee and MOM of the same is enclosed as **Annexure – 3.**

Annexure-3

MOM of ESG Committee Review

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CERTIFIED TRUE ABSTRACT OF THE MINUTES OF THE MEETING OF THE ENVIRONMENT, SOCIAL & GOVERNANCE (ESG) COMMITTEE OF SHREE CEMENT LIMITED HELD ON 24TH APRIL, 2020 AT BANGUR NAGAR, BEAWAR

ENVIRONMENTAL ISSUES

The following points were deliberated and reviewed by the Committee on Company's performance in the area of Environment Management:

A. TO REVIEW LEVELS OF POLLUTION MAINTAINED BY THE COMPANY

The Pollution levels maintained by the Company at its various sites for the year 2019-20 were within the permissible limits. The annual average of actual pollution level and its comparison with permissible limits were as under:

SITE-WISE STACK EMISSION LEVEL

(a) Beawar, Ras, Raipur and Kodla

I. Stack Emission Level (Particulate Matter mg/Nm³)

Source	Beawar (Units)			Ras (Units)											Raipur			Kodla	
	Norms	I	II	Norms	III	IV	V	VI	VII	VIII	IX	X	RNCU-1	RNCU-2	Norms	I	II	Norm	Actual
Raw Mill & Kiln	30	12.6	10.2	30	15.8	14.7	14.0	14.6	12.0	13.5	22.9	17.4	--	--	30	7.8	10.6	30	8.4
Coal Mill	30	10.1	7.0	30	16.2	17.3	18.9	16.7	15.3	17.5	18.3	17.9	--	--	30	11.1	10.8	30	9.2
Clinker Cooler	30	9.2	7.8	30	13.8	8.6	14.6	7.2	7.3	9.7	7.9	9.2	--	--	30	8.5	7.5	30	13.5
Cement Mill	30	14.2	9.5	30	16.9	17.4	--	--	--	--	--	--	15.2	14.3	30	10.6	--	30	10.4

II. Stack Emission Level Cement Plant (Flue Gas - mg/Nm³)

Source	Beawar (Units)				Ras (Units)										Raipur			Kodla	
	Norms	I	Norms	II	Norm	III	IV	V	VI	VII	VIII	IX	X	RNCU-1	RNCU-2	Norm	I	II	Norm	Actual
Raw Mill & Kiln	NOx (800)	460.7	NOx (1000)	410	NUx (800)	501.4	490.8	473.7	484.0	512.9	486.8	531.9	473.0	--	--	NOx (600)	276.3	283.4	NOx (600)	566
	SO2 (100)	1.4	SO2 (100)	0	SO2 (100)	3.0	2.3	1.6	2.9	0.3	6.1	1.0	3.8	--	--	SO2 (100)	18.9	25.5	SO2 (100)	2.8

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III. Stack Emission Level Power Plant (PM & Flue Gas in mg/Nm3)

Source	Beawar (Units)			Ras (Units)				Raipur (Units)	
	Norm	B-I(150 MW)	B-II (150 MW)	Norm	P-44 MW (B-I & II)	Norm	Boiler 2 & 3	Boiler 4 & 5	Boiler 6 & 7	Norm	CPP (mg/Nm3)
Power Plant	PM-50 mg/Nm3	20.9	22.8	PM-100 mg/Nm3	19.5	PM (50 mg/Nm3)	37.0	44.2	41.2	PM (50 mg/Nm³)	19
	NO2-300 mg/Nm3	223	234	NO2-600 mg/Nm3	104	NOx (300 mg/Nm3)	82.9	110.7	96.1	NOx (300 mg/Nm³)	75.1
	SO2- 600 mg/Nm3	369	403	SO2- 600 mg/Nm3	260	SO2 (600 mg/Nm3)	221.7	289.1	257.1	SO2 (600 mg/Nm³)	189.1

(b) Grinding Units - Stack Emission Level (Particulate Matter mg/Nm³)

Source	Norms	K'khera	S'Garh		Jobner	Roorkee	Bihar	UP	Panipat	Jharkhand	
			SGU	BCU							
Cement mill-I	30	19	20	20	14	22	18	23	18	20	17.2
Cement mill-II	30	22	--	--	--	--	18	--	--	--	--

The details of site-wise Ambient Air Quality Level (PM 10, PM 2.5 and SO2 Level) showing average of actual measurement V/s norms were also placed before the Committee. All actual pollution levels were within the norms. The Committee took note of the same and directed the Environment Department to take additional measures wherever required for further improvement.

B. TO REVIEW AND DELIBERATE ON INSTANCES OF ANY PERILS / HAZARDS OCCURRED ON ACCOUNT OF POLLUTION LEVELS AND WASTES GENERATED DURING THE PROCESSES

It was Informed that there were no instances of any perils or hazards on account of pollution levels and wastes generated by the company.

C. TO REVIEW AND DELIBERATE ON THE PLANTATION ACTIVITIES UNDERTAKEN BY COMPANY

It was informed that the Company has undertaken planting of trees as an important exercise which is reflected in the number of plants and saplings planted during the year. The details of plantation activities for the 2019-20 were placed before the Committee as under:

Details	Beawar	Ras	Raipur	K'khera	S'Garh	Jobner	Roorkee	Bihar			Panipat	UP	Kodla			Jharkhand	Total
								Inside	Outside	Total			Plant	Mines	Kodla By-pass		
No. of plants planted	2550	13450	29,017	719	1674	536	500	11468	10000	21468	210	2355	19955	6659	1695	28309	1919	102707
No. of Plants survived	2295	12201	26,359	595	1440	483	470	10285	7965	18250	185	2001	18405	6215	1539	26159	1653	92091
% of Survival	90	90.71	90.84	82.75	86	90	94	90	80	85	88	85	92.23	93.30	90.79	92.40	86.14	89.66

The Committee took note of the same.

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D. TO TAKE NOTE OF THE ACTIVITIES / INITIATIVES UNDERTAKEN IN THE FIELD OF ENVIRONMENT CLEANLINESS AND WATER CONSERVATION

It was informed to the Committee that the Company is constantly making its efforts for environment cleanliness and water conservation in its plants operations. The following initiatives were undertaken by the Company in the field of environment cleanliness and water conservation during the year 2019-20:

Beawar	• Construction of rainwater harvesting structures, rooftop harvesting, cleaning and maintenance work inside and outside plant premises ponds and anicuts • Various Hazardous wastes, plastic waste has been co-processed for gainful utilization • Human occupied sensor lights have been installed at offices for energy saving. • Indigenous species have been planted at plant and running mines area. • Online Digital Water Level Recorder (DWLR) with telemetry systems have been installed for continuous level monitoring of ground water.
Ras	• Conserve more rain water by collecting in mine pit. • Using EVA lock (Bio degradable chemical) to control evaporation of water from mine pit. • Capacity increase of nearby ponds for collecting more rain water. • Used STP treated water in dual flushing in Bagatpura residential colony in Ras
Raipur	• Constructed 2 Nos. of Rain Water Harvesting Ponds of 35,000 KL & 10,000 KL capacity. • Use of Mines pit water for colony domestic purpose.
Kodla	• Water harvesting reservoir of capacity 2.6 Lakh liters has been constructed within plant area. • Spray water on haul road for dust control. • Piezometers constructed in plant & mines area for water level measurement. • Installed closed conveyor system from mines to plant for transfer of raw material to reduce fugitive emissions.
Grinding Units	• Digital Water Level Recorder (DWLR) with telemetry system has been installed at piezometer well to monitor the water level. • Conservation of electrical energy through optimization of bore well pump operation. • Constructed raw material covered sheds for coal and gypsum storage to avoid fugitive emission. • Separation of drinking water line and plantation line to save water consumption. • Decomposition of canteen waste and bio fertilizer used in plantation. • Developed new recharge structures to recharge ground water. • Sprinklers are installed at plant area & all truck movement's area to save the water consumption as well controlling of fugitive &road emissions. • Green manure through composting of vegetation litter and garbage. • Optimization in mill water consumption from 12 KL/Hrs to 8-9 KL/Hrs subjected to the moisture availability in raw materials

The Committee discussed the initiatives and took note of the same.

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J. TO REVIEW AND DELIBERATE THE COMPLIANCES OF APPLICABLE ENVIRONMENTAL LAWS AND REGULATIONS AND ANY SHOW- CAUSE NOTICE ISSUED BY CENTRAL/STATE POLLUTION BOARD

It was informed to the committee that there is a system wherein every Deptt head/Functional Head responsible for specific function sends a monthly certificate to the Company Secretary certifying compliance of laws and regulations related to that function. Based on this, a certificate is submitted to the Board of Directors stating compliance with all relevant laws and regulations by the company on quarterly basis. With regard to Environment the various laws and its responsibility matrix is as below: -

1	Air (Prevention and Control of Pollution) Act, 1981	Shri Vinay Saxena (for Unit I & II- Beawar)
2	Water (Prevention and Control of Pollution) Act, 1974	Shri Satish Maheshwari (Unit III- VIII and RNCU)
3	Water (Prevention and Control of Pollution) Cess Act, 1977	Shri Sanjay Jain (Unit IX, X and RNCU)
4	Environment Protection Act, 1986	
5.	Lead Acid Batteries (Management and Handling) Rules, 2000 and 2010	Shri K.L. Mahajan (For all existing grinding units including AAC plant except Bihar, Jharkhand and Raipur Units)
6.	Bio-Medical Waste (Management and Handling) Rules	
7.	Any other Rules, Regulations and Notifications related to their functional responsibility.	Shri R.K. Vijay (For Raipur cement plants and Bihar and Jharkhand Grinding Units)
8.	Compliance of regulatory requirements for transportation and use of Alternative Fuel (Industrial Waste)	Shri Arvind Kumar Patil (For Kodla Cement Plant) All power plants of the Company including GPPs– Shri M.M. Rathi
9.	Overall compliance management (including new projects)	Shri Anil Kumar Trivedi

*****

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(P.N. CHHANGANI)
WHOLE TIME DIRECTOR

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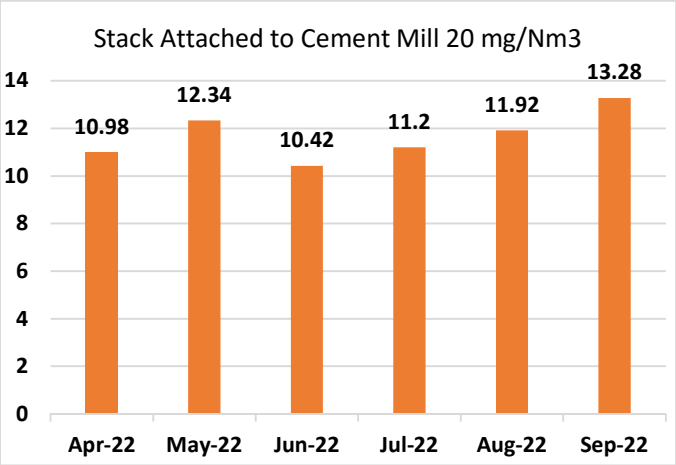
Sr.No.	Conditions	Compliance Status
6	The emission for the bag house shall be maintained less than 20 mg/Nm3.	Being Complied. The Particulate Matter emission are maintained below the prescribed standards of 20 mg/Nm^3. Stack emission monitoring report is enclosed as **Annexure – 4.**

Annexure-4

STACK EMISSIONS MONITORING RESULTS



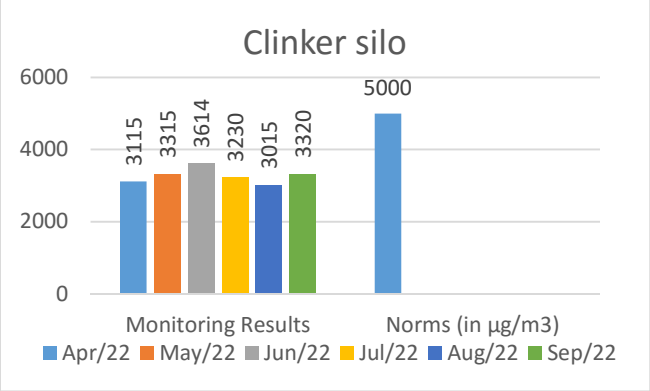
Months	Stack Attached to Cement Mill
Norms	20 mg/Nm3
Apr-22	10.98
May-22	12.34
Jun-22	10.42
July-22	11.2
Aug-22	11.92
Sep-22	13.28

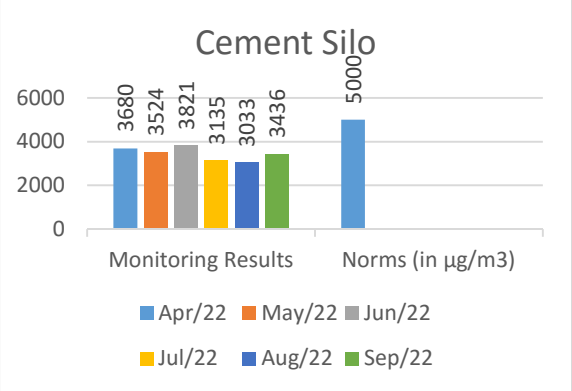
Sr.No.	Conditions	Compliance Status
B	**General Conditions :**	
1(a)	The project proponent shall (Air Quality Monitoring) : Install 24X7 continuous emission monitoring system at power plant stack to monitor stack emission with respect to parameters prescribed in S.O. 3305 (E) dated 7th December 2015 for thermal power plants as amended from time to time and connected to CPCB online.	• CPP will be installed in Second phase. • Continuous emission monitoring system will be installed at power plant stack once CPP will be installed & transfer data to CPCB and SPCB server.
1(b)	The project proponent shall (Air Quality Monitoring): Monitor fugitive emissions in the plant premises.	Being Complied. Fugitive emission monitoring is being carried out in the plant premises. Report enclosed as **Annexure – 5.**

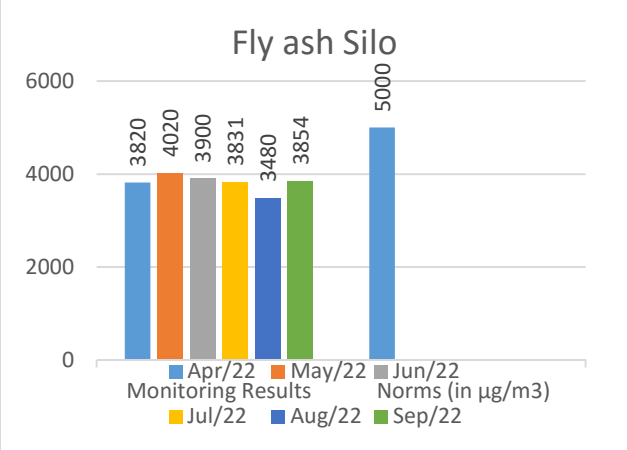
Annexure-5

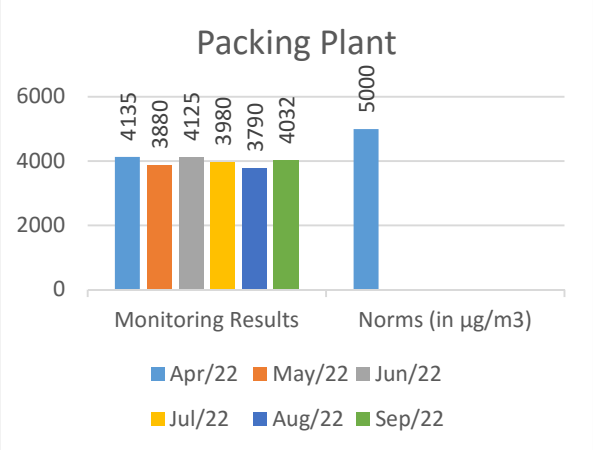
FUGITIVE EMISSIONS MONITORING RESULTS

Location / Months	Clinker Silo	Cement Silo	Fly Ash Silo	Packing Plant
Norms	**5000 µg/m3**	**5000 µg/m3**	**5000 µg/m3**	**5000 µg/m3**
Apr-22	3115	3680	3820	4135
May-22	3315	3524	4020	3880
Jun-22	3614	3821	3900	4125
July-22	3230	3135	3831	3980
Aug-22	3015	3033	3480	3790
Sep-22	3320	3436	3854	4032









Sr.No.	Conditions	Compliance Status
1(c)	The project proponent shall (Air Quality Monitoring) : Carryout continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120^0 each;	Being Complied. • Four numbers of Continuous Ambient Air Quality monitoring (CAAQMS)systems have been installed for the measurement of PM2.5, PM10, SO2, NO2 & CO. • Real time data of the same is transferred to JSPCB & CPCB server. • Photograph of CAAQMS is enclosed as **Annexure – 6** and snapshot of JSPCB server showing Shree Cement CAAQMS data is enclosed as **Annexure – 7.**

Annexure-6

CONTINUOUS AMBIENT AIR QUALITY MONITORING STATIONS

CAAQMS-1 Near Logistic Buildings

CAAQMS-2 Near Wagon Tippler

CAAQMS-3 Near RWHS

CAAQMS-4 Near Railway Siding

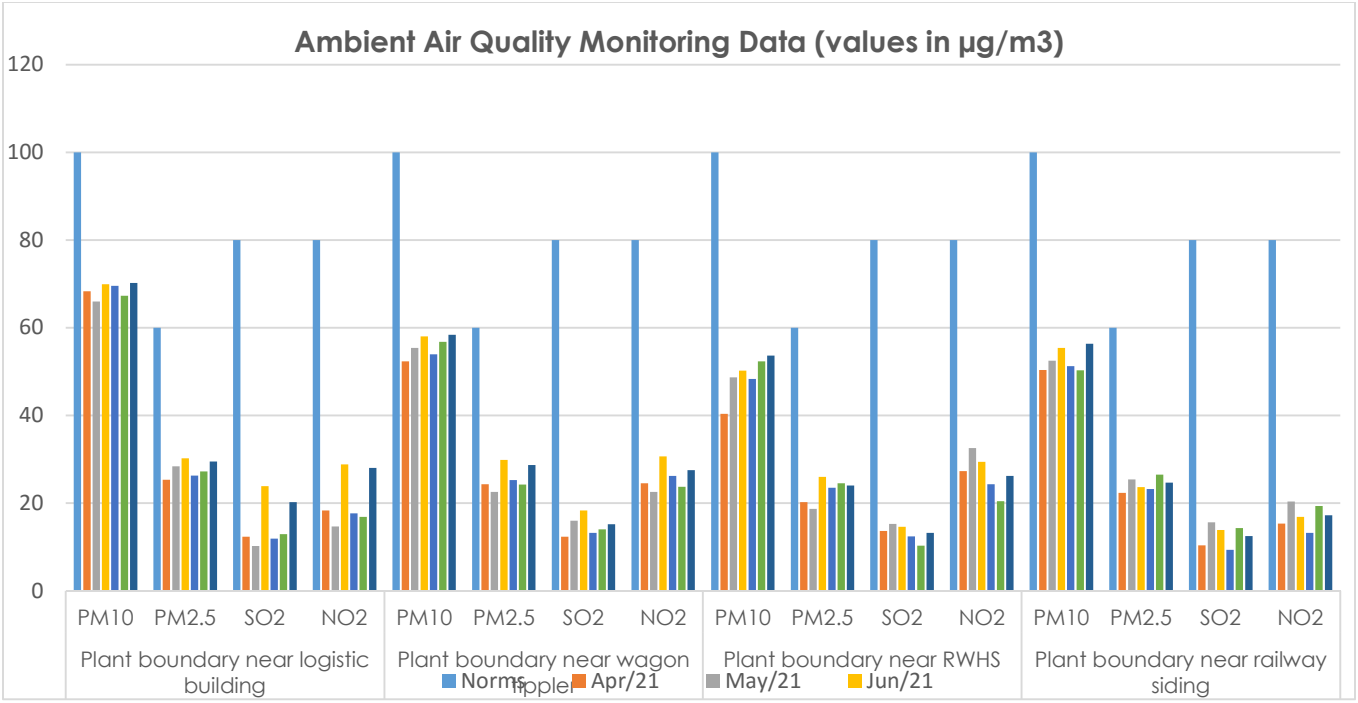
SNAPSHOT OF JSPCB SERVER SHOWING SHREE CEMENT CAAQMS DATA

Annexure-7

Sr.No.	Conditions	Compliance Status
1(d)	The project proponent shall (Air Quality Monitoring): Submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	Being Complied. Ambient air quality monitoring reports are being submitted to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB with six-monthly EC compliance status report. Monitoring report is enclosed as **Annexure – 8.**

Annexure-8

Ambient Air Quality Monitoring Data (values in $\mu g/m^3$)																
Locations	Plant boundary near logistic building				Plant boundary near wagon tippler				Plant boundary near RWHS				Plant boundary near railway siding			
Parameters	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2	PM_{10}	$PM_{2.5}$	SO_2	NO_2
Norms	100	60	80	80	100	60	80	80	100	60	80	80	100	60	80	80
Apr/21	68.32	25.32	12.35	18.3	52.32	24.32	12.35	24.5	40.3	20.21	13.64	27.32	50.32	22.32	10.35	15.32
May/21	65.97	28.36	10.24	14.7	55.41	22.54	15.98	22.5	48.6	18.65	15.21	32.54	52.47	25.41	15.62	20.32
Jun/21	69.92	30.21	23.87	28.9	57.98	29.87	18.32	30.7	50.2	25.97	14.57	29.37	55.4	23.65	13.87	16.84
Jul/22	69.52	26.24	11.87	17.7	53.93	25.21	13.2	26.2	48.3	23.5	12.4	24.3	51.2	23.21	9.35	13.2
Aug/22	67.32	27.24	12.87	16.9	56.74	24.23	14	23.7	52.3	24.5	10.3	20.4	50.3	26.45	14.3	19.3
Sep/22	70.21	29.47	20.21	28	58.36	28.64	15.2	27.5	53.6	24	13.2	26.2	56.3	24.65	12.5	17.2

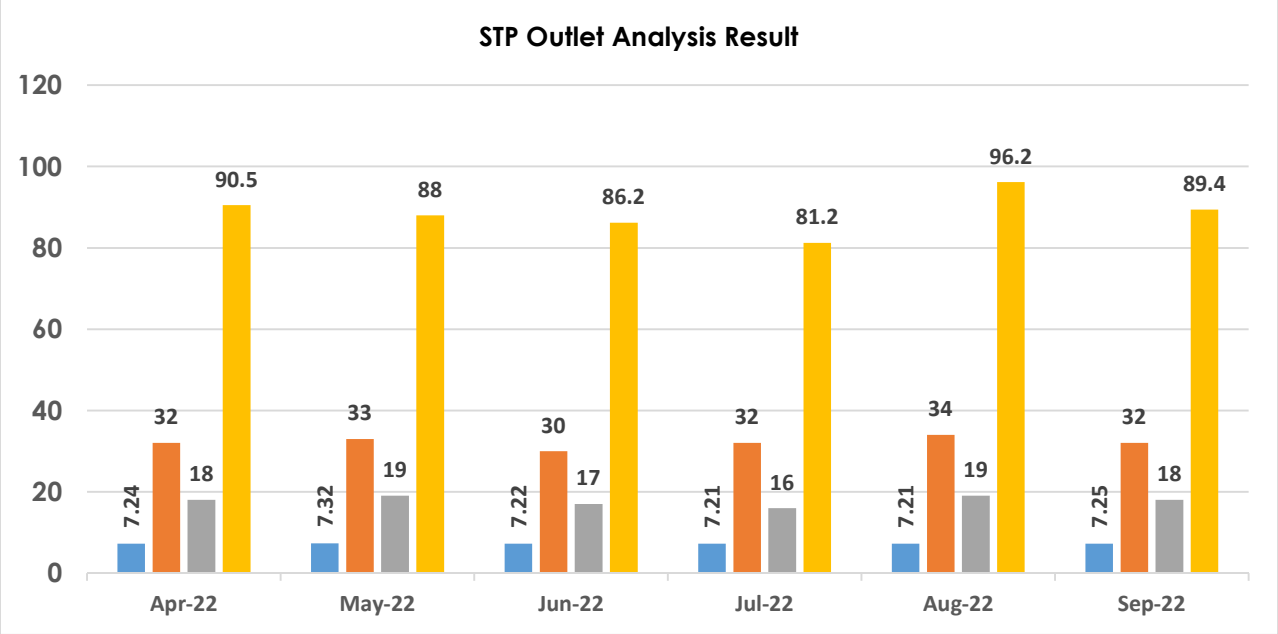


Sr.No.	Conditions	Compliance Status
2(a)	The project proponent shall (Water Quality Monitoring): Install effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in S.O. 3305 (E) dated 7th December 2015 for thermal power plants as amended from time to time as amended from time to time;	Not Applicable. • Clinker grinding is a dry process and therefore, no effluent is generated from the process. • Domestic waste water generated from offices and canteens is being treated in STP and treated water is being used for plantation purpose. • CPP will be installed in second phase. • Photograph of STP and utilization of treated water is enclosed as **Annexure – 9.**

Annexure-9

STP & UTILIZATION OF TREATED WATER IN PLANTATION

Sr.No.	Conditions	Compliance Status
2(b)	The project proponent shall (Water Quality Monitoring): Submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional office of SPCB along with six-monthly monitoring report.	• Tread effluent – Nil (Cement grinding based on dry process). • STP treated water analysis report is being submitted to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB with six-monthly EC compliance status report. • STP treated water analysis reports are enclosed as **Annexure – 10** and ground water analysis report are enclosed as **Annexure – 11.**



Annexure-10

STP Outlet Analysis Report					
Parameter	**pH**	**TSS**	**BOD**	**COD**	**O&G**
Norms	**5.5-9.0**	**100 mg/L**	**30 mg/L**	**250 mg/L**	**10 mg/L**
Apr-22	7.24	32	18	90.5	<4.0
May-22	7.32	33	19	88.0	<4.0
Jun-22	7.22	30	17	86.2	<4.0
Jul-22	7.21	32	16	81.2	<4.0
Aug-22	7.21	34	19	96.2	<4.0
Sep-22	7.25	32	18	89.4	<4.0

GROUND WATER ANALYSIS REPORT

Annexure-11

EKO PRO

Contact : +91 - 9810243870

EKO PRO ENGINEERS PVT. LTD.

Environmental Consultants and Analytical Laboratory
(An ISO 9001:2015 Certified Company)

Office & Laboratory : 32/41, South Side of G. T. Road, UPSIDC Industrial Area, Ghaziabad - 201 009 (Delhi-NCR) INDIA.
Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Water Sample Analysis

Test Report No. : EKO/184/150622 — **Issue Date : 20/06/2022**

Issued To : SHREE JHARKHAND CEMENT PLANT
(A Unit of Shree Cement Ltd.)
Village - Hansda and Burudih,
District - Saraikela Kharsawan,
Jharkhand - 833210

Sample Description	: Ground Water
Sample Drawn on	: 13/06/2022
Sample Drawn by	: EPEPL (Mr. Amit Kumar)
Sample Received on	: 15/06/2022
Sampling Location	: From Borewell Near Project Office
Sampling Plan & Procedure	: SOP-W/66
Sample Quantity	: 1.0 Litre
Environmental Conditions	: Normal
Analysis Duration	: 15/06/2022 To 20/06/2022
Remark (if any)	: NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per IS:10500-2012 (Amd.No.3 Feb-2021)	
					Acceptable	Permissible
1	pH	IS: 3025 (P-11)	7.24	–	6.5-8.5	No relaxation
2	Total Hardness (as $CaCO_3$)	IS: 3025 P-21)	187.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS: 3025 (P-40)	44.89	mg/L	75.0	200.0
4	Iron (as Fe)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS: 3025 (P-32)	30.5	mg/L	250.0	1000.0
6	Fluoride (as F)	IS: 3025 (P-60)	<1.0	mg/L	1.0	1.5
7	Total Dissolved Solids	IS: 3025 (P-16)	264.0	mg/L	500.0	2000.0
8	Total Suspended Solids	IS: 3025 (P-17)	<5.0	mg/L	-	-
9	Magnesium (as Mg)	IS: 3025 (P-46)	18.2	mg/L	30.0	100.0
10	Manganese (as Mn)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO_4)	IS: 3025 (P-24)	31.6	mg/L	200.0	400.0
12	Nitrate (as NO_3)	IS: 3025 (P-34)	1.43	mg/L	45.0	No relaxation
13	Mercury (as Hg)	EKO/CHEM/SOP-ICPMS/W-01	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as $CaCO_3$)	IS: 3025 (P-23)	158.0	mg/L	200.0	600.0
16	Lead (as Pb)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
17	Total Chromium (as Cr)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.05	No relaxation

Notes:
1. The results given above are related to the tested sample, as Collected & mentioned parameters.
   The customer asked for the above tests only.
2. This test report will not be generated again, either wholly or in part, without prior written permission of the Laboratory.
3. The test samples will be disposed off after 15 days from the date of issue of test report, unless until specified by the customer. Sample Collected for biological tests will be destroyed after 7 days from the date of issue of test report.
4. Responsibility of the Laboratory is limited to the invoiced amount only.

****End of Report****

For EKO PRO ENGINEERS PVT. LTD.
PURNIMA CHAUHAN
TECHNICAL MANAGER

EKO PRO

Contact : +91 - 9810243870

EKO PRO ENGINEERS PVT. LTD.

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TEST REPORT

Water Sample Analysis

Test Report No. : EKO/183/150622 — **Issue Date : 20/06/2022**

Issued To : SHREE JHARKHAND CEMENT PLANT
(A Unit of Shree Cement Ltd.)
Village - Hansda and Burudih,
District - Saraikela Kharsawan,
Jharkhand - 833210

Sample Description	: Ground Water
Sample Drawn on	: 13/06/2022
Sample Drawn by	: EPEPL (Mr. Amit Kumar)
Sample Received on	: 15/06/2022
Sampling Location	: From Borewell Near Weight Bridge
Sampling Plan & Procedure	: SOP-W/66
Sample Quantity	: 1.0 Litre
Environmental Conditions	: Normal
Analysis Duration	: 15/06/2022 To 20/06/2022
Remark (if any)	: NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per IS:10500-2012 (Amd.No.3 Feb-2021)	
					Acceptable	Permissible
1	pH	IS: 3025 (P-11)	7.16	–	6.5-8.5	No relaxation
2	Total Hardness (as $CaCO_3$)	IS: 3025 P-21)	160.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS: 3025 (P-40)	38.48	mg/L	75.0	200.0
4	Iron (as Fe)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS: 3025 (P-32)	32.5	mg/L	250.0	1000.0
6	Fluoride (as F)	IS: 3025 (P-60)	<1.0	mg/L	1.0	1.5
7	Total Dissolved Solids	IS: 3025 (P-16)	258.0	mg/L	500.0	2000.0
8	Total Suspended Solids	IS: 3025 (P-17)	<5.0	mg/L	-	-
9	Magnesium (as Mg)	IS: 3025 (P-46)	15.6	mg/L	30.0	100.0
10	Manganese (as Mn)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO_4)	IS: 3025 (P-24)	28.4	mg/L	200.0	400.0
12	Nitrate (as NO_3)	IS: 3025 (P-34)	1.31	mg/L	45.0	No relaxation
13	Mercury (as Hg)	EKO/CHEM/SOP-ICPMS/W-01	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as $CaCO_3$)	IS: 3025 (P-23)	146.0	mg/L	200.0	600.0
16	Lead (as Pb)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
17	Total Chromium (as Cr)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.05	No relaxation

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****End of Report****

For EKO PRO ENGINEERS PVT. LTD.
PURNIMA CHAUHAN
TECHNICAL MANAGER

Analytical Services - Analysis of Environment, Food, AYUSH, Cosmetics, Toy & Material, Leather Products, Petroleum & Building Material Samples in Biological, Chemical, Electrical & Mechanical Disciplines.
Consulting Services - EIA, SIA, EC Compliances, Consultancy for NOC of Ground Water, Hydrogeological Studies, Environmental Audit & other studies, Ground Water & Soil Investigation

EKO PRO

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Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Water Sample Analysis

Test Report No. : EKO/186/150622 — **Issue Date : 20/06/2022**

Issued To : SHREE JHARKHAND CEMENT PLANT
(A Unit of Shree Cement Ltd.)
Village - Hansda and Burudih,
District - Saraikela Kharsawan,
Jharkhand - 833210

Sample Description	: Ground Water
Sample Drawn on	: 13/06/2022
Sample Drawn by	: EPEPL (Mr. Amit Kumar)
Sample Received on	: 15/06/2022
Sampling Location	: From Borewell Near CAAQMS-3
Sampling Plan & Procedure	: SOP-W/66
Sample Quantity	: 1.0 Litre
Environmental Conditions	: Normal
Analysis Duration	: 15/06/2022 To 20/06/2022
Remark (if any)	: NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per IS:10500-2012 (Amd.No.3 Feb-2021)	
					Acceptable	Permissible
1	pH	IS: 3025 (P-11)	7.18	–	6.5-8.5	No relaxation
2	Total Hardness (as $CaCO_3$)	IS: 3025 P-21)	172.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS: 3025 (P-40)	41.28	mg/L	75.0	200.0
4	Iron (as Fe)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS: 3025 (P-32)	38.5	mg/L	250.0	1000.0
6	Fluoride (as F)	IS: 3025 (P-60)	<1.0	mg/L	1.0	1.5
7	Total Dissolved Solids	IS: 3025 (P-16)	290.0	mg/L	500.0	2000.0
8	Total Suspended Solids	IS: 3025 (P-17)	<5.0	mg/L	-	-
9	Magnesium (as Mg)	IS: 3025 (P-46)	16.8	mg/L	30.0	100.0
10	Manganese (as Mn)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO_4)	IS: 3025 (P-24)	45.3	mg/L	200.0	400.0
12	Nitrate (as NO_3)	IS: 3025 (P-34)	1.82	mg/L	45.0	No relaxation
13	Mercury (as Hg)	EKO/CHEM/SOP-ICPMS/W-01	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as $CaCO_3$)	IS: 3025 (P-23)	160.0	mg/L	200.0	600.0
16	Lead (as Pb)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
17	Total Chromium (as Cr)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.05	No relaxation

Notes:
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****End of Report****

For EKO PRO ENGINEERS PVT. LTD.
PURNIMA CHAUHAN
TECHNICAL MANAGER

Analytical Services - Analysis of Environment, Food, AYUSH, Cosmetics, Toy & Material, Leather Products, Petroleum & Building Material Samples in Biological, Chemical, Electrical & Mechanical Disciplines.
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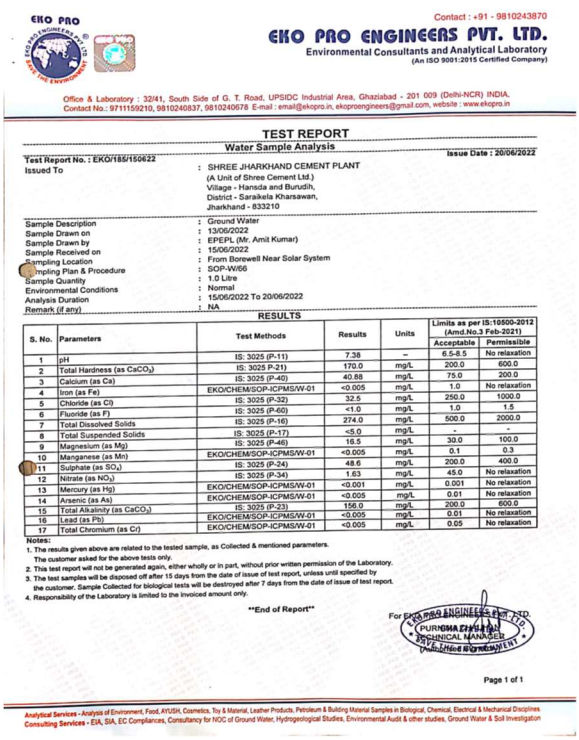

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Contact No.: 9711159210, 9810240837, 9810240678 E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT

Water Sample Analysis

Test Report No. : EKO/185/150622 — **Issue Date : 20/06/2022**

Issued To : SHREE JHARKHAND CEMENT PLANT
(A Unit of Shree Cement Ltd.)
Village - Hansda and Burudih,
District - Saraikela Kharsawan,
Jharkhand - 833210

Sample Description	: Ground Water
Sample Drawn on	: 13/06/2022
Sample Drawn by	: EPEPL (Mr. Amit Kumar)
Sample Received on	: 15/06/2022
Sampling Location	: From Borewell Near Solar System
Sampling Plan & Procedure	: SOP-W/66
Sample Quantity	: 1.0 Litre
Environmental Conditions	: Normal
Analysis Duration	: 15/06/2022 To 20/06/2022
Remark (if any)	: NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per IS:10500-2012 (Amd.No.3 Feb-2021)	
					Acceptable	Permissible
1	pH	IS: 3025 (P-11)	7.38	--	6.5-8.5	No relaxation
2	Total Hardness (as $CaCO_3$)	IS: 3025 P-21)	170.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS: 3025 (P-40)	40.88	mg/L	75.0	200.0
4	Iron (as Fe)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS: 3025 (P-32)	32.5	mg/L	250.0	1000.0
6	Fluoride (as F)	IS: 3025 (P-60)	<1.0	mg/L	1.0	1.5
7	Total Dissolved Solids	IS: 3025 (P-16)	274.0	mg/L	500.0	2000.0
8	Total Suspended Solids	IS: 3025 (P-17)	<5.0	mg/L	-	-
9	Magnesium (as Mg)	IS: 3025 (P-46)	16.5	mg/L	30.0	100.0
10	Manganese (as Mn)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO_4)	IS: 3025 (P-24)	48.6	mg/L	200.0	400.0
12	Nitrate (as NO_3)	IS: 3025 (P-34)	1.63	mg/L	45.0	No relaxation
13	Mercury (as Hg)	EKO/CHEM/SOP-ICPMS/W-01	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as $CaCO_3$)	IS: 3025 (P-23)	156.0	mg/L	200.0	600.0
16	Lead (as Pb)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
17	Total Chromium (as Cr)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.05	No relaxation

Notes:
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For EKO PRO ENGINEERS PVT. LTD.
PURNIMA SHARMA
TECHNICAL MANAGER

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Analytical Services - Analysis of Environment, Food, AYUSH, Cosmetics, Toy & Material, Leather Products, Petroleum & Building Material Samples in Biological, Chemical, Electrical & Mechanical Disciplines.
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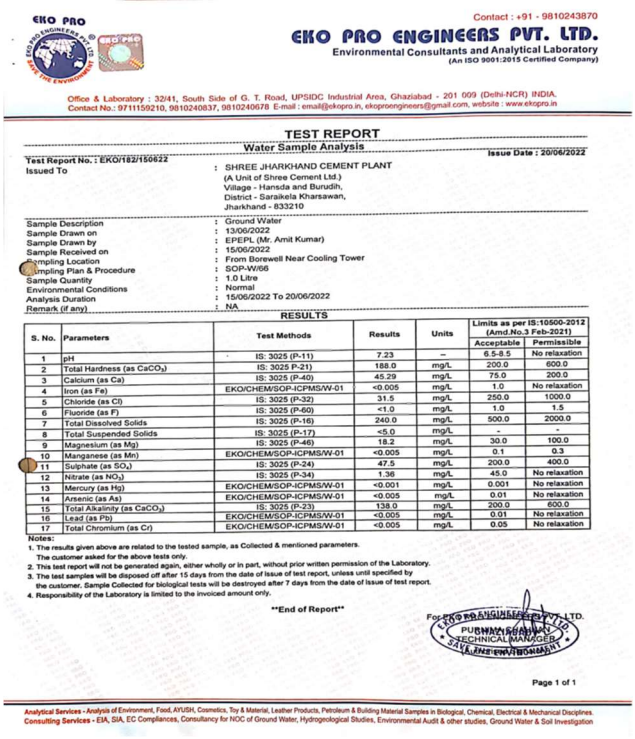

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TEST REPORT

Water Sample Analysis

Test Report No. : EKO/182/150622 — **Issue Date : 20/06/2022**

Issued To : SHREE JHARKHAND CEMENT PLANT
(A Unit of Shree Cement Ltd.)
Village - Hansda and Burudih,
District - Saraikela Kharsawan,
Jharkhand - 833210

Sample Description	: Ground Water
Sample Drawn on	: 13/06/2022
Sample Drawn by	: EPEPL (Mr. Amit Kumar)
Sample Received on	: 15/06/2022
Sampling Location	: From Borewell Near Cooling Tower
Sampling Plan & Procedure	: SOP-W/66
Sample Quantity	: 1.0 Litre
Environmental Conditions	: Normal
Analysis Duration	: 15/06/2022 To 20/06/2022
Remark (if any)	: NA

RESULTS

S. No.	Parameters	Test Methods	Results	Units	Limits as per IS:10500-2012 (Amd.No.3 Feb-2021)	
					Acceptable	Permissible
1	pH	IS: 3025 (P-11)	7.23	--	6.5-8.5	No relaxation
2	Total Hardness (as $CaCO_3$)	IS: 3025 P-21)	188.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS: 3025 (P-40)	45.29	mg/L	75.0	200.0
4	Iron (as Fe)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS: 3025 (P-32)	31.5	mg/L	250.0	1000.0
6	Fluoride (as F)	IS: 3025 (P-60)	<1.0	mg/L	1.0	1.5
7	Total Dissolved Solids	IS: 3025 (P-16)	240.0	mg/L	500.0	2000.0
8	Total Suspended Solids	IS: 3025 (P-17)	<5.0	mg/L	-	-
9	Magnesium (as Mg)	IS: 3025 (P-46)	18.2	mg/L	30.0	100.0
10	Manganese (as Mn)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO_4)	IS: 3025 (P-24)	47.5	mg/L	200.0	400.0
12	Nitrate (as NO_3)	IS: 3025 (P-34)	1.36	mg/L	45.0	No relaxation
13	Mercury (as Hg)	EKO/CHEM/SOP-ICPMS/W-01	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as $CaCO_3$)	IS: 3025 (P-23)	138.0	mg/L	200.0	600.0
16	Lead (as Pb)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.01	No relaxation
17	Total Chromium (as Cr)	EKO/CHEM/SOP-ICPMS/W-01	<0.005	mg/L	0.05	No relaxation

Notes:
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For EKO PRO ENGINEERS PVT. LTD.
PURNIMA SHARMA
TECHNICAL MANAGER

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Sr.No.	Conditions	Compliance Status
3(a)	The project proponent shall (Air Pollution Control): Provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;	• We have installed a Bag-house having 5304 numbers of bag at cement mill section for the control of particulate matter emissions. Photograph is enclosed as **Annexure – 12.** • Conveyer belts are covered. Photograph enclosed as **Annexure – 13.** • Moreover, 57 numbers of Bag filters have been installed at various transfer points to control fugitive dust emissions. Photograph enclosed as **Annexure – 14.**

Annexure-12

BAG HOUSE ATTACHED TO CEMENT MILL

Annexure-13

COVERED CONVEYER BELTS AND TRANSFER POINTS WITH BAG FILTER

LIST OF BAG FILTERS

Annexure-14

FAG FILTER DETAILS			
S.NO.	LOCATION	CAPACITY	NO. OF BAGS
	FLYASH HANDLING		
1	Dump Hopper	50000	320
2	DFA TT	7500	64
3	Inlet of Silo Feeding BE	7500	64
4	Silo Top	15000	121
5	F/A Discharge BE	7500	64
	Clinker handling		
6	Clinker BRU 1	25000	196
7	Clinker BRU 2	25000	196
8	Clinker BRU 3	25000	196
9	Clinker tank Bottom at TT1	10000	81
10	Clinker Feed BE Top at TT1	15000	121
11	Clinker Extraction tunnel 1 at T.E	10000	81
12	Clinker Extraction tunnel 1 at H.E	10000	81
13	Clinker Extraction tunnel 2 at T.E.	10000	81
14	Clinker Extraction tunnel 2 at H.E.	15000	121
15	Clinker Extraction tunnel 3 at T.E.	10000	81
16	Clinker Extraction tunnel 3 at H.E.	10000	81
17	Clinker Extraction BC near BRU	15000	121
18	For Clinker tank Top	50000	320
19	At Mill Hopper Bldg. Top	15000	121
	Gypsum,P/A Storage and Handling		
20	Gypsum BRU	20000	156
21	Crusher Bldg. TT-3	10000	81
22	Gyp. Hopper TT4/TT-5	10000	81
23	At TT5	6500	56
24	At TT7	6500	56
25	At Mill Hopper Bldg. Top	5000	42
	Coal Handling & Storage		
26	At Coal BRU	20000	156
27	At Coal TT3 (Crusher Bldg.)	10000	81
28	At Coal Hopper Bldg. Bottom	10000	81
29	At Coal BE Top & HAG Belt	7500	64
30	At HAG Bin Top	6500	56
	Cement Mill Hopper & Reject Bldg.		
31	For Weigh Feeder at Hopper Bldg.	20000	156
32	At Weigh Feeder & Belt Feeding Mill	10000	81
33	Mill Fresh Feed BE & Reject BE Top at FL +37.750M	15000	121
34	Mill Reject BC & BE at FL +9.700M	7500	64
35	At FL +2.00M LVL For Mill Feed BE	7500	64
	Bag House To Cement Silo Feed	172000	
36	For AirSlide below Bag house at +10.200M LVL	10000	81
37	At PPC silo feeding elevator bottom	10000	81
38	At PPC silo Top	15000	121
39	At PSC Silo Top	15000	121
	Cement Silo Bin Venting		
40	At PPC Silo Bin	5000	42
41	At PSC Silo Bin	5000	42
	Packin Plant		
42	Packer Feed BE1	7500	64
43	Packer Feed BE2	7500	64
44	Packer Feed BE3	7500	64
45	Packer Feed BE4	7500	64
46	At Packin Plant Top For Bin 1	40000	320
47	At Packin Plant Top For Bin 2	40000	320
48	At Packin Plant Top For Bin 3	40000	320
49	At Packin Plant Top For Bin 4	40000	320
50	For Desudtin near Packer 1	20000	156
51	For Desudtin near Packer 2	20000	156
52	For Desudtin near Packer 3	20000	156
53	For Desudtin near Packer 4	20000	156
54	For Cement Bulk Point	5000	42
55	Stacker TT2	7500	64
56	At TT1	7500	64
57	Pnematic Handling Fly Ash	2500	30

Sr.No.	Conditions	Compliance Status
3(b)	The project proponent shall (Air Pollution Control): Design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process / from suction hoods to achieve particulate emission to less than 20 mg/Nm3	Being Complied. Installed designed bag filter as per the dust load to achieve particulate emission less than 20 mg/Nm3.
3(c)	The project proponent shall (Air Pollution Control): Provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags;	• DP transmitter has been provided on every dust collector for leakage detection. • Mechanized bag cleaning facilities i.e. Purging system has been provided for better maintenance of bags.
3(d)	The project proponent shall (Air Pollution Control): Provide pollution control system in the cement plant as per the CREP Guideline of CPCB.	Being Complied. We are strictly complaining all the recommendations of the Corporate Responsibility or Environmental Protection (CREP) for the cement plants, details are as follows. Details compliance of CREP is enclosed as **Annexure – 15.**

Annexure-15

Compliance of the Corporate Responsibility or Environmental Protection (CREP) for the cement plants

Sr.No.	Conditions	Status
1.	Cement Plants which are not complying* with notified standards: • Augmentation of existing Air Pollution Control Devices - by July 2003. • Replacement of existing Air Pollution Control Devices - by July 2004.	Unit commissioned on 31st May 2019 and complying with new emission norms.
2.	Cement plants located in critically polluted or urban areas (including 5 km distance outside under urban boundary) will meet 100 mg / Nm^3 limit of particulate matter by December 2004 and continue working to reduce the emission of particulate matter to 50 mg / Nm^3	Shree Jharkhand Cement Plant is located at a long distance from urban areas. At present emission level are with well in the limits as per CTO i.e. <20 mg/Nm^3 for PM concentration.
3.	The new cement kilns to be accorded NOC/Environmental Clearance w.e.f. 01.04.2003 will meet the limit of 50 mg/ Nm3 for particulate matter emissions.	It's only a clinker grinding unit and emission level is being maintained <20 mg/Nm^3 as per the CTO condition.
4.	CPCB will evolve load based standards by December 2003.	Load based standards issued by the MoEF is for Kiln only. This is a cement grinding unit hence, this condition is not applicable.
5.	CPCB and NCBM will evolve SO2 and NO2 emission standard by June 2004. The above referred Notification has stimulated emission standards for SO2 - 100 mg / Nm3 and NOx - 600 mg / Nm3	It's only a clinker grinding unit, this condition is not applicable.
6.	The cement industries will control fugitive emissions from all the raw material and products storage and transfer points by December 2003. However, the feasibility for the control of fugitive emissions from limestone and coal storage areas will be decided by the National Task Force (NTF). The NTF shall submit its recommendation within three months.	SJHCP is taking following measures to control Fugitive dust emission. • All conveyors belts are covered. • All the material transfer points, silos tops, silos extraction, loading and unloading hoppers are equipped with bag filters. • Silo for clinker, cement and fly ash, covered shed for gypsum, slag, and coal storage. • Concreting all movement area to avoid fugitive dust emission. • Vacuum sweeping machines are being deployed for better housekeeping.

		• Water Spray is being done by tanker at kachha area with the consideration of weather. Moreover, water sprinklers have been installed along the road(s) as per the requisite. • Green belt has been developed along the plant boundary and inside plant premises.
7.	CPCB, NCBM, BIS and Oil refineries will jointly prepare the policy on use of petroleum coke as fuel in cement kiln by July 2003.	Not applicable.
8.	After performance evaluation of various types of continuous monitoring equipment and feedback from the industries and equipment manufacturers, NTF will decide feasible unit operations/sections for installation of continuous monitoring equipment. The industry will install the continuous monitoring systems (CMS) by December 2003.	Continuous Emission Monitoring System (CEMS) & Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed.
9.	Tripping in ESP to be minimized by July 2003 as per recommendation of NFT.	Not applicable.
10.	Industries will submit the target date to enhance the utilization of waste material by April 2003.	SJHCP is putting efforts to continuously use waste materials: • Waste material (fly ash) from nearby Thermal Power Plants is being used in cement plant. • Slag, waste material from steel plant is being used for manufacturing of PSC cement.
11.	NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003.	Not applicable
12.	Cement industries will carry out feasibility study and submit target dates to CPCB for co-generation of power by July 2003.	Not applicable

Sr.No.	**Conditions**	**Compliance Status**
3(e)	The project proponent shall (Air Pollution Control): Provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop floors, roofs regularly.	Being Complied. Vacuum sweeping machines are being used continuously for maintaining housekeeping. Photograph of Vacuum sweeping machines are enclosed as **Annexure – 16.**

Annexure-16

VACUUM SWEEPING MACHINES

Sr.No.	Conditions	Compliance Status
3(f)	The project proponent shall (Air Pollution Control): Use leak proof trucks/dumpers for carrying raw materials & cement and shall cover them with tarpaulin. Use closed bulkers for carrying fly ash;	Being Complied. Covered trucks are used for transportation of raw materials like coal; clinker, gypsum and slag are transported through Railway wagon, and closed bulkers are deployed for the transportation of fly ash. Photograph of unloading of fly ash is enclosed as **Annexure – 17.**

Annexure-17

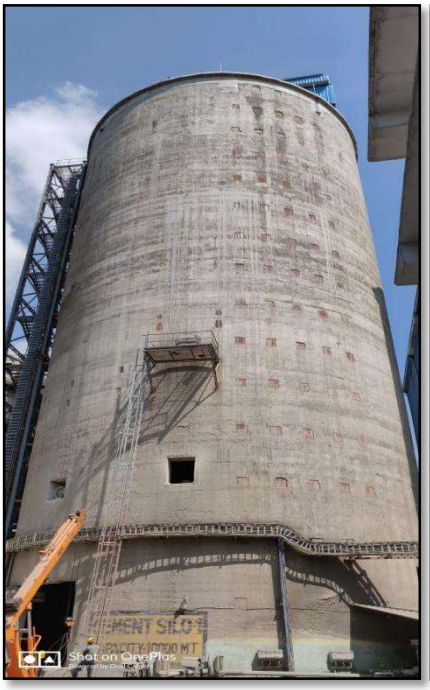
UNLOADING OF FLY ASH FROM CLOSED BULKER

Sr.No.	Conditions	Compliance Status
3(g)	The project proponent shall (Air Pollution Control): Provide wind shelter fence and chemical spraying on the raw material stock piles;	Being Complied. Clinker, Cement and Fly ash are being stored in cemented silos. Gypsum/slag and coal are being stored in covered shed. Photographs of storage silos and covered shed are enclosed as **Annexure – 18.**

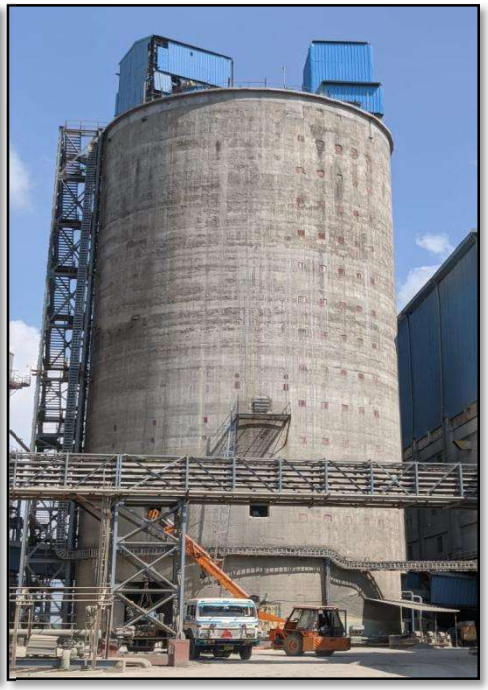
Annexure-18

CLINKER SILO

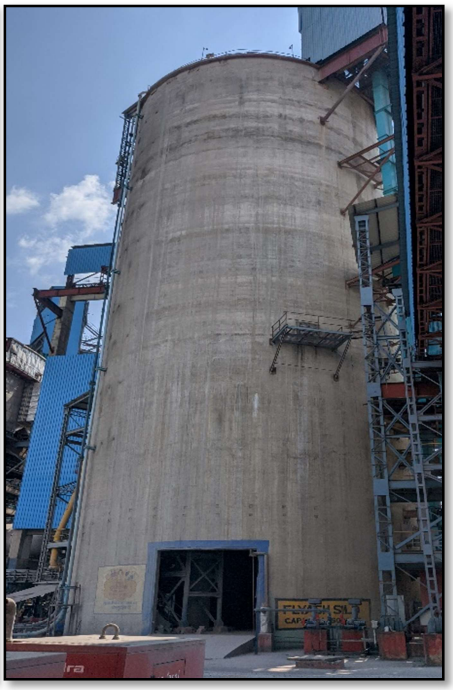
CEMENT SILO - 1



CEMENT SILO - 2



FLY ASH SILO



GYPSUM YARD

COAL YARD

Sr.No.	Conditions	Compliance Status
3(h)	The project proponent shall (Air Pollution Control): Provide low NOx burners to control NOx emission	• Not applicable for clinker grinding unit. • CPP will be installed in second phase
3(i)	The project proponent shall (Air Pollution Control): Have separate truck parking area and monitor vehicle emissions at regular interval.	• Separate truck parking area has been developed. • Vehicles having valid PUC are allowed for transportation of raw materials. • Photographs of Truck yard is enclosed as **Annexure – 19.**

Annexure-19

TRUCK PARKING AREA

Sr.No.	Conditions	Compliance Status
4(a)	The project proponent shall (Water Pollution Control): Adhere to 'zero liquid discharge';	Being Complied. • Complying with Zero liquid discharge. • Clinker grinding is a dry process and therefore, no effluent is being generated from the process. • Domestic waste water generated from offices and canteen is being treated in STP and treated water is used for horticulture purpose. • Photograph of STP and utilization of treated water are enclosed as Annexure – 9.
4(b)	The project proponent shall (Water Pollution Control): Provide Sewage Treatment Plant for domestic wastewater;	Being Complied. Domestic waste water from offices and guest house is treated in STP and treated water is used for plantation purpose. Photographs of STP and utilization of treated water are enclosed as Annexure – 9.

Sr.No.	Conditions	Compliance Status
4(c)	The project proponent shall (Water Pollution Control): Provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	All the raw materials are stored under covered shed and in Silos. Photographs of storage silos and covered shed are enclosed as Annexure – 18.
5(a)	The project proponent shall (Water Conservation): Practice rainwater harvesting to maximum possible extent;	Being Complied. • Rainwater harvesting pond (RWHP) developed within plant area with storage capacity 51405 m^3. • Artificial rain water recharge structures are constructed inside plant premises to recharge ground water. • Photograph of RWHP and artificial rain water recharge structure are enclosed as **Annexure – 20.**

Annexure-20

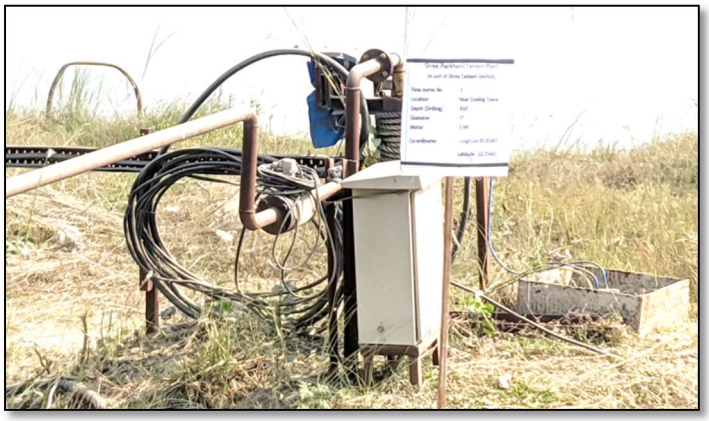
RWHP

ARTIFICIAL RAIN WATER REHARGE STRUCTURE

Sr.No.	Conditions	Compliance Status
5(b)	The project proponent shall (Water Conservation): Provide water meters at the inlet to all unit processes in the power plant;	Digital water flow meters installed at all raw water withdrawal sources. Photograph of digital water flow meters is enclosed as **Annexure – 21.**

Annexure-21

DIGITAL WATER FLOW METER INSTALLED AT BORE WELL



Sr.No.	Conditions	Compliance Status
5(c)	The project proponent shall (Water Conservation): Make efforts to minimize water consumption in the complex by segregation of used water, practicing cascade use and by recycling treated water;	Being Complied. • Complying with Zero liquid discharge. • Clinker grinding is a dry process and therefore, no effluent is being generated from the process. • Domestic waste water generated from offices and canteen is being treated in STP and treated water is used for horticulture purpose. • Photograph of STP and utilization of treated water are enclosed as Annexure – 9.
6(a)	The PP shall (Energy conservation): Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.	Being Complied. • Solar lights are provided in common area, street lights and parking area. • In addition to above 12 MW Solar power systems installed at plant. • Photograph of installed solar power system is enclosed as **Annexure – 22.**

Annexure-22

SOLAR POWER 1.999 MW

Sr.No.	Conditions	Compliance Status
6(b)	The PP shall (Energy conservation): Provide the project proponent for LED lights in their offices and residential area;	Being Complied. • LED lights have been provided in offices and other buildings inside the plant premises. • Photograph of the same is enclosed as **Annexure – 23.**

Annexure-23

LED LIGHT IN OFFICES & PLANT PREMISES

Sr.No.	Conditions	Compliance Status
6(c)	The PP shall (Energy conservation) : Maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards; and.	Being Complied. Fly ash and slag is being used as per BIS standard for cement manufacturing.
7	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land.	Being Complied. • Raw materials (Clinker, Gypsum & Slag) are transported through rail. • Closed bulkers have been used for the transportation of fly ash and covered trucks are used for the transportation of coal. • Vehicles having valid PUC are allowed for transportation of raw materials. • Cleaning of roads and truck parking area is being done by vacuum cleaning machine. • Photograph of closed bulker and covered truck for raw materials transportation are enclosed as **Annexure – 24.**

Annexure-24

CLOSED BULKER FOR THE TRANSPORTATION OF FLY ASH

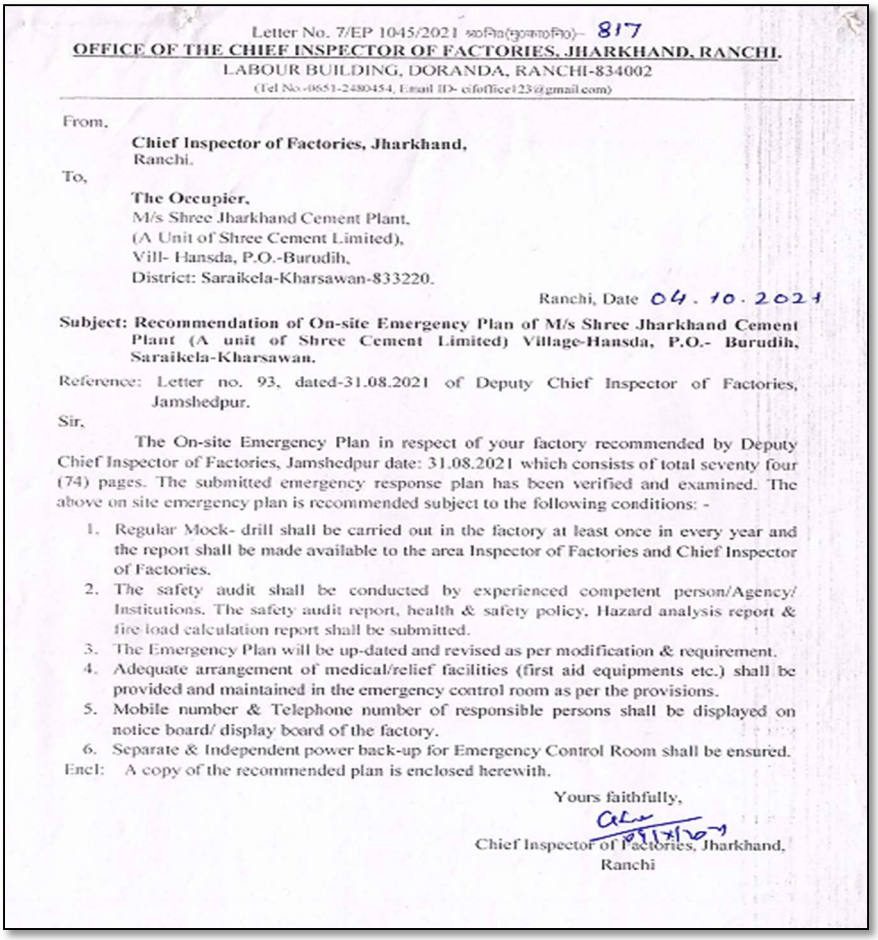
COVERED TRUCK WHILE TRANSPORTING RAW MATERIALS

Sr.No.	Conditions	Compliance Status
8	The PP shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.	Being Complied. A team of expert performs the survey of the entire plant and collect the raw data of GHG emissions. Company follow the GCCA and Energy Accounting and reporting standard for the Cement Industry" for the calculation of the GHG emission. Every year a third party is engaged for assurance of GHG data.

9	Emergency preparedness plan based on the Hazard identification and Risk assessment (HIRA) and Disaster Management Plan shall be implemented.	On-Site Emergency preparedness plan based on the Hazard identification and Risk assessment (HIRA) and Disaster Management Plan has been prepared and implemented. Approved copy of On-site emergency plant is enclosed as **Annexure – 25.**
10	The PP shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.	Not Applicable. This is a clinker grinding unit and the unit is not going for clinker manufacturing. Hence, Heat stress analysis report not required as per Factory & Boiler Act.

Annexure-25

APPROVED COPY OF ON-SITE EMERGENCY PLAN



Letter No. 7/EP 1045/2021 817

OFFICE OF THE CHIEF INSPECTOR OF FACTORIES, JHARKHAND, RANCHI.

LABOUR BUILDING, DORANDA, RANCHI-834002

(Tel No.-0651-2480454, Email ID- cifoffice123@gmail.com)

From,

Chief Inspector of Factories, Jharkhand,
Ranchi.

To,

The Occupier,
M/s Shree Jharkhand Cement Plant,
(A Unit of Shree Cement Limited),
Vill- Hansda, P.O.-Burudih,
District: Saraikela-Kharsawan-833220.

Ranchi, Date 04.10.2021

Subject: Recommendation of On-site Emergency Plan of M/s Shree Jharkhand Cement Plant (A unit of Shree Cement Limited) Village-Hansda, P.O.- Burudih, Saraikela-Kharsawan.

Reference: Letter no. 93, dated-31.08.2021 of Deputy Chief Inspector of Factories, Jamshedpur.

Sir,

The On-site Emergency Plan in respect of your factory recommended by Deputy Chief Inspector of Factories, Jamshedpur date: 31.08.2021 which consists of total seventy four (74) pages. The submitted emergency response plan has been verified and examined. The above on site emergency plan is recommended subject to the following conditions: -

1. Regular Mock- drill shall be carried out in the factory at least once in every year and the report shall be made available to the area Inspector of Factories and Chief Inspector of Factories.
2. The safety audit shall be conducted by experienced competent person/Agency/ Institutions. The safety audit report, health & safety policy, Hazard analysis report & fire load calculation report shall be submitted.
3. The Emergency Plan will be up-dated and revised as per modification & requirement.
4. Adequate arrangement of medical/relief facilities (first aid equipments etc.) shall be provided and maintained in the emergency control room as per the provisions.
5. Mobile number & Telephone number of responsible persons shall be displayed on notice board/ display board of the factory.
6. Separate & Independent power back-up for Emergency Control Room shall be ensured.

Encl: A copy of the recommended plan is enclosed herewith.

Yours faithfully,

Chief Inspector of Factories, Jharkhand,
Ranchi

Sr.No.	Conditions	Compliance Status
11	The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.	Being Complied. Company has a well-established Corporate Environmental Policy. Environment, Social and Governance Committee (ESG) committee review all the environment compliances. All the issues of environment are being discussed in the committee. MoM of the same is enclosed as Annexure – 3.
12	All the recommendations made in the Charter on corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.	Being Complied. We are strictly complaining all the recommendations of the Corporate Responsibility or Environmental Protection (CREP) for the cement plants, details are as follows. Details compliance of CREP is enclosed as Annexure – 15.
13	A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.	Being Complied. A dedicated environmental cell with qualified personnel has been established and directly reporting to the Unit head.
14	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. Provision was made for the housing of construction labour within the site with all necessary infrastructure and facilities. Housing, toilets with soak pits & septic tank, safe drinking water, medical healthcare etc. have been provided to construction labors. Photograph of Labour houses, toilets and STP are enclosed as **Annexure – 26.**

Annexure-26

LABOUR HOUSES

LABOUR TOILET

STP

Sr.No.	Conditions	Compliance Status
15	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Being Complied.
16	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Noted. We will obtain prior approval from MoEF&CC for further expansion or modification.
17	The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & Other waste (Management & Trans-boundary Movement) Rules, 2016	Used Oil is being collected in drums and sold to CPCB authorized recyclers as per the Hazardous & Other waste (Management & Trans-boundary Movement) Rules, 2016.
18	The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75 dB (A) during day time and 70 dB (A) during night time.	Noise level is being monitored on regular basis and results are enclosed as **Annexure – 27.**

Annexure-27

Ambient Noise level monitoring Data Leq. In dB(A)								
Locations	**Plant boundary near logistic building**		**Plant boundary near wagon tippler**		**Plant boundary near RWHS**		**Plant boundary near railway siding**	
Time	**Day Time**	**Night Time**	**Day Time**	**Night Time**	**Day Time**	**Night Time**	**Day Time**	**Night Time**
Apr-22	62.3	56.3	60.1	47.3	54.6	50.5	61.4	58.9
May-22	60.8	54.2	59.9	50.5	56.2	51.4	63.4	55.6
Jun-22	63.7	52.9	62.4	49.9	60.2	55.3	60.7	58.2
July-22	65.4	52.8	63.8	50.1	59.8	52.4	65.2	60.4
Aug-22	59.9	53.7	61.7	52.2	58.4	53.7	69.4	63.4
Sep-22	60.3	51.8	60.4	52.4	60.4	56.8	67.8	62.8

Sr.No.	Conditions	Compliance Status
19	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Being Complied. • Annual occupational health surveillance program of the workers and staff are performed on regular basis. • Records are maintained as per the Factory act.
20	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.	Being Complied. All the environment protection measure and safeguards recommended in EIA/EMP are being complied. Details enclosed as **Annexure – 28.**

EIA/EMP Matrix

Annexure-28

Shree Jharkhand Cement Plant
(A Unit of Shree Cement Limited)
EIA/EMP Implementation Matrix

S. No	Parameters	EIA/ EMP Implementation	Status
1	Air Pollution Control	1.1. Installation of Bag House at Cement Mill	Implemented
		1.2. Installation of 57 numbers of Bag filters at all material transfer point	Implemented
		1.3. Storage of Materials in cover shed	Implemented
		1.4. Installation of water sprinklers to control fugitive dust nuisance	Implemented
		1.5. Periodical monitoring of air parameters by NABL certified environmental lab	Implemented
		1.6. Installation of continues stack monitoring system and same is connected with SPCB and CPCB servers	Implemented
		1.7. Installation of 04 nos continues Ambient Air Quality monitoring stations and same is connected with SPCB and CPCB servers	Implemented
2	Water Pollution Control	2.1. Installation of piezometer (Automatic Ground water level recorder with telemetry) for ground water level monitoring	Implemented
		2.2. Installation of digital water flow meter for ground water abstraction	Implemented
		2.3. Installation of STP for treatment of domestic waste water	Implemented
		2.4. Implementation of rain water harvesting cum ground water recharge structure	Implemented
		2.5. Periodical monitoring of water parameters by NABL certified environmental lab	Implemented
3	Waste management	3.1. Storage of used oil under proper shed as per CPCB guideline	Implemented
		3.2. Disposal of used oil by CPCB registered recycler	Implemented
		3.3. Dust collected from the dust collectors (Bag Filters) recycled back to the process	Implemented
		3.4. Utilization of STP Sludge as manure for greenbelt development / plantation	Implemented
		3.5. Selling of Lead acid battery to CPCB authorised recycler	Implemented
		3.6. Selling E-waste to CPCB authorised recycler	Implemented
		3.7. Enhance regular hose keeping by vacuum sweeping machine	Implemented
4	Noise Pollution Control	4.1. Maintained machinery with proper maintenance, oiling and greasing at regular intervals	Implemented
		4.2. Provision of adequate silencers for all diesel engines	Implemented
		4.3. Periodical monitoring of noise level by NABL certified lab	Implemented
		4.4. Provision for earmuffs to all operators and employees working near the machinery	Implemented

Shree Jharkhand Cement Plant (A Unit of Shree Cement Ltd.)

Shree Jharkhand Cement Plant
(A Unit of Shree Cement Limited)
EIA/EMP Implementation Matrix

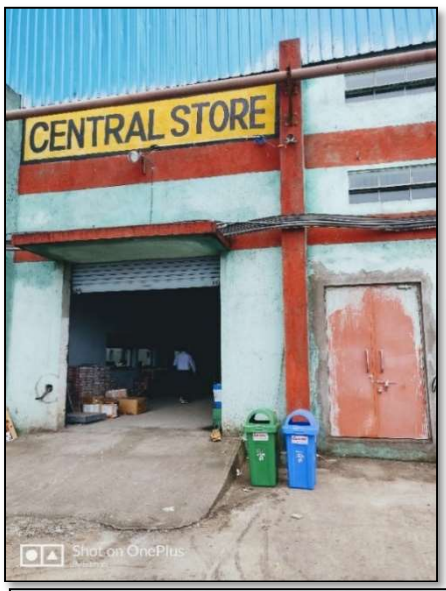
5	Green Belt Development	5.1. Development of green belt in 36.3 acre (33%) of the total plant area	Implemented
		5.2. Plantation of local plant species	Implemented
		5.3. Post plantation activities for its survival	Implemented

Shree Jharkhand Cement Plant (A Unit of Shree Cement Ltd.)

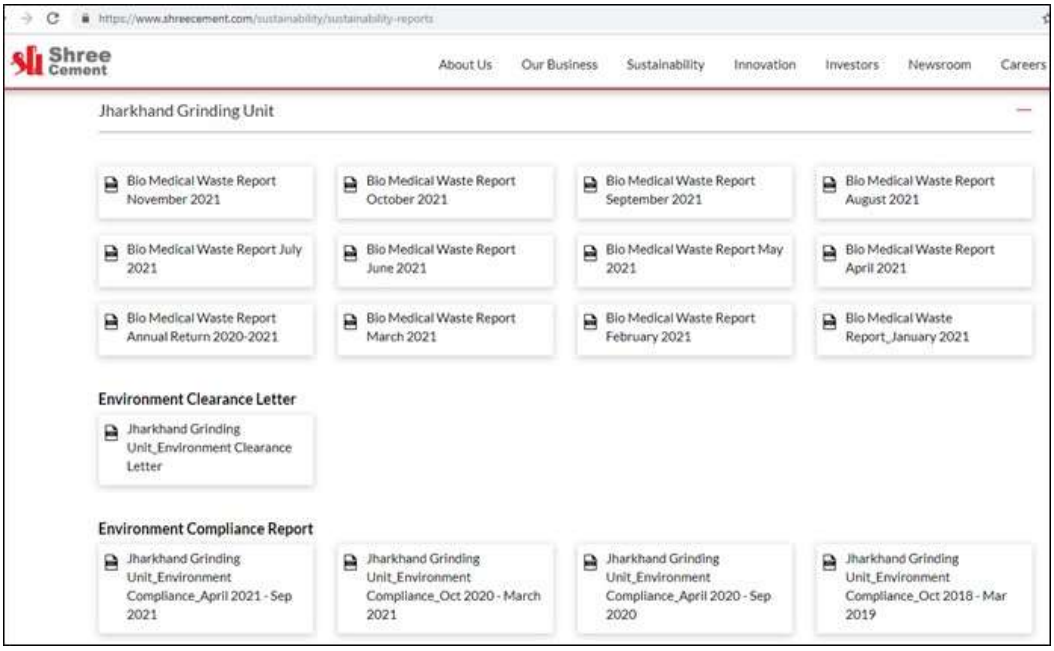
Sr.No.	Conditions	Compliance Status
21	Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.	Being Complied. Ventilation system has been designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.
22	Sufficient number of color coded waste collection bins shall be constructed at shop floors in each shop to systematically segregate and store waste materials generated at the shop floors (other than Process waste) in designated colored bins for value addition by promoting reuse of such wastes and for good housekeeping.	Being Complied. Color coded waste collection bins have been placed at various places in the plant premises for good housekeeping. Photographs are enclosed as **Annexure – 29.**

Annexure-29

Dust Bins at different location inside plant premises



Screenshot of SCL website showing EC Letter



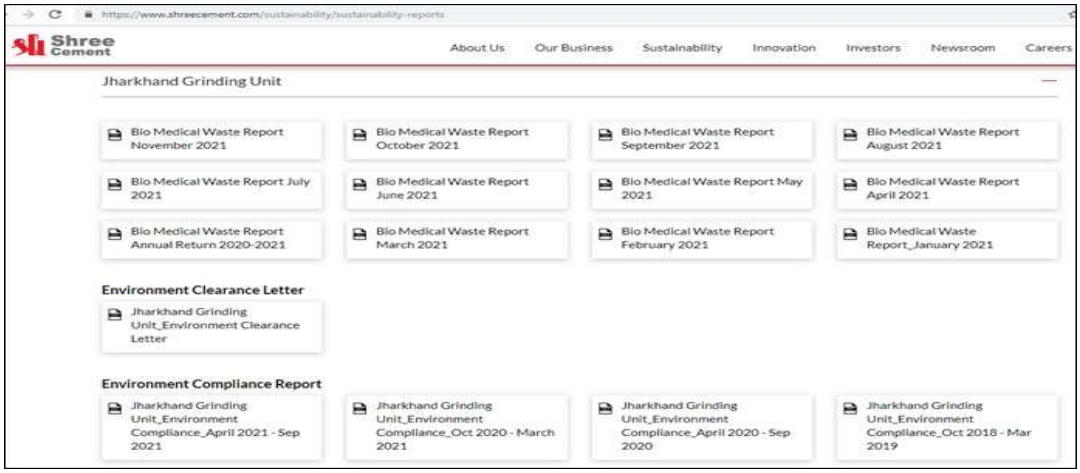
Sr.No.	Conditions	Compliance Status
23 (a)	The project proponent shall (post-EC Monitoring) : Send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government;	Copy of EC has been provided to following local bodies: 1. Gram Panchayat, Simla Block, Kharsawan on dated 12.03.2018. 2. Gram Panchayat, Burudih Block, Kharsawan on dated 14.03.2018. 3. Chief of Block Kharsawan, District: Saraikela-Kharsawan on 14.03.2018.
23 (b)	The project proponent shall (post-EC Monitoring) : put on the clearance letter on the web site of the company for access to the public.	The copy of environment clearance letter is available on the web site of Shree Cement Ltd. www.shreecement.in

S.N.	Conditions	Compliance Status
23 (c)	The project proponent shall (post-EC Monitoring): Inform the public through advertisement within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has	EC was received on 7th March 2018 and advertised in Prabhat Khabar & Dainik Bhaskar local newspapers have been published on dated 11/03/2018 & 13/03/2018 respectively. Copy of the same submitted on 14/03/2018.

	been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at http:/envfor.nic.in.	
23 (d)	The project proponent shall (post-EC Monitoring): Upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same periodically;	Status of compliance of the stipulated environment clearance conditions, including results of monitored data is available on the web site of Shree Cement Ltd. www.shreecement.in Screenshot of Shree Cement Ltd. website showing EC compliance report is enclosed as **Annexure – 31.**

Annexure-31

Screenshot of SCL website showing EC Compliance Report



Sr.No.	Conditions	Compliance Status
23 (e)	The project proponent shall (post-EC Monitoring) : Monitor the criteria pollutants level namely; PM10, S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;	• 4 nos. CAAQMS has been installed inside plant premises for the monitoring of PM10, PM2.5, SO2, NOx & CO. • CEMS i.e. opacity meter for PM measurement has been provided at cement mill stack. • Monitoring data of the same is being uploaded/ available on JSPCB & CPCB server and the same is being displayed at company main gate. • Snapshot of JSPCB server showing Shree Cement CAAQMS data is enclosed as **Annexure – 32**,

		Photograph of CAAQMS and CEMS are enclosed as **Annexure – 33,** and photograph of display board at main gate is enclosed as **Annexure – 34.**

Annexure-32

SNAPSHOT OF JSPCB SERVER SHOWING SHREE CEMENT CAAQMS DATA

jsacjharkhand.gov.in/pollution/Inlisted_Child.aspx?V=Knowledgelens&I=M%2fs+Jharkhand+Cement+Plant(A+unit+of+Shree+Cement+Ltd)

Click PM10 Analyzer

Jharkhand State Pollution Control Board

Home | Dashboard | Day Wise Data | Month Wise Data | Industry Detail | Industry Category | Star Registration | Login

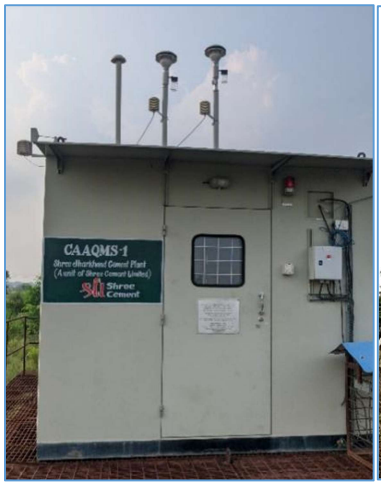
Export to Excel | Close

1578 Record Found

Sl. No	Industry Name	stationId	analyserId	Parameter	Process Value	Unit	Submitted Date	Timestamp of Analyser
1	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	Stack_1_Cement Mill_1	jhar_analyzer_103	PM	0.08	mg/Nm3	01-10-2021 13:12:29	2021-10-01 12:45
2	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_4	jhar_analyzer_103	NOx	12.25	ug/m3	01-10-2021 13:12:29	2021-10-01 12:45
3	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_4	jhar_analyzer_103	CO	0.42	mg/m3	01-10-2021 13:12:26	2021-10-01 12:45
4	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_4	jhar_analyzer_103	NO2	10.05	ug/m3	01-10-2021 13:12:24	2021-10-01 12:45
5	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_4	jhar_analyzer_103	NO	2.19	ug/m3	01-10-2021 13:12:23	2021-10-01 12:45
6	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_3	jhar_analyzer_103	CO	0.49	mg/m3	01-10-2021 13:12:23	2021-10-01 12:45
7	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_4	jhar_analyzer_103	PM2.5	9.50	ug/m3	01-10-2021 13:12:23	2021-10-01 12:45
8	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_3	jhar_analyzer_103	NOx	18.17	ug/m3	01-10-2021 13:12:23	2021-10-01 12:45
9	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_4	jhar_analyzer_103	SO2	6.36	ug/m3	01-10-2021 13:12:23	2021-10-01 12:45
10	M/s Jharkhand Cement Plant(A unit of Shree Cement Ltd)	AQMS_3	jhar_analyzer_103	SO2	6.97	ug/m3	01-10-2021 13:12:21	2021-10-01 12:45

Annexure-33

Opacity meter installed at Cement Mill Stack



CAAQMS-1 Near Logistic Buildings

CAAQMS-2 Near Wagon Tippler

CAAQMS-3 Near RWHS

CAAQMS-3 Near Railway Siding

Annexure-34

Display Board at Main Gate

Sr.No.	Conditions	Compliance Status
23 (f)	The project proponent shall (post-EC Monitoring) : Submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB;	Compliance report is being submitted on regular basis to the Regional Office of MoEF&CC, Zonal Office of CPCB and the SPCB. Screenshot of mail for the submission of half yearly compliance is enclosed as **Annexure – 35.**

Annexure-35

Screenshot showing the submission of Half Yearly EC Compliance

From: Jharkhand Environment/scl
To: "ROR MoEFCC" <ro.ranchi-mef@gov.in>
Cc: zokolkatta.cpcb@nic.in, ranchijspcb@gmail.com, "JSPCB Jamshedpur" <jspcb.jsr@gmail.com>
Bcc: Dr. Anil Kumar Trivedi/scl@scl, Ashok 14470 Kumar/scl@scl, Raghuvansh Kumar/scl@scl, Bibhuti Naik/Odisha/scl@scl

Date: Wednesday, November 24, 2021 12:17PM
Subject: Six monthly Compliance of Conditions of EC for Cement Grinding Unit, M/s. Shree Jharkhand Cement Plant (A Unit of Shree Cement Limited) - Reg.

Dear Sir,
With reference to the above subject matter, please find herewith the attached compliance report of conditions stipulated in the Environmental Clearance Letter No. J-11011/692/2008-IA-II (I) dated 21-02-2018 for the Cement Grinding Unit M/s. Shree Jharkhand Cement Plant (A Unit of Shree Cement Limited); located near Village-Hansda, PO-Burudih, Dist. Saraikela-Kharsawan, Jharkhand for the period from April-2021 to September-2021.

Regards,
Environment Cell
M/s. Shree Jharkhand Cement Plant
A Unit of Shree Cement Limited

Attachments:
Compliance of EC conditions_Apr-21 to Sept-21.pdf

Sr.No.	Conditions	Compliance Status
23 (g)	The project proponent shall (post-EC Monitoring) : submit the environmental statement for each financial year in Form – V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;	Environmental statement for each financial year ending 31st March in Form-V has been submitted to the Jharkhand State Pollution Control Board and is available on the web site of Shree Cement Ltd. www.shreecement.in.

Sr.No.	Conditions	Compliance Status
23 (h)	The project proponent shall (post-EC Monitoring) : Inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Complied. Plant was commissioned on 31st May, 2019.