



o/c
SHREE CEMENT LTD.

Regd. Office:

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SCL/RAS/MoEF&CC/2019-20/

25/11/2019

To

The Director (Industry)
Ministry of Environment, Forest & Climate Change,
Indira Paryavaran Bhavan
Jorbagh Road
New Delhi - 110 003

Sub: - Compliance of conditions of environmental clearance by M/s Shree Cement Limited situated near Village - Ras, Tehsil - Jaitaran, District - Pali, Rajasthan.

Ref: - EC letter No. letter no. J-11011/343/2012-IA-II(I) dated: 07th November 2017. & amendment EC letter no. J-11011/343/2012-IA-II(I) dated 29th May 2018

Dear Sir,

Kindly refer to the above subject matter and referred EC letter. We are submitting herewith the compliance report for the period from April-2019 to September-2019.

This is for your kind information please.

Thanking you,

Yours faithfully,
For Shree Cement Ltd.


(Dr. Anil Kumar Trivedi)
Sr. GM (Environment)

Copy to:

- 1) The Chief Conservator of Forest (C), Ministry of Environment & Forest, Regional Office (Central Region), Kendriya Bhavan, 5th Floor, Sector 'H' Aliganj, Lucknow (U.P.), Pin-226024
- 2) The In-Charge (Zonal Office), Central Pollution Control Board (CPCB), 3rd Floor, Sahkar Bhawan, North T.T. Nagar, Bhopal-462003(M.P.)
- 3) The Member Secretary, Rajasthan Pollution Control Board, 4, Institutional Area, Jhalana Doongri, JAIPUR-302004 (Rajasthan).

o/c
SCL-Ras
JAIPUR OFFICE : SB-187, Bapu Nagar, Opp. Rajasthan University, JLN Marg, Jaipur-302 015
Phone : 0141 4241200, 4241204, Fax : 0141 4241219

NEW DELHI OFFICE : 122-123, Hans Bhawan, 1, Bahadurshah Zafar Marg, New Delhi 110 002
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SHREE CEMENT LIMITED; Vill-RAS, Tehsil- JAITARAN, Dist- PALI (RAJASTHAN)
COMPLIANCE STATUS OF ENVIRONMENT CLEARANCE LETTER NO.: J-11011/343/2012-IA-II(I) dated: 07th November 2017. & amendment EC letter no. J-11011/343/2012-IA-II(I) dated 29th May 2018
April-2019 to September-2019

A	Specific Conditions	Compliances status
(i)	The project proponent should install 24x7 air monitoring devices to monitor air emission, as provided by the CPCB and submit report to Ministry and its Regional Office.	<ul style="list-style-type: none"> • CEMS has been installed for continuous monitoring of PM, SO₂ and NO_x at the stack of all Kilns and Boiler & connected 24x7 with the RSPCB & CPCB servers. • Opacity meters have been installed for continuous monitoring of PM at the stack of coal mill, cement mill and clinker cooler & connected 24x7 with the RSPCB & CPCB servers.
(ii)	The Standards issued by the Ministry vide G.S.R No. 612 (E) dated 25 th August, 2014 and subsequent amendment dated 9 th May, 2016 and 10 th May, 2016 regarding cement plants with respect to particulate matter, SO ₂ and NO ₂ shall be followed.	<ul style="list-style-type: none"> • The stack of Raw Mill Kiln, Clinker Cooler, Coal Mill, Cement mill of all units are complying with PM <30 mg/Nm³. All the stacks are installed with emission control devices like Bag house, ESPs. • PM emission levels are <50 mg/Nm³ for all boiler stacks. • Complying with SO₂ <100 mg/Nm³ for kiln. • De-NO_x system have been installed at all kilns.
(iii)	Continuous stack monitoring facilities to monitor gaseous emissions from the process stacks shall be provided. After expansion, limit of PM shall be controlled to meet prescribed standards by installing adequate air pollution control viz Electrostatic precipitators to clinker cooler, bag house to raw mill/kiln and bag filters to coal mill and cement mill. Low NO _x burners shall be provided to control NO _x emissions. Regular calibration of the instruments must be ensured.	<ul style="list-style-type: none"> • Opacity meters have been installed for continuous monitoring of PM at the stack of Raw mill & Kiln, Clinker Cooler, Cement mill, Coal mill and Boilers. • CEMS have been installed for continuous emission monitoring of SO₂ and NO_x at the stack of Raw Mill-Kiln and Boiler. • PM Emission level are <30 mg/Nm³ for Raw mill & kiln, Coal mill, Clinker Cooler and Cement mill stacks of all units. • PM Emission level are <50 mg/Nm³ for all Boiler stacks. • Adequate numbers of air pollution control devices have been installed at all the material transfer points, silos. • Low NO_x burners have been installed with all kilns. • Calibration of all instruments is being done on regular basis. • NABL approved lab performs the calibration of opacity monitors and gas analyzers.
(iv)	Efforts shall be made to achieve power consumption of 70 units/tonne for Portland Pozzolona Cement (PPC) and 95 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker.	<ul style="list-style-type: none"> • Separate energy management cell has been established to monitor power & fuel consumption. Regular energy audits are performed and the findings are being implemented. • All suitable measures like VFD, high efficient motors have been adopted to reduce power consumption.
(v)	The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16 th November, 2009 shall be followed.	<ul style="list-style-type: none"> • Ambient air quality is being monitored at four locations of the plant boundary near main-gate, near mess, near stacker & reclaimer and towards village Khera and Jawangarh. • The ambient air quality is within the prescribed emission levels of National Ambient Air Quality Emission Standards issued by the Ministry. • Results of ambient air quality monitored are enclosed as Annexure-1. • Stack monitoring results are enclosed as Annexure-2. • Six monthly compliance reports are submitted on regular basis to the RO of the MOEF, CPCB and RPCB.
(vi)	AAQ Modelling shall be carried out based on the	<ul style="list-style-type: none"> • AAQ modeling was carried out during EIA study and

	specific mitigative measures taken in the existing project and proposed for the expansion project to keep the emission well below prescribed standards.	submitted.
(vii)	Secondary fugitive emission shall be controlled and shall be within the prescribed limits and regularly monitored. Guidelines/Code or Practice issued by the CPCB in this regard shall be followed.	<ul style="list-style-type: none"> • Emission levels are maintained within prescribed limits. • CPCB guidelines for control of fugitive emissions have been implemented. • Following measures have been taken for the control of fugitive emissions: <ul style="list-style-type: none"> ○ Covered vehicle for cement and clinker transported ○ Closed containers and bulkers for fly ash transportation ○ Implementations of Rail transportation along with road transportation. ○ All vehicle movement area are concreted. ○ Silos for the storage of Clinker and fly ash. ○ Covered storage for natural and synthetic gypsum. ○ Circular stock pile storage for coal and petcoke. ○ All unloading hoppers are covered and provided with bag filters. ○ All conveyor belts are covered. ○ Bag dust collectors have been provided at all material transfer points. ○ Water spray system has been provided with reclaimers and limestone unloading points. ○ Vacuum sweeping machines are being used for better housekeeping. ○ Green Belt all around the plant premises. ○ Fugitive emissions are within limit. Emission level is enclosed as Annexure-3.
(viii)	A statement on carbon budgeting including the quantum of equivalent CO ₂ being emitted by the existing plant operations, the amount of carbon sequestered annually by the existing green belt and the proposed green belt and the quantum of equivalent CO ₂ that will be submitted to the Ministry and the Regional Office of the Ministry. This shall be prepared every year by the project proponent. The first such budget shall be prepared within a period of 6 months and subsequently it should be prepared every year.	<p>A team of experts performs the survey of the entire plant and collects the raw data for calculation of GHG emissions. Company follows the Cement Sustainability Initiative (CSI) CO₂ and "Energy Accounting and Reporting Standard for the Cement Industry" for the calculation of the GHG emissions.</p> <p>Every year a third party is engaged for assurance of the GHG data. During the year 2017-18, CO₂ emitted by existing plant operation is 9906223 Tons & sequestered CO₂ is 2468.99 MT. The audit findings are implemented for further reduction of GHG emissions from the plant operation.</p>
(ix)	For the employees working in high temperature zone falling in the plant operation areas, the total shift duration would be 4 hrs or less per day where the temperature is more than 50°C. Moreover, the jobs of these employees will be alternated in such a way that no employee is subjected to working in high temperature area for more than 1 hr continuously. Such employees would be invariably provided with proper protective equipment, garments and gears such as head gear, clothing, gloves, eye protection etc. There should also be an arrangement for sufficient drinking water at site to prevent dehydration etc.	<ul style="list-style-type: none"> • Cement plant & Power Plant are using state of art fully mechanized technology. • No direct exposure of human beings to the high temperature area. • PPEs are provided to all the plant workers. Specific PPE related to high temperature working zones are provided to the workmen working at the hot areas. Such area are demarked as Hot Area Work in the plant. • Drinking water & utility facility are available at the site.
(x)	Arsenic and Mercury shall be monitored in emission, ambient air and water.	<ul style="list-style-type: none"> • Arsenic and Mercury in stack emissions, ambient air and ground water are carried out by approved lab. Reports are enclosed as Annexure-4.
(xi)	The coal yard be lined and covered.	Covered Circular Stacker Reclaimer for storage of coal and pet coke are provided.

(xii)	The project proponent shall prepare a report on impact of project on surrounding reserve forests within six months and will get it approved from the state forest Department. A copy of the same should be submitted to the ministry and its Regional Office.	<ul style="list-style-type: none"> As per the EIA study report submitted to the Ministry, maximum distance of impact is up to 900 mtr. in NNE direction whereas the nearest reserve forest is at 5 Km in South direction hence there is no impact on reserve forest. Study report has been submitted to the DFO Pali for approval. 															
(xiii)	The project proponent shall take all precautionary measures for conservation and protection of wild fauna found in the study area. A Wildlife Conservation Plan specific to this project site shall be prepared in consultation with the State Forest and Wildlife Department. A copy of the Conservation plan shall be submitted to the Ministry and its Regional Office	As per certified list of Fauna received from DFO Pali, there is no Schedule – I species in the study area, hence no conservation plan required.															
(xiv)	The project proponent will also provide the latest status of the environmental compliances in respect of its existing plant.	Exiting plant compiling with all stipulated condition made under EC vide letter no. J-11011/343/2012-IA-II(I) dated: 07 th November 2017. & amendment EC letter no. J-11011/343/2012-IA-II(I) dated 29 th May 2018															
(xv)	Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of conveyors/rail mode of transport wherever feasible. The company shall have separate truck parking area. Vehicular emission shall be regularly monitored.	<p>Following measures have been taken for the control of emissions due to transportation:</p> <ul style="list-style-type: none"> Cement and clinker are being transported in covered vehicles. Fly ash is being transported in the closed containers and bulkers. All vehicles used in transportation are loaded as per the capacity. Vehicles with PUC are allowed. Rail transportation has been adopted along with road to reduce impact. 															
(xvi)	Efforts shall be made to further reduce water consumption by using air cooled condensers. All the treated wastewater shall be recycled and reused in the process and/or for the dust suppression and green belt development and other plant related activities etc. No process wastewater shall be discharged outside the factory premises and 'zero' discharge shall be adopted.	<ul style="list-style-type: none"> All boilers of Power Plant & WHRS have been attached with air cooled condensers. Cement manufacturing process is based on dry process technology. RO reject from CPP & WHRS is being used for synthetic gypsum manufacturing within the plant premises. Most of the underground water pipelines are converted to over head pipelines. Separate Water Cell is constituted for daily, monthly and yearly reporting of water consumption. Domestic sewage generated from office & guest house toilets is being treated at STP and the treated water is used for plantation and greenbelt development. 'Zero' liquid discharge has been achieved. 															
(xvii)	Efforts shall be make use to rain water harvested. If needed, capacity of the reservoir shall be enhanced to meet the maximum water requirement. Only balance water requirement shall be met from other sources.	<ul style="list-style-type: none"> Rain water collection pits have been developed at the following locations to use for plant & mining activities and to recharge the ground water. <table border="1"> <thead> <tr> <th>S. No.</th><th>Structure</th><th>Water storage Capacity in KL</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Harvesting Pit-1 at Mines</td><td>900000</td></tr> <tr> <td>2.</td><td>Harvesting Pit-2 at Mines</td><td>40000</td></tr> <tr> <td>3.</td><td>Harvesting Pit-3 near plant gate</td><td>147000</td></tr> <tr> <td>4.</td><td>Harvesting Pit-4 in Colony near Vill. Bhagatpura</td><td>40000</td></tr> </tbody> </table> <ul style="list-style-type: none"> Total water requirement for entire Ras project (Cement, Power, Mine and Residential colony) is <4380 KLD. CGWA permission has been granted to withdraw 4000 KLD ground water. The balance 380 KLD water will be used from the rain 	S. No.	Structure	Water storage Capacity in KL	1.	Harvesting Pit-1 at Mines	900000	2.	Harvesting Pit-2 at Mines	40000	3.	Harvesting Pit-3 near plant gate	147000	4.	Harvesting Pit-4 in Colony near Vill. Bhagatpura	40000
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		water collected in above pits.
(xviii)	Regular monitoring of influent and effluent surface, sub-surface and ground water shall be ensured and treated wastewater shall meet the norms prescribed by the State Pollution Control Board or described under the Environment (Protection) Act, 1986.	<ul style="list-style-type: none"> • There is no effluent discharge on land or outside of the plant premises. • Sewage generated from office, canteen/mess and guest house toilets is being treated at STP, and treated water is used for plantation & greenbelt development. Analysis report of STP treated water is enclosed as Annexure-5. • Ground water level and quality monitoring is being carried out on regular basis. Reports are enclosed as Annexure-6.
(xix)	All the bag filter dust, raw mill dust, coal dust, clinker dust and cement dust from pollution control devices shall be recycled and reused in the process and used for cement manufacturing. Spent oil and batteries shall be sold to authorized recyclers/re-processors only.	<ul style="list-style-type: none"> • Dust collected in air pollution control equipment is reused in process. • Used oil and batteries are sold to authorized recycler / preprocessors only.
(xx)	The kiln shall be provided with a flexible fuel feeding system to enable use of hazardous wastes and other wastes including biomass, etc.	<ul style="list-style-type: none"> • Flexible fuel feeding system to utilize hazardous waste & other waste are provided. • Various hazardous waste such as paint sludge, ETP sludge, phosphate sludge, oily rags etc. are being utilized. • Separate AFR cell is being constituted for management and utilization of Hazardous and non - hazardous wastes.
(xxi)	The proponent shall examine and prepare a plan for utilisation of high calorific wastes such as chemical wastes, distillation residues, refuse derived fuels, etc as alternate fuels based on availability and composition. For this, the proponent shall identify suitable industries with such wastes and enter into an MOU for long-term utilisation of such wastes as per the Environment (Protection) Rules, 1986 and with necessary approvals.	<ul style="list-style-type: none"> • We have in-house CSIR recognized R&D and AFR Cell for utilization of alternate raw material and fuels. • Lead Zinc slag of Hindustan Zinc Limited and other solid wastes are being used as alternative raw material in place of iron ore. • CPCB & RSPCB permissions have been obtained for the following HW / waste materials are used as AFR: <ul style="list-style-type: none"> ○ Paint sludge. ○ ETP sludge and Phosphate sludge of automobile industries. ○ CETP sludge of Pali, Bhiwadi. ○ Chemical Gypsum ○ Solid mix waste and liquid mix waste ○ Oil soaked cotton and grinding waste ○ Oily rags & incineration ash
(xxii)	Efforts shall be made to use the high calorific hazardous waste in the cement kiln and necessary provision shall be made accordingly. The PP shall enter into an MOU with units with potential for generating hazardous waste and in accordance with Hazardous Waste Regulations and prior approval of the MPCCB.	<ul style="list-style-type: none"> • We have in-house CSIR recognized R&D and AFR Cell for utilization of alternate raw material and fuels. • Lead Zinc slag of Hindustan Zinc Limited and other solid wastes are being used as alternative raw material in place of iron ore. • CPCB & RSPCB permissions have been obtained for the following HW / waste materials are used as AFR: <ul style="list-style-type: none"> ○ Paint sludge. ○ ETP sludge and Phosphate sludge of automobile industries. ○ CETP sludge of Pali. ○ Chemical Gypsum ○ Solid mix waste and liquid mix waste ○ Oil soaked cotton and grinding waste ○ Oily rags & incineration ash
(xxiii)	Green belt over 33% of the total project area shall be developed within plant premises with at least 10-meter-wide green belt on all sides along the periphery of the project area and along road sides etc. by planting native and broad leaved species in	<ul style="list-style-type: none"> • 3 layers plantation has been provide along with boundary wall. • Out of total plant area of 187.56 hectare, green belt has been developed in 63.8 hectares (34%) area with 165311 numbers of saplings.

	consultation with local DFO, local community and as per the CPCB guidelines. Plantation at all the neighboring villages should be done along the road and in free areas	<ul style="list-style-type: none"> Local native species viz. <i>Neem, Karanj, paltofarm, acacia species, dak, gulmohar</i> etc. are planted for increase survival rate.
(xxiv)	The project proponent shall provide for solar light system for all common areas, street lights, villages, parking around project area and maintain the same regularly.	<ul style="list-style-type: none"> Solar lights are provided inside the plant premises.
(xxv)	The project proponent shall provide for LED lights in their offices and residential areas.	<ul style="list-style-type: none"> LED lights with occupancy sensor provided in office. LED lights provided in Bagatpura residential township.
(xxvi)	All the recommendations made in the charter on Corporate Responsibility for Environment Protection (CREP) for the Cement plants shall be implemented.	<ul style="list-style-type: none"> All CREP recommendations have been implemented.
S. No.	CREP Condition	Action Plan
1.	The new cement kiln to be accorded NOC/ Environmental Clearance w.e.f 1/4/03 will meet the limit of 50 mg/Nm ³ for particulate matter emission.	All Pollution Control equipment are meeting the particulate matter emission level < 30 mg/Nm ³ .
2.	The cement industries will control fugitive emission from all raw material and product storage and transfer points by December 2003. However, the National Task Force will decide the feasibility for the control of fugitive emission from limestone and coal storage areas. The NTF shall submit its recommendations within months.	<p>Covered storages / silos have been provided for Clinker, Fly Ash, Gypsum and Cement storage.</p> <p>Closed unloading hoppers with water spraying arrangement have been provided for unloading of limestone and coal & pet coke.</p> <p>Bag filters have been provided at all material transfer points.</p> <p>All conveyor belts are covered.</p> <p>All movement area is cemented and sweeping is being done by vacuum sweeping machine.</p> <p>Circular stock piles have been provided for covered storage for coal and pet coke.</p>
3.	Industries will submit the target date to enhance the utilization waste material by April 2003.	<p>Fly ash is used for making PPC.</p> <p>Lead Zinc slag of Hindustan Zinc Limited and other solid wastes are used as alternative raw material in place of iron ore.</p>
4.	NCBM will carry out a study on hazardous waste utilization in cement kiln by December 2003.	CPCB & RSPCB permissions have been obtained for use of paint sludge, ETP sludge and phosphate sludge of automobile industries, CETP Sludge of Pali, Chemical Gypsum, Tyre chips, Solid mix waste and liquid mix waste, oil soaked cotton and grinding waste, Oily rags and incineration ash
5.	Cement industries will carry out feasible study and submit target dates to CPCB co-generation of power by July-2003.	WHR systems are installed in all the unit.
(xxvii)	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on Public Hearing issues, locals need and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office. Implementation of such program shall be ensured by constituting a Committee comprising of the proponent, representatives of village Panchayat and District Administration. Action	<ul style="list-style-type: none"> CSR plan for next 5 year has been submitted on 29/11/2017. Company is engaged in extensive social welfare works under CSR activities. Total expenses on social welfare activities for the year 2018-19 was INR 921.78 lac for all units of cement, power and mining.

	taken report in this regard shall be submitted to the Ministry's Regional Office.	
(xxviii)	The proponent shall prepare a detailed CSR Plan for every year for the next 5 years for the existing-cum-expansion project, which includes village-wise, sector-wise(Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as strengthening of village roads, avenue plantation, etc) activities in consultation with the local communities and administration. The plan so prepared shall be based on SMART (Specific, Measurable, Relevant and Time bound) concept. The expenditure should be aimed at sustainable development and direct free distribution and temporary relief should not be included. The CSR Plan will include the amount of 2% retain annual profits as provided for in Clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 years towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual Report of the company.	<ul style="list-style-type: none"> • CSR plan for next 5 year has been submitted on 29/11/2017. • Company is engaged in extensive social welfare works under CSR activities. Total expenses on social welfare activities for the year 2018-19 was INR 921.78 lac for all units of cement, power and mining. • Company has constituted separate CSR cell with experts from the field of social, civil, IT, education, medical, environment etc. • The dedicated team regularly visits the near by communities and identify the various needs and programs are developed for implementation of the same. • Regular internal and external audits are carried out to further improve the CSR programs in the near by communities. • Every year the CSR budget is prepared and inventory of the expenditure is being maintained.
(xxix)	A Risk Assessment Study and Disaster Preparedness and Management Plan along with the mitigation measures shall be prepared with a focus of the Disaster Prevention and a copy submitted to the Ministry's Regional Office, SPCB and CPCB within 3 months of issue of environment clearance letter.	Disaster management plan submitted vide letter dt. 29/11/2017.
(xxx)	To educate the workers, all the work place where dust may cause a hazard shall be clearly indicated as a dust exposure area through the use of display signs which identifies the hazard and the associated health effects.	<ul style="list-style-type: none"> • Training programs being organized for workers on regular basis. • Signs board have been displayed at all health associated risk area. • Adequate PPE's such as ear muffs / ear plugs, helmet, dust mask and shoes have been provided to workers. • All necessary facilities such as toilets, drinking water, medical health, fuel etc. has been provided to construction labors.
(xxxi)	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, 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.	<ul style="list-style-type: none"> • Facilities such as fuel for cooking, mobile toilets, safe drinking wter, medical health care, cretches etc have been provided to construction labours. • Temporary housing facility for construction labour has been constructed by the industry.
(xxxii)	Required permission for withdrawal from the ground water resources shall be obtained from the CGWA for the total requirement of 3500 m ³ /day of water	<ul style="list-style-type: none"> • CGWA NOC for ground water withdrawal of 4000 KLD obtained and renewal pending with CGWA.
	General Conditions	Compliances
(i)	The project authorities must strictly adhere to the stipulations made by the Rajasthan Pollution Control Board and the State Government.	Complying with all the stipulation made by the RSPCB and state govt.
(ii)	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).	For further expansion, prior approval will be obtained from MoEF&CC.
(iii)	At least four ambient air quality monitoring stations	Ambient air quality is being monitored at the four locations

	should be established in the downward direction as well as where maximum ground level concentration of PM ₁₀ , PM _{2.5} , SO ₂ and NO _x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional Office at Lucknow and the SPCB/CPCB once in six months.	inside the plant boundary near main-gate, near mess, near stacker & reclaimer and towards village Khera and Jawangarh. Complying with the National Ambient Air Quality Emission Standards issued by the Ministry. Stack emission levels are maintained within the stipulated norms. Six monthly compliance reports are being submitted on regular basis to the Ministry of RO office of the MOEF/CPCB and RPCB.																																	
(iv)	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) dated 19 th May, 1993 and 31 st December 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	<ul style="list-style-type: none">• No effluent is being generated from the dry cement manufacturing process.• RO reject water is being utilized in synthetic gypsum manufacturing and ash quenching.• Domestic sewage generated from office, mess and guest house toilet is being treated at STP, and treated water is used for plantation & greenbelt development.																																	
(v)	The overall noise level in and around the plant area shall be kept well within the standards (85 dB(A) during night time.	Overall noise level in and around the plant area is within the prescribed standards of 85 dB (A). Ambient noise levels at the plant boundary are well within the standards prescribed under EPA Rules viz 75 dB (A) (Day time) and 70 dB (A) (Night time.) Reports are enclosed as Annexure-7																																	
(vi)	Occupational health surveillance of the workers shall be done on regular basis and records maintained as annexure per the Factories Act.	<ul style="list-style-type: none">• Occupational Health Management Center with specialist has been established.• Occupational Health Surveillance programmes are being carried out on regular basis and record of the same is maintained as per Factories Act.• Every year Health Checkup is being carried out on annual basis.																																	
(vii)	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	<ul style="list-style-type: none">• Rain water collection pits have been developed at the following locations to use for plant & mining activities and to recharge the ground water<table><tr><th>Sr. No.</th><th>Structure</th><th>Water storage Capacity in KL</th></tr><tr><td>1.</td><td>Harvesting Pit-1 at Mines</td><td>900000</td></tr><tr><td>2.</td><td>Harvesting Pit-2 at Mines</td><td>40000</td></tr><tr><td>3.</td><td>Harvesting Pit-3 near plant gate</td><td>147000</td></tr><tr><td>4.</td><td>Harvesting Pit-4 in Colony near Vill. Bhagatpura</td><td>40000</td></tr></table>• Following rain water harvesting measures have been developed outside the plant premises.<table><tr><th>S.N O.</th><th>Watershed development & Construction of Anicuts</th></tr><tr><td colspan="2">Year 2015-2016</td></tr><tr><td>1.</td><td>Construction of anicut in Roopnagar(Ras) village</td></tr><tr><td colspan="2">Year 2010-2011</td></tr><tr><td>1</td><td>Construction of anicut in Bagatpura village</td></tr><tr><td>2</td><td>Construction of anicut in Bhingarh village</td></tr><tr><td>3</td><td>Construction of anicut in Kanyakhedi village</td></tr><tr><td>4</td><td>Rooftop water harvesting in 12 schools</td></tr><tr><td>5</td><td>Construction of Rapat (Nimbeti to Jawangarh village)</td></tr></table>	Sr. No.	Structure	Water storage Capacity in KL	1.	Harvesting Pit-1 at Mines	900000	2.	Harvesting Pit-2 at Mines	40000	3.	Harvesting Pit-3 near plant gate	147000	4.	Harvesting Pit-4 in Colony near Vill. Bhagatpura	40000	S.N O.	Watershed development & Construction of Anicuts	Year 2015-2016		1.	Construction of anicut in Roopnagar(Ras) village	Year 2010-2011		1	Construction of anicut in Bagatpura village	2	Construction of anicut in Bhingarh village	3	Construction of anicut in Kanyakhedi village	4	Rooftop water harvesting in 12 schools	5	Construction of Rapat (Nimbeti to Jawangarh village)
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2.	Harvesting Pit-2 at Mines	40000																																	
3.	Harvesting Pit-3 near plant gate	147000																																	
4.	Harvesting Pit-4 in Colony near Vill. Bhagatpura	40000																																	
S.N O.	Watershed development & Construction of Anicuts																																		
Year 2015-2016																																			
1.	Construction of anicut in Roopnagar(Ras) village																																		
Year 2010-2011																																			
1	Construction of anicut in Bagatpura village																																		
2	Construction of anicut in Bhingarh village																																		
3	Construction of anicut in Kanyakhedi village																																		
4	Rooftop water harvesting in 12 schools																																		
5	Construction of Rapat (Nimbeti to Jawangarh village)																																		

		<table><tr><th colspan="2">Year 2009-2010</th></tr><tr><td>6</td><td>Watershed development project for all villages</td></tr><tr><td>7</td><td>Small check dam/Anicut, Village Nimbeti</td></tr><tr><td>8</td><td>Construction of anicut in Nimbeti river</td></tr><tr><td>9</td><td>Construction of anicut in Kheda Village</td></tr><tr><td>10</td><td>Construction of anicut in Bhingarh Village</td></tr><tr><td>11</td><td>Pal construction at Anicut Nimbeti river</td></tr><tr><th colspan="2">Year 2008-2009</th></tr><tr><td>12</td><td>Construction/Repairing of anicut in Nimbeti village</td></tr><tr><td>13</td><td>JawangarhAnicut</td></tr><tr><td>14</td><td>Bhairav Ji Dhani Anicut Jawangarh Anicut</td></tr></table> <ul style="list-style-type: none">Artificial recharge structures (de-silting & filter pits) have been provided with dug wells and bore wells inside the plant premises to recharge the ground water.	Year 2009-2010		6	Watershed development project for all villages	7	Small check dam/Anicut, Village Nimbeti	8	Construction of anicut in Nimbeti river	9	Construction of anicut in Kheda Village	10	Construction of anicut in Bhingarh Village	11	Pal construction at Anicut Nimbeti river	Year 2008-2009		12	Construction/Repairing of anicut in Nimbeti village	13	JawangarhAnicut	14	Bhairav Ji Dhani Anicut Jawangarh Anicut
Year 2009-2010																								
6	Watershed development project for all villages																							
7	Small check dam/Anicut, Village Nimbeti																							
8	Construction of anicut in Nimbeti river																							
9	Construction of anicut in Kheda Village																							
10	Construction of anicut in Bhingarh Village																							
11	Pal construction at Anicut Nimbeti river																							
Year 2008-2009																								
12	Construction/Repairing of anicut in Nimbeti village																							
13	JawangarhAnicut																							
14	Bhairav Ji Dhani Anicut Jawangarh Anicut																							
(viii)	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc.	Complying with EIA/EMP study report.																						
(ix)	Requisite funds shall be earmarked towards capital cost and recurring cost/annum for environment pollution control measures to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change (MoEF& CC) as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Lucknow. The funds so provided shall not be diverted of any other purpose.	<ul style="list-style-type: none">All the pollution control measures have been implemented.The last three years recurring cost for the environment pollution control is given as below- <table><tr><th>Description</th><th>2016-17</th><th>2017-18</th><th>2018-19</th></tr><tr><td>Plant</td><td>1044.70 Lacs</td><td>1044.70 Lacs</td><td>1370.29 Lacs</td></tr><tr><td>Mines</td><td>253.56 Lacs</td><td>253.56 Lacs</td><td>297.99 Lacs</td></tr><tr><td>Total</td><td>1298.26 Lacs</td><td>1298.26 Lacs</td><td>1668.28 Lacs</td></tr></table>	Description	2016-17	2017-18	2018-19	Plant	1044.70 Lacs	1044.70 Lacs	1370.29 Lacs	Mines	253.56 Lacs	253.56 Lacs	297.99 Lacs	Total	1298.26 Lacs	1298.26 Lacs	1668.28 Lacs						
Description	2016-17	2017-18	2018-19																					
Plant	1044.70 Lacs	1044.70 Lacs	1370.29 Lacs																					
Mines	253.56 Lacs	253.56 Lacs	297.99 Lacs																					
Total	1298.26 Lacs	1298.26 Lacs	1668.28 Lacs																					
(x)	A copy of clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parishad/Municipal Corporation, Urban Local Body and the local NGO, if any, from whom, suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the web site of the company by the proponent.	<ul style="list-style-type: none">Copy of environment clearance letter has been sent on 08/11/2017 to the followings:- (copy submitted on 29/11/2017)<ul style="list-style-type: none">✓ Gram Panchayat, Ras✓ Gram Panchayat, Butiwas✓ Nagar Palika, Jaitaran✓ ZilaParishad, Pali✓ SDM, PaliEC letter has been placed on our website:- www.shreecement.in																						

(xi)	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF&CC at Lucknow. The respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; PM ₁₀ , SO ₂ , NO _x (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	<ul style="list-style-type: none"> • Status of compliance of the stipulated environment clearance conditions, including results of monitored data are available on company's website and shall be updated periodically. • Four ambient air quality-monitoring stations have been installed at plant premises as suggested by the Regional office of RSPCB. • Data on ambient air quality and stack emission are being carried out regularly and result of which submitted monthly to the RSPCB and six monthly to the Ministry & CPCB-Bhopal.
(xii)	The project proponent shall also 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. The Regional office of this Ministry at Lucknow/CPCB/SPCB shall monitor the stipulated conditions.	<ul style="list-style-type: none"> • Compliance of the stipulated environment clearance conditions, including results of monitored data are being submitted on six monthly basis to the Ministry of Environment and Forests, its Regional Office, Lucknow, Central Pollution Control Board and State Pollution Control Board.
(xiii)	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MoEF&CC at Lucknow by e-mail.	<ul style="list-style-type: none"> • Every year in the month of September, Environment statement is being submitted to the concerned authorities. • Environment Statement & EC compliance have been uploaded on the website:-www.shreecement.in
(xiv)	Project Proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may also be seen at the Website of the Ministry of Environment, Forests and Climate Change at http://envfor.nic.in . This should be advertised 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 of the locality concerned and a copy of the same shall be forwarded to the Regional office at Lucknow.	<ul style="list-style-type: none"> • Advertisement has been given in two local newspapers widely circulated in the region namely, Rajasthan Patrika and Dainik Navjyoti on 11/11/2017.
(xv)	Project authorities shall 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.	<ul style="list-style-type: none"> • The date of commissioning of various units is given as below: <ul style="list-style-type: none"> Cement plant Unit-III : 2005 Cement plant Unit-IV : 2007 Clinker Unit-V : 2007 Clinker Unit-VI : 2008 Clinker Unit-VII : 2009 Clinker Unit-VIII : 2010 Clinker Unit-IX : 2013 Clinker Unit -X : 2014 Ras New Cement Unit : 2014 CPP 80 MW : 2007 -2008 CPP 100 MW : 2010 Waste heat recovery power plant : 2010 Synthetic Gypsum Plant : 2015 • Nimbeti Limestone mine : Since 1997

Annexure-I
Ambient Air Quality Monitoring Data: (All values in $\mu\text{g}/\text{m}^3$)

Location	Near Main gate				Near Mess				Toward Stacker & Reclaimer				Toward Vill: Khera & Jawangarh			
Month	PM 2.5	PM 10	SO ₂	NO _x	PM 2.5	PM 10	SO ₂	NO _x	PM 2.5	PM 10	SO ₂	NO _x	PM 2.5	PM 10	SO ₂	NO _x
April-19	34.5	48.1	8.4	11.2	35.1	46.3	7.3	10.9	33.6	46.3	8.0	10.9	32.3	40.5	7.7	10.5
May-19	32.9	46.8	8.7	12.0	33.8	43.6	8.7	11.2	32.5	44.6	8.4	11.3	31.8	41.4	8.0	10.9
June-19	34.6	48.3	8.5	11.3	34.9	46.9	8.4	11.6	34.3	43.9	8.2	11.2	31.6	43.1	7.8	10.8
July-19	28.9	41.8	8.1	10.4	29.4	41.0	8.1	10.8	31.1	42.9	8.0	10.7	28.9	39.6	7.5	10.1
Aug-19	20.5	30.0	8.2	9.7	21.4	30.9	8.4	9.6	21.4	31.6	7.9	9.3	20.3	29.0	7.6	9.0
Sept-19	26.8	36.3	8.2	9.7	25.5	36.1	8.2	9.7	28.0	38.8	6.9	9.5	25.3	35.5	7.6	9.1

Ambient noise level at Plant Boundary (Common for Cement plant & Power plant): all values in dB (A)

Location	Near Main Gate		Near Mess		Towards Stacker & Reclaimer		Towards Vill : Khera & Jawangarh	
Month	Day	Night	Day	Night	Day	Night	Day	Night
April-19	72.6	63.4	71.2	62.8	65.8	67.3	68.1	60.1
May-19	71.8	66.2	72.1	62.8	66.9	65.8	62.6	59.9
June-19	72.4	65.2	71.0	61.8	67.9	63.8	64.6	60.8
July-19	71.9	64.1	70.5	61.4	68.9	64.5	64.6	60.9
Aug-19	73.7	64.7	71.1	60.3	72.6	62.5	68.6	59.3
Sept-19	73.2	67.2	72.0	63.2	69.5	62.0	67.5	61.0

Stack Emission Monitoring Data: (PM, NO_x & SO₂) (All Value in mg/Nm³)

Units	Location of Stack	Parameter	April-19	May-19	June-19	July-19	August-19	September-19
Cement Plant Unit-III	Raw mill & Kiln Bag House Stack	PM	15	12	15	16	12	23.9
		NO _x	607	678	426	538	628	421
		SO ₂	6.8	4.5	BDL	0	0	BDL
	Coal mill Bag House	PM	13	20	13.2	13	15	16.5
	Cooler ESP Stack	PM	13	10	22	8	9	11.8
	Cement mill Bag House Stack	PM	20	24	13	12	16	13.8
Cement Plant Unit-IV	Raw mill & Kiln Bag House Stack	PM	18	15	15	12	17	23.9
		NO _x	589	646	426	524	439	552
		SO ₂	10	3.6	BDL	0	0	0
	Coal mill Bag House	PM	21	18	10.4	15	21	13.2
	Cooler ESP Stack	PM	12	9.4	6.6	17	6	8.1
	Cement mill Bag House Stack	PM	23	20	24.3	9	10	22.6
Cement Plant Unit-V	Raw mill & Kiln Bag House Stack	PM	12	16	10.7	11	12	11.5
		NO _x	334	342	531	410	540	553
		SO ₂	0	0	BDL	0	0	0
	Coal mill Bag House	PM	14	23	14.9	15	19	15.2
	Cooler ESP Stack	PM	10	8	20.2	11	14	17.6
Cement Plant Unit-VI	Raw mill & Kiln Bag House Stack	PM	14	15	14.3	16	13	15.6
		NO _x	538	358	633	415	426	625.8
		SO ₂	0	0	BDL	0	0	0
	Coal mill Bag House	PM	15	20	17.2	17	19	15.6
	Cooler ESP Stack	PM	11	7.3	6.8	6	7	7.5
Cement Plant Unit-VII	Raw mill & Kiln Bag House Stack	PM	12	16	12.4	8	10	10.8
		NO _x	418	478	541.6	432	604	615
		SO ₂	3.5	0	BDL	0	0	0
	Coal mill Bag House	PM	19	25	12.8	13	14	11.2
	Cooler ESP Stack	PM	7	8.7	6.8	7	6	5.9
Cement Plant Unit-VIII	Raw mill & Kiln Bag House Stack	PM	13	14	12.2	9	11	13.5
		NO _x	453	463	568	568	506	452
		SO ₂	1	15.7	BDL	13	6	2
	Coal mill Bag House	PM	19	24	14.8	15	17	13.2
	Cooler ESP Stack	PM	10	8	19.1	12	6	7.5
Cement Plant Unit-IX	Raw mill & Kiln Bag House Stack	PM	23	15.1	-	22	25	18.4
		NO _x	602	571.5	-	602	571.5	530
		SO ₂	0	BDL	-	0	BDL	11
	Coal mill Bag House Stack	PM	27	22.3	-	13	14	19.5
	Cooler ESP Stack	PM	7	8.2	-	7	11	8.6
Cement Plant Unit-X	Raw mill & Kiln Bag House Stack	PM	20	24	14.3	15	18	14.2
		NO _x	475	423	459.7	406	486	524
		SO ₂	0	6.2	BDL	20	0	0
	Coal mill Bag House Stack	PM	22	17	14	19	27	14.6
	Cooler ESP Stack	PM	10	7.6	9	10	12	10.2
RNCU (VRM)	Cement mill Bag House Stack	PM	13	15	13.8	16	19	15.6

RNCU (Ball Mill)	Cement mill Bag House Stack	PM	16	12	9.5	16	14	13.6
Synthetic Gypsum	Mixer and Den Three Stage Wet Scrubber	PM	8	10	11.8	9	6	14
	Limestone Ball Mill	PM	13.6	16.4	17.2	14	12	
Captive Power Plant	Boiler-II & III ESP Stack	PM	31.3	27.4	NR	26.3	NR	30
		NOx	56	105.8	NR	98.6	NR	65
		SO ₂	426	256.4	NR	250.1	NR	220
	Boiler- IV & V ESP Stack	PM	34.2	32.2	31.8	38	35	33.4
		NOx	119	172	129.4	68	98	90
		SO ₂	334	228	424.3	281	398	242
	Boiler- VI & VII ESP Stack	PM	41.2	39.7	35.2	34	32	36.8
		NOx	63	52	60.2	70	45	42
		SO ₂	224	269	291.5	412	250	222

Annexure-3

Fugitive Emission :- (All Values in µg/m³)

Location Month	Gypsum storage	Lime stone stock pile	Coal storage area	Fly ash silo	Packing plant III & IV	Packing plant RNCU
Norms	5000	5000	2000	5000	5000	5000
April-19	3592	3644	1789	3462	3845	3742
May-19	3201	3401	1614	3791	3598	3658
June-19	3762	3925	1755	4093	4169	3788
July-19	2635	3010	1242	2241	3078	2975
Aug-19	2456	2745	1120	2585	3242	3167
Sept-19	2637	3347	1276	2348	2715	2569

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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422; E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

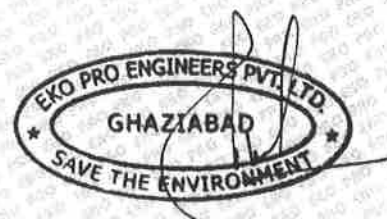
**TEST REPORT****Ambient Air Quality Monitoring****Test Report No. :** EK0/EV-AA/119/200619**Issue Date :** 28/06/2019**Issued To**

: Shree Cement Limited
Village - Ras
Tehsil- Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ambient Air
Sample Drawn on : 17/06/2019 To 18/06/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 20/06/2019
Sampling Location : Near Stackers & Reclaimer
Sampling Plan & Procedure : SOP-AAQ/15
Analysis Duration : 20/06/2019 To 25/06/2019
Sampling Time : 24.0 Hrs.
Ambient Temperature (deg °C) : 39.0
Average Flow Rate of SPM (m³/min) : 1.1
Average Flow Rate of Gases (lpm.) : 1.0
Weather Conditions : Clear
Remark (if any) : Monitoring Photograph Showing Coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	Limits as per EPA*
1	Particulate Matter (PM10)	IS:5182 (P-23)	70.7	µg/m³	100.0
2	Particulate Matter (PM2.5)	Eko/Chem/SOP/AAQ-01	43.4	µg/m³	60.0
3	Sulphur dioxide (as SO2)	IS:5182 (P-2)	10.2	µg/m³	80.0
4	Nitrogen Dioxide (as NO2)	IS:5182 (P-6)	22.7	µg/m³	80.0
5	Arsenic (as As)	Eko/Chem/SOP/AAQ-02	<0.1	ng/m³	6.0
6	Mercury (as Hg)	SOP-AAQ/89/04	<0.1	µg/m³	-





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Test Report No. : EK0/EV-AA/119/200619

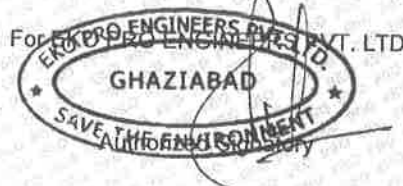
Issue Date : 28/06/2019

*Details as per EPA-1986 National Ambient Air Quality Standards, date 18.11.2009

Notes :

End of Report

1. The results given above are related to the tested sample, as received & 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 written permission of the Laboratory.
3. This test report will not be used for any publicity/legal purpose.
4. This test sample will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.
5. Responsibility of the Laboratory is limited to the invoiced amount only.



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TEST REPORT

Ambient Air Quality Monitoring

Test Report No. : EK0/EV-AA/120/200619

Issue Date : 28/06/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil- Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ambient Air
Sample Drawn on : 17/06/2019 To 18/06/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 20/06/2019
Sampling Location : Plant Boundary towards Khera Jawangarh
Sampling Plan & Procedure : SOP-AAQ/15
Analysis Duration : 20/06/2019 To 25/06/2019
Sampling Time : 24.0 Hrs.
Ambient Temperature (deg °C) : 39.0
Average Flow Rate of SPM (m³/min) : 1.1
Average Flow Rate of Gases (lpm.) : 1.0
Weather Conditions : Clear
Remark (if any) : Monitoring Photograph Showing Coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	Limits as per EPA*
1	Particulate Matter (PM10)	IS:5182 (P-23)	74.6	µg/m ³	100.0
2	Particulate Matter (PM2.5)	Eko/Chem/SOP/AAQ-01	47.1	µg/m ³	60.0
3	Sulphur dioxide (as SO ₂)	IS:5182 (P-2)	14.5	µg/m ³	80.0
4	Nitrogen Dioxide (as NO ₂)	IS:5182 (P-6)	26.3	µg/m ³	80.0
5	Arsenic (as As)	Eko/Chem/SOP/AAQ-02	<0.1	ng/m ³	6.0
6	Mercury (as Hg)	SOP-AAQ/89/04	<0.1	µg/m ³	-



Page No 1/2



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Test Report No. : EK0/EV-AA/120/200619

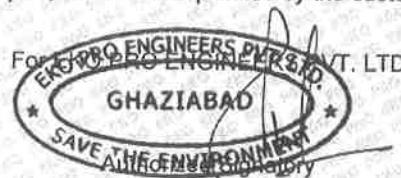
Issue Date : 28/06/2019

*Details as per EPA-1986 National Ambient Air Quality Standards, date 18.11.2009

Notes :

End of Report

1. The results given above are related to the tested sample, as received & 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 written permission of the Laboratory.
3. This test report will not be used for any publicity/legal purpose.
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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422, E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

**TEST REPORT****Ambient Air Quality Monitoring****Test Report No. :** EK0/EV-AA/118/200619**Issue Date :** 28/06/2019

Issued To : Shree Cement Limited
 Village - Ras
 Tehsil- Jaitaran
 Distt. - Pali
 Rajasthan - 306107

Sample Description : Ambient Air
Sample Drawn on : 17/06/2019 To 18/06/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 20/06/2019
Sampling Location : Plant Boundary Near Mess
Sampling Plan & Procedure : SOP-AAQ/15
Analysis Duration : 20/06/2019 To 25/06/2019
Sampling Time : 24.0 Hrs.
Ambient Temperature (deg °C) : 29.0
Average Flow Rate of SPM (m³/min) : 1.1
Average Flow Rate of Gases (lpm.) : 1.0
Weather Conditions : Clear
Remark (if any) : Monitoring Photograph Showing Coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	Limits as per EPA*
1	Particulate Matter (PM10)	IS:5182 (P-23)	83.2	µg/m³	100.0
2	Particulate Matter (PM2.5)	Eko/Chem/SOP/AAQ-01	51.7	µg/m³	60.0
3	Sulphur dioxide (as SO2)	IS:5182 (P-2)	12.2	µg/m³	80.0
4	Nitrogen Dioxide (as NO2)	IS:5182 (P-6)	30.1	µg/m³	80.0
5	Arsenic (as As)	Eko/Chem/SOP/AAQ-02	<0.1	ng/m³	6.0
6	Mercury (as Hg)	SOP-AAQ/89/04	<0.1	µg/m³	-





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Contact No. : 9711159210, 9711159427. SMS/Whatsapp No. : 9711163422. E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in



Test Report No. : EK0/EV-AA/118/200619

Issue Date : 28/06/2019

*Details as per EPA-1986 National Ambient Air Quality Standards, date 18.11.2009

Notes :

****End of Report****

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The customer asked for the above tests only.
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**TEST REPORT****Ambient Air Quality Monitoring****Test Report No. :** EK0/EV-AA/112/170619**Issue Date :** 28/06/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil- Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ambient Air
Sample Drawn on : 13/06/2019 To 14/06/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 17/06/2019
Sampling Location : Plant Boundary Near Main Gate
Sampling Plan & Procedure : SOP-AAQ/15
Analysis Duration : 17/06/2019 To 24/06/2019
Sampling Time : 24.0 Hrs.
Ambient Temperature (deg °C) : 38.0
Average Flow Rate of SPM (m³/min) : 1.1
Average Flow Rate of Gases (lpm.) : 1.0
Weather Conditions : Clear
Remark (if any) : Monitoring Photograph Showing Coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	Limits as per EPA*
1	Particulate Matter (PM10)	IS:5182 (P-23)	84.6	µg/m³	100.0
2	Particulate Matter (PM2.5)	Eko/Chem/SOP/AAQ-01	50.9	µg/m³	60.0
3	Sulphur dioxide (as SO2)	IS:5182 (P-2)	12.7	µg/m³	80.0
4	Nitrogen Dioxide (as NO2)	IS:5182 (P-6)	25.4	µg/m³	80.0
5	Arsenic (as As)	Eko/Chem/SOP/AAQ-02	<0.1	ng/m³	6.0
6	Mercury (as Hg)	SOP-AAQ/89/04	<0.1	µg/m³	-



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Test Report No. : EK0/EV-AA/112/170619

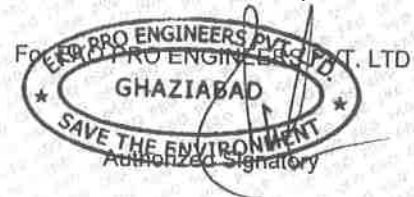
Issue Date : 28/06/2019

*Details as per EPA-1986 National Ambient Air Quality Standards, date 18.11.2009

Notes :

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For Any Query Contact

Group :

ULR : TC506319000003493F

TEST REPORT**Water Sample Analysis**

Test Report No. : EK0/EV-WA/005/130519

Issue Date : 16/05/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (P1)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : B/W Near Old Mines Office (Within Plnat Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.62	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	510.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	105.0	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	440.8	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)	1660.0	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)	60.3	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	175.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	11.9	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	330.0	mg/L	200.0	600.0



Page No. 1/2



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ULR : TC506319000003493F

For Any Query Contact
Group :

Test Report No. : EK0/EV-WA/005/130519

Issue Date : 16/05/2019

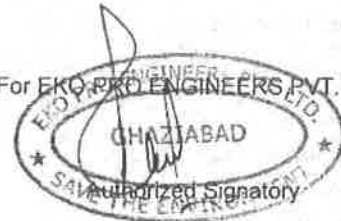
* For details pl see IS : 10500-2012.

End of Report

Notes :

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For Any Query Contact

Group :

ULR : TC506319000003498F

TEST REPORT**Water Sample Analysis**

Test Report No. : EK0/EV-WA/010/130519

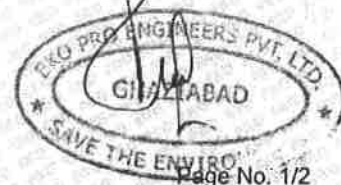
Issue Date : 16/05/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (P2)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : O/W Jassanath Ji Ki Mandi (Outside Plant Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.52	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	460.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	91.4	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	380.4	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)	1485.0	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)	56.4	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	139.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	8.6	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	340.0	mg/L	200.0	600.0



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ULR : TC506319000003498F

For Any Query Contact
Group :

Test Report No. : EKO/EV-WA/010/130519

Issue Date : 16/05/2019

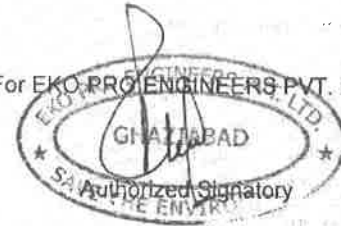
* For details pl see IS : 10500-2012.

End of Report

Notes :

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For EKO PRO ENGINEERS PVT. LTD.



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For Any Query Contact

Group :

ULR : TC506319000003496F

TEST REPORT**Water Sample Analysis**

Test Report No. : EK0/EV-WA/008/130519

Issue Date : 16/05/2019

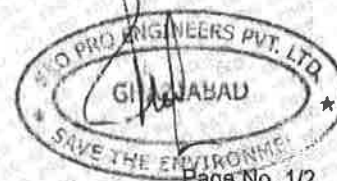
Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (P3)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : O/W # 9 Stacker & Reclaimer Area (Within Plant Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.21	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	490.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	98.6	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	281.0	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)	1490.0	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)	59.3	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	162.5	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	7.40	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	280.0	mg/L	200.0	600.0



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For Any Query Contact

Group :

ULR : TC506319000003496F

Test Report No. : EKO/EV-WA/008/130519

Issue Date : 16/05/2019

* For details pl see IS : 10500-2012.

End of Report

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Group :

ULR : TC506319000003490F

TEST REPORT**Water Sample Analysis**

Test Report No. : EK0/EV-WA/002/130519

Issue Date : 16/05/2019

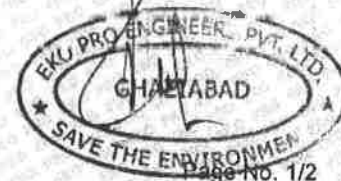
Issued To

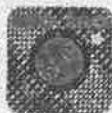
: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (P4)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : OW # 2 Near Mess Area (Within Plant Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.61	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	290.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	55.3	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	175.5	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)	878.0	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)	36.9	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	35.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	2.4	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	230.0	mg/L	200.0	600.0





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ULR : TC506319000003490F

For Any Query Contact
Group :

Test Report No. : EK0/EV-WA/002/130519

* For details pl see IS : 10500-2012.

Issue Date : 16/05/2019

Notes :

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For Any Query Contact

Group :

ULR : TC506319000003497F

TEST REPORT**Water Sample Analysis**

Test Report No. : EKO/EV-WA/009/130519

Issue Date : 16/05/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (P5)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : O/W of Kanaram (Outlet Plant Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					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)	410.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	83.4	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	310.5	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)	1230.0	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)	49.1	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	174.5	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	6.25	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	390.0	mg/L	200.0	600.0



Page No. 1/2



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ULR : TC506319000003497F

For Any Query Contact
Group :

Test Report No. : EK0/EV-WA/009/130519

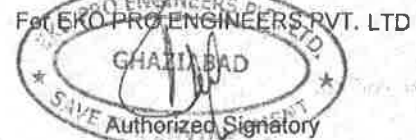
Issue Date : 16/05/2019

* For details pl see IS : 10500-2012.

End of Report

Notes :

1. The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422; E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.inFor Any Query Contact
Group :

ULR : TC506319000003495F

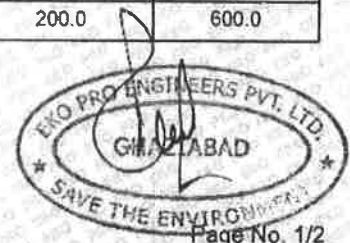
TEST REPORT**Water Sample Analysis**

Test Report No. : EK0/EV-WA/007/130519

Issue Date : 16/05/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107Sample Description : Ground Water (B1)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : B/W # 24 Ballupura
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA**RESULTS**

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.58	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	425.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	90.6	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	340.5	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)	1190.0	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)	48.6	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	160.4	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	6.10	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	270.0	mg/L	200.0	600.0



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ULR : TC506319000003495F

For Any Query Contact
Group :

Test Report No. : EK0/EV-WA/007/130519

Issue Date : 16/05/2019

* For details pl see IS : 10500-2012.

Notes :

End of Report

1. The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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For Any Query Contact

Group :

ULR : TC506319000003494F

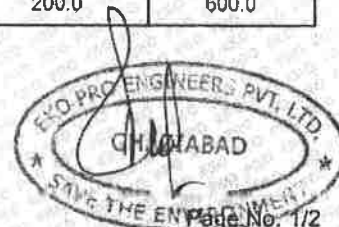
TEST REPORT**Water Sample Analysis**

Test Report No. : EK0/EV-WA/006/130519

Issue Date : 16/05/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107Sample Description : Ground Water (B2)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : B/W of Ruparam Ballupra
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA**RESULTS**

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.39	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	450.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	92.2	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	380.0	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)	1325.0	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)	53.5	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	180.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	5.9	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	255.0	mg/L	200.0	600.0



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ULR : TC506319000003494F

For Any Query Contact
Group :

Test Report No. : EK0/EV-WA/006/130519

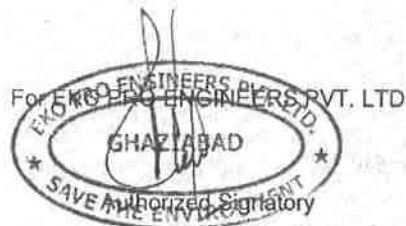
Issue Date : 16/05/2019

* For details pl see IS : 10500-2012.

End of Report

Notes :

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The customer asked for the above tests only.
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For Any Query Contact

Group :

ULR : TC506319000003499F

TEST REPORT

Water Sample Analysis

Test Report No. : EK0/EV-WA/011/130519

Issue Date : 16/05/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (C1)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL (Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : B/W # C-3, Bagatpura Colony (Within Colony Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.41	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	380.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	75.4	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	294.5	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)	1340.0	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)	46.7	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	155.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	7.4	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	328.0	mg/L	200.0	600.0



Page No. 1/3



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ULR : TC506319000003499F

For Any Query Contact
Group :

Test Report No. : EKO/EV-WA/011/130519

Issue Date : 16/05/2019

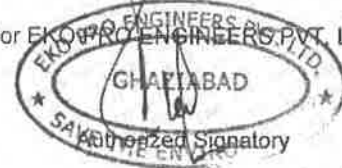
* For details pl see IS : 10500-2012.

End of Report

Notes :

1. The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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ULR : TC506319000003092F

TEST REPORTFor Any Query Contact
Group :**Water Sample Analysis**

Test Report No. : EK0/EV-WA/004/130519

Issue Date : 16/05/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (C2)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : B/W # C-8, Bagatpura Colony (Within Colony Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.28	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	410.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	85.8	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	260.4	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)	1210.0	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)	47.6	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	110.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	6.2	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	250.0	mg/L	200.0	600.0



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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422; E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in



For Any Query Contact
Group :

ULR : TC506319000003092F

Test Report No. : EKO/EV-WA/004/130519

Issue Date : 16/05/2019

* For details pl see IS : 10500-2012.

****End of Report****

Notes :

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For EKO PRO ENGINEERS PVT. LTD



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ULR : TC506319000003491F

TEST REPORTFor Any Query Contact
Group :**Water Sample Analysis**

Test Report No. : EK0/EV-WA/003/130519

Issue Date : 16/05/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Ground Water (C3)
Sample Drawn on : 11/05/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 13/05/2019
Sampling Location : B/W of Suresh Ji Sama Ji (Outlet Colony Area)
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 1.0 Litre
Environmental Condition : Normal
Analysis Duration : 13/05/2019 To 16/05/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	IS: 10500-2012 (Limits)*	
					Acceptable	Permissible
1	pH	IS : 3025 (P-11)	7.52	-	6.5-8.5	No relaxation
2	Total Hardness (as CaCO ₃)	IS : 3025 (P-21)	350.0	mg/L	200.0	600.0
3	Calcium (as Ca)	IS : 3025 (P-40)	72.1	mg/L	75.0	200.0
4	Iron (as Fe)	IS : 3025 (P-53)	<0.005	mg/L	1.0	No relaxation
5	Chloride (as Cl)	IS : 3025 (P-32)	310.0	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)	910.0	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)	41.3	mg/L	30.0	100.0
10	Manganese (as Mn)	IS : 3025 (P-59)	<0.005	mg/L	0.1	0.3
11	Sulphate (as SO ₄)	IS : 3025 (P-24)	40.2	mg/L	200.0	400.0
12	Nitrate (as NO ₃)	IS : 3025 (P-34)	3.6	mg/L	45.0	No relaxation
13	Mercury (as Hg)	IS : 3025 (P-48)	<0.001	mg/L	0.001	No relaxation
14	Arsenic (as As)	IS : 3025 (P-37)	<0.005	mg/L	0.01	No relaxation
15	Total Alkalinity (as CaCO ₃)	IS : 3025 (P-23)	260.0	mg/L	200.0	600.0



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ULR : TC506319000003491F

For Any Query Contact
Group :

Test Report No. : EK0/EV-WA/003/130519

Issue Date : 16/05/2019

* For details pl see IS : 10500-2012.

End of Report

Notes :

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TEST REPORT

Effluent Sample Analysis

Test Report No. : EK0/EV-EW/110/210619

Issue Date : 28/06/2019

: Shree Cement Limited
Village - Ras
Tehsil- Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Effluent After Treatment (STP Outlet)
Sample Drawn on : 20/06/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 21/06/2019
Sampling Location : From Plant
Sampling Plan & Procedure : SOP-W/66
Sample Quantity : 2.0 Litre
Environmental Condition : Normal
Analysis Duration : 21/06/2019 To 27/06/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units	Limits as per EPA*
1	pH	IS 3025(P-11)	7.29	-	5.5 - 9.0
2	Total Dissolved Solids	IS : 3025 (P-16)	1592.0	mg/L	-
3	Total Suspended Solids	IS : 3025 (P-17)	34.0	mg/L	100.0
4	Oil & Grease	IS : 3025 (P-39)	<4.0	mg/L	10.0
5	COD (as O ₂)	IS : 3025 (P-58)	55.8	mg/L	250.0
6	BOD (@ 27°C for 3 day)	IS : 3025 (P-44)	19.0	mg/L	30.0
7	Sulphides (as S)	IS : 3025 (P-29)	<1.0	mg/L	2.0
8	Ammonical Nitrogen (as N)	APHA 4500 NH ₃ C 22nd Ed.	3.72	mg/L	50.0
9	Total Residual Chlorine	IS : 3025 (P-26)	<0.2	mg/L	1.0
10	Residual Free Chlorine	IS : 3025 (P-26)	<0.2	mg/L	-
11	Total Kjeldahl Nitrogen (as NH ₃)	APHA 4500 N 22nd Ed.	4.69	mg/L	100.0
12	Faecal Coliform	IS : 1622 : 1981	16	MPN/100ml	1000.0
13	E.coli	IS : 1622 : 1981	Absent	Per 100 mL	-



Page No. 1/2



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Contact No. : 9711159210, 9711159427. SMS/Whatsapp No. : 9711163422; E-mail : email@ekopro.in; ekoproengineers@gmail.com; website : www.ekopro.in



Test Report No. : EK0/EV-EW/110/210619

Issue Date : 28/06/2019

* Details as per EPA-1986 Schedule-VI Part-A, General Standards for Discharge of Effluents.

Notes :

****End of Report****

1. The results given above are related to the tested sample, as received & 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 written permission of the Laboratory.
3. This test report will not be use for any publicity/legal purpose.
4. This test samples will be disposed off after two weeks from the date of issue of test report, unless until specified by the customer.
Sample received for biological tests will be destroyed after 7 days from the date of issue of test report.
5. Responsibility of the Laboratory is limited to the invoiced amount only.

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GHAZIABAD
SAVE THE ENVIRONMENT
Authorized Signatory

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Contact No. : 9711159210, 9711159427. SMS/Whatsapp No. : 9711163422; E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in**TEST REPORT**
COAL SAMPLE Analysis**Test Report No. :** EK0/SA/101/210619**Issue Date :** 28/06/2019

Issued To : Shree Cement Limited
Village - Ras
Tehsil- Jaitaran
Distt. - Pali
Rajasthan - 306107

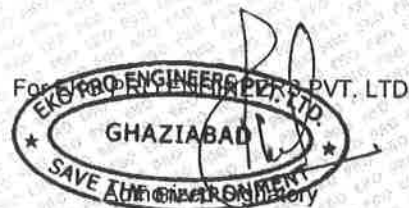
Sample Description : Coal Sample
Sample Drawn on : 20/06/2019
Sample Drawn by : EPEPL(Mr. K.K. Mishra)
Sample Received on : 21/06/2019
Sampling Location : NA
Sampling Plan & Procedure : SOP-S/50
Sample Quantity : 500 gm
Environmental Condition : Normal
Analysis Duration : 21/06/2019 To 27/06/2019
Remark (if any) : NA

RESULTS

S.No.	PARAMETER	Test Methods	Results	Units
1	Arsenic (as As)	USEPA -3050B	<0.1	mg/kg
2	Lead (as Pb)	USEPA -3050B	3.12	mg/kg
3	Chromium Total (as Cr)	USEPA -3050B	1.89	mg/kg
4	Mercury (as Hg)	USEPA-3050B	<0.01	mg/kg

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

- The results given above are related to the tested sample, as received & mentioned parameters.
The customer asked for the above tests only.
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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422, E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Stack Emission Analysis**

Test Report No : EKO/EV-SE/146/200619

Issue Date : 28/06/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description	: Stack Emission
Sample Drawn on	: 18/06/2019
Sample Drawn By	: EPEPL (Mr. K. K. Mishra)
Sample Received on	: 20/06/2019
Time of Sampling (Minutes)	: 30
Sampling Location	: Unit-X
Sampling Plan & Procedure	: SOP-SE/09
Analysis Duration	: 20/06/2019 To 25/06/2019
Source of Emission	: Raw Mill & Kiln Stack Attached With Bag House
Capacity	: -
Operating Load	: Normal
Normal Operation Schedule	: As per requirement
Type of Stack	: Metal/Circular
Diameter of Stack (meter)	: 5.0
Height of Stack from Ground Level (meter)	: 150.0
Height of Stack from Roof Level (meter)	: -
Height of Sampling Location (meter)	: 68.0 From Ground level
Type of Fuel Used	: Coal
Fuel Consumed per Hour	: -
Ambient Temperature (deg.C)	: 39.0
Stack Temperature (deg.C)	: 77.0
Average Velocity of Flue Emission (m/sec)	: 5.37
Average Flow Rate (lpm)	: 22.1
Control Measures (if any)	: RABH
Remark (if any)	: Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

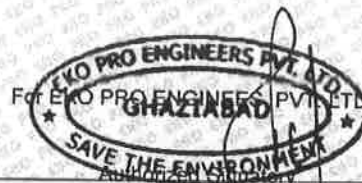
S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (PM)	IS :11255 (P-1)	13.3	14.2	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as Nox)	IS :11255 (P-7)	459.7	450.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.05

* Details as per CPCB Guidelines.

** End of Report **

Notes :

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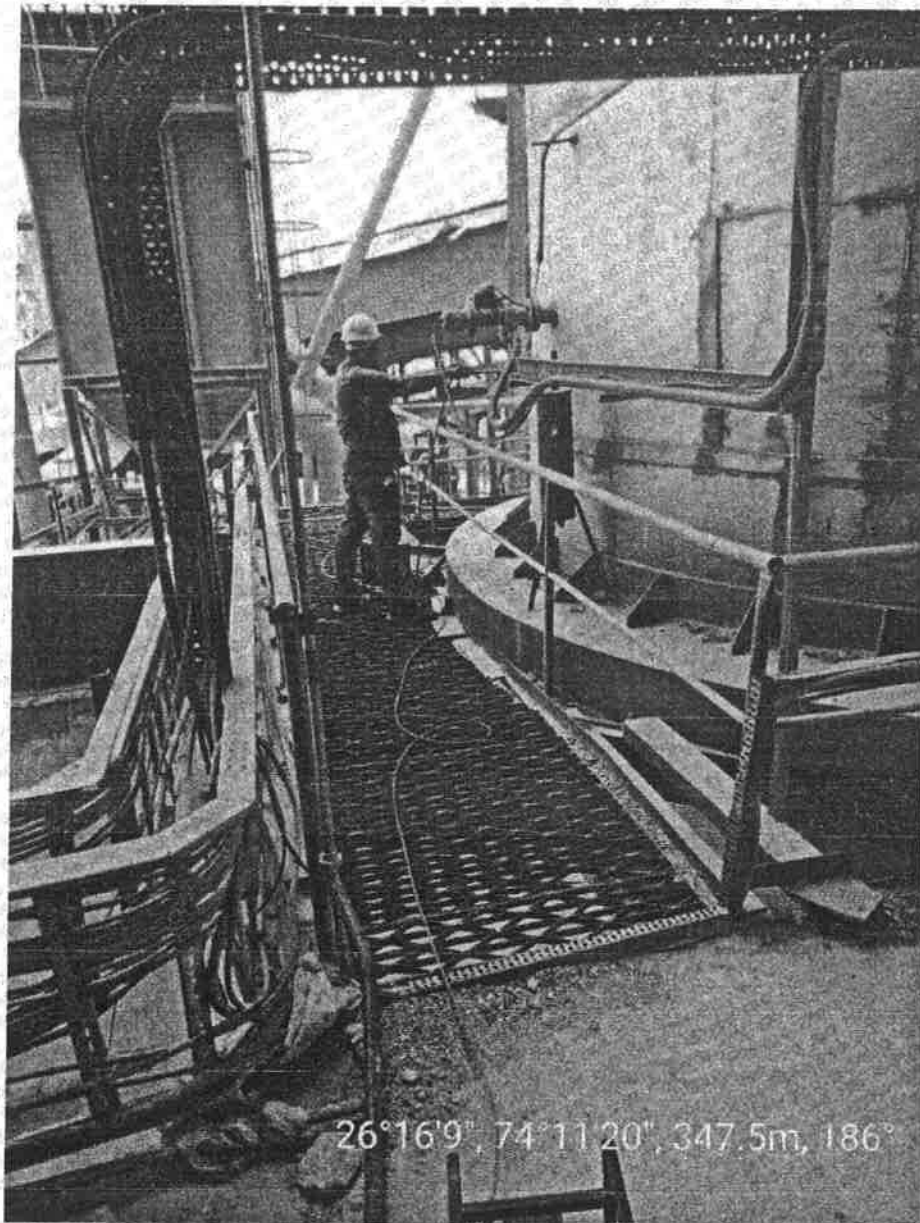
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Stack Emission - Raw Mill (Unit-10)





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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422; E-mail : email@ekopro.in, ekoprcengineers@gmail.com, website : www.ekopro.in**TEST REPORT**
Stack Emission Analysis

Test Report No : EKO/EV-SE/128/200519

Issue Date : 25/05/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description	: Stack Emission
Sample Drawn on	: 18/05/2019
Sample Drawn By	: EPEPL (Mr. K.K Mishra)
Sample Received on	: 20/05/2019
Time of Sampling (Minutes)	: 30.0
Sampling Location	: Unit-IX
Sampling Plan & Procedure	: SOP-SE/09
Analysis Duration	: 20/05/2019 To 25/05/2019
Source of Emission	: Raw Mill & Kiln Stack Attached With Bag House
Capacity	: -
Operating Load	: Normal
Normal Operation Schedule	: As per requirement
Type of Stack	: Metal/ Circular
Diameter of Stack (meter)	: 5.0
Height of Stack from Ground Level (meter)	: 150.0
Height of Stack from Roof Level (meter)	: -
Height of Sampling Location (meter)	: 68.0 from ground level
Type of Fuel Used	: Coal
Fuel Consumed per Hour	: -
Ambient Temperature (deg.C)	: 35.0
Stack Temperature (deg.C)	: 84.0
Average Velocity of Flue Emission (m/sec)	: 6.18
Average Flow Rate (lpm)	: 22.4
Control Measures (if any)	: RABH
Remark (if any)	: Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

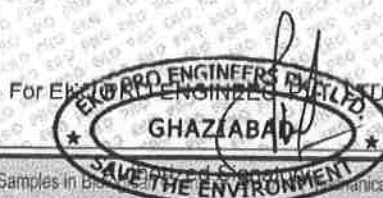
S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (as PM)	IS :11255 (P-1)	15.1	13.6	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as NO _x)	IS :11255 (P-7)	571.5	563.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.05

* Details as per CPCB Guidelines.

** End of Report **

Notes :

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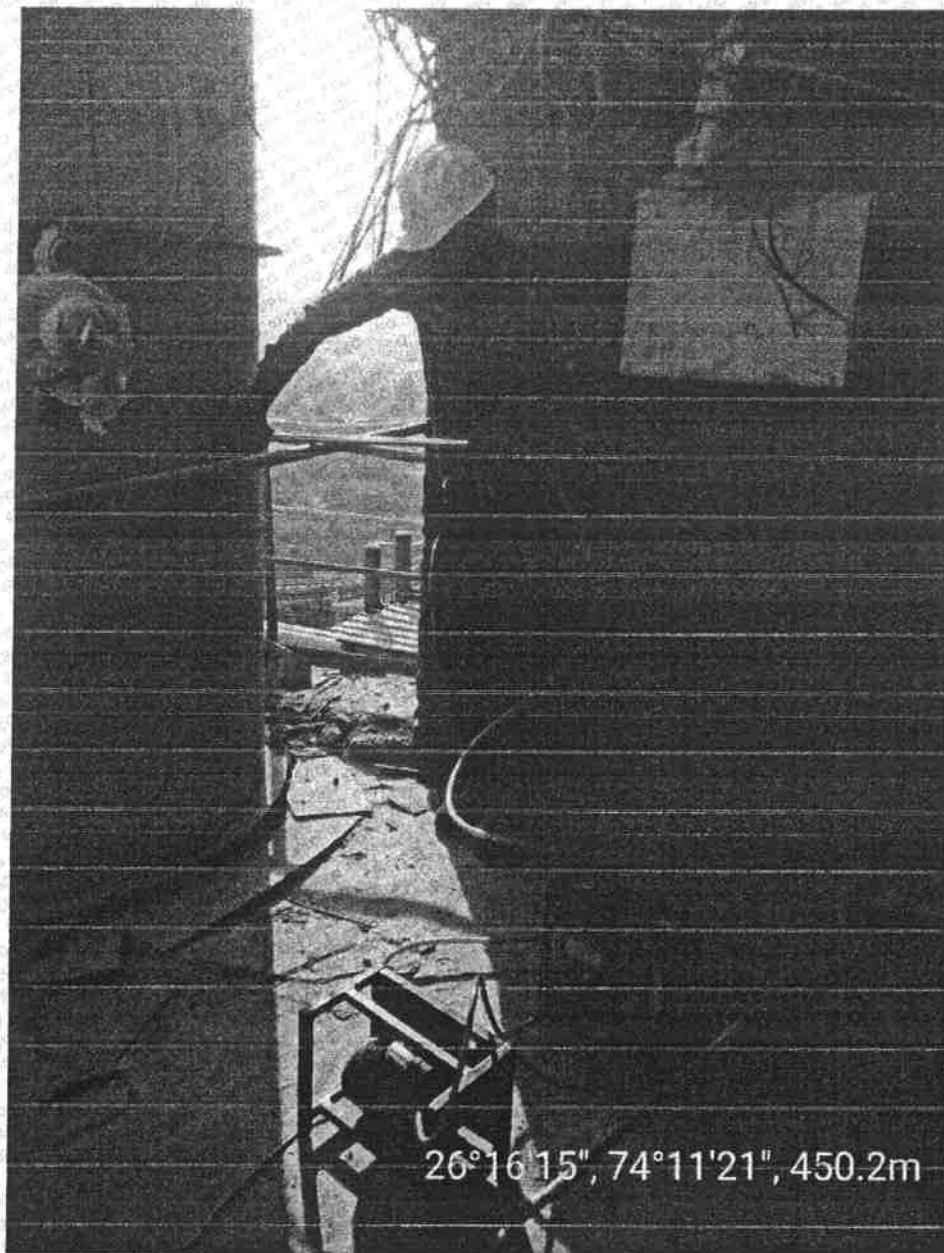
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Stack Emission - Raw Mill (Unit-9)



26°16'15", 74°11'21", 450.2m



Contact : +91 - 9810243870

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TEST REPORT**Stack Emission Analysis****Test Report No : EKO/EV-SE/122/170619****Issue Date : 28/06/2019**

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Stack Emission
Sample Drawn on : 14/06/2019
Sample Drawn By : EPEPL (Mr. K.K Mishra)
Sample Received on : 17/06/2019
Time of Sampling (Minutes) : 30.0
Sampling Location : Unit VIII
Sampling Plan & Procedure : SOP-SE/09
Analysis Duration : 17/06/2019 To 24/06/2019
Source of Emission : Raw Mill & Kiln stack Attached With Bag House
Capacity : -
Operating Load : Normal
Normal Operation Schedule : As per requirement
Type of Stack : Concrete
Diameter of Stack (meter) : 3.8
Height of Stack from Ground Level (meter) : 112.0
Height of Stack from Roof Level (meter) : -
Height of Sampling Location (meter) : 44.0 From Ground Level
Type of Fuel Used : Coal
Fuel Consumed per Hour : -
Ambient Temperature (deg.C) : 38.0
Stack Temperature (deg.C) : 88.0
Average Velocity of Flue Emission (m/sec) : 5.97
Average Flow Rate (lpm) : 23.2
Control Measures (if any) : Bag House
Remark (if any) : Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (PM)	IS :11255 (P-1)	12.2	10.1	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as NO _x)	IS :11255 (P-7)	568.2	576.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.05

* Details as per CPCB Guidelines.

** End of Report **

Notes :

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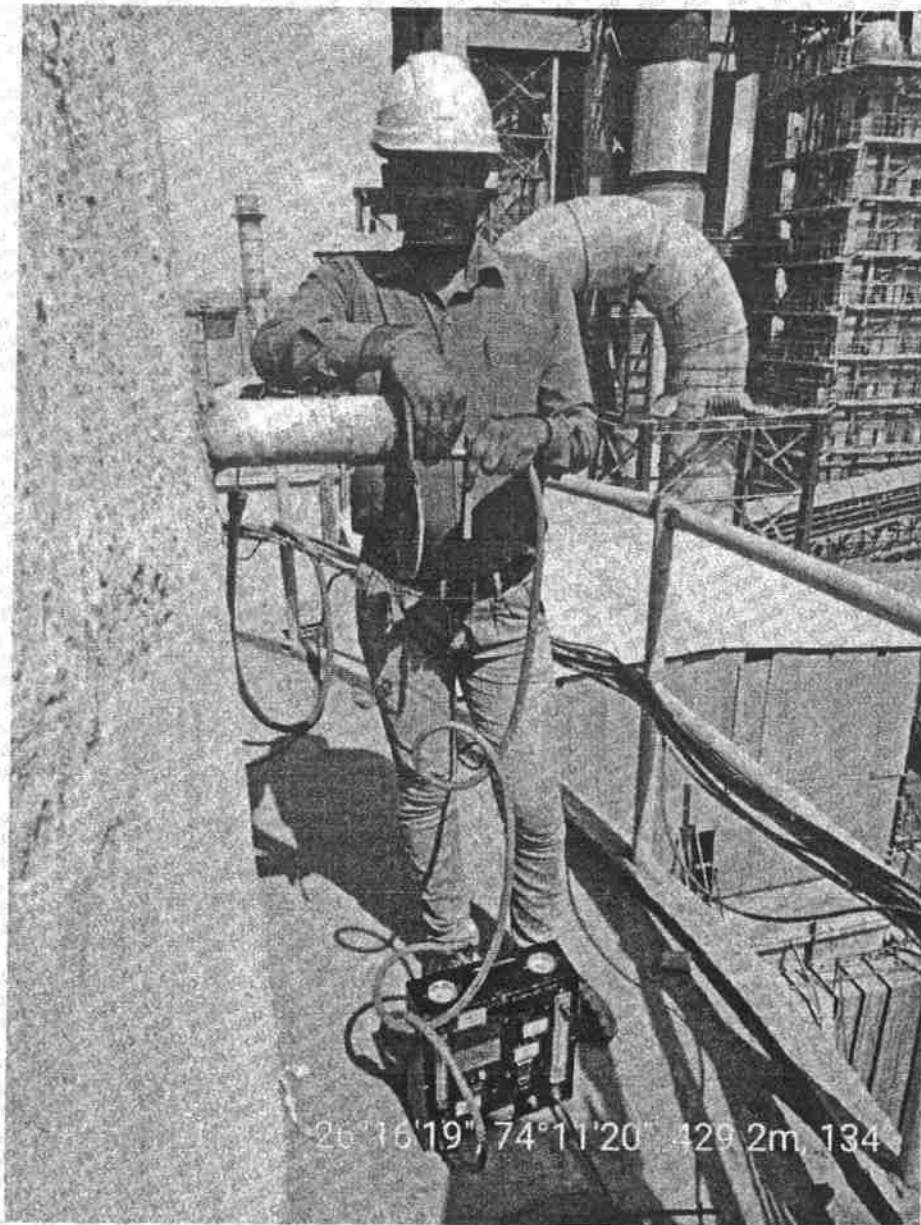
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Contact No. : 9711159210, 9711159427, SMS/Whatsapp No. : 9711163422, E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

Stack Emission - Raw Mill (Unit-8)





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TEST REPORT

Stack Emission Analysis

Test Report No : EKO/EV-SE/125/240619

Issue Date : 28/06/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description : Stack Emission
Sample Drawn on : 23/06/2019
Sample Drawn By : EPEPL (Mr. K.K Mishra)
Sample Received on : 24/06/2019
Time of Sampling (Minutes) : 30
Sampling Location : Unit-VII
Sampling Plan & Procedure : SOP-SE/09
Analysis Duration : 18/03/2019 To 25/03/2019
Source of Emission : Raw Mill & Klin Stack Attached With Bag House
Capacity : -
Operating Load : Normal
Normal Operation Schedule : As per requirement
Type of Stack : Metal/Circular
Diameter of Stack (meter) : 3.8
Height of Stack from Ground Level (meter) : 112.0
Height of Stack from Roof Level (meter) : -
Height of Sampling Location (meter) : 48.0 From Ground Level
Type of Fuel Used : Coal
Fuel Consumed per Hour : -
Ambient Temperature (deg.C) : 37.0
Stack Temperature (deg.C) : 112.0
Average Velocity of Flue Emission (m/sec) : 6.83
Average Flow Rate (lpm) : 22.8
Control Measures (if any) : Bag House
Remark (if any) : Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (PM)	IS :11255 (P-1)	12.4	15.0	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as Nox)	IS :11255 (P-7)	541.6	532.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.1

* Details as per CPCB Guidelines.

** End of Report **

Notes :

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For EKO PRO ENGINEERS PVT. LTD.





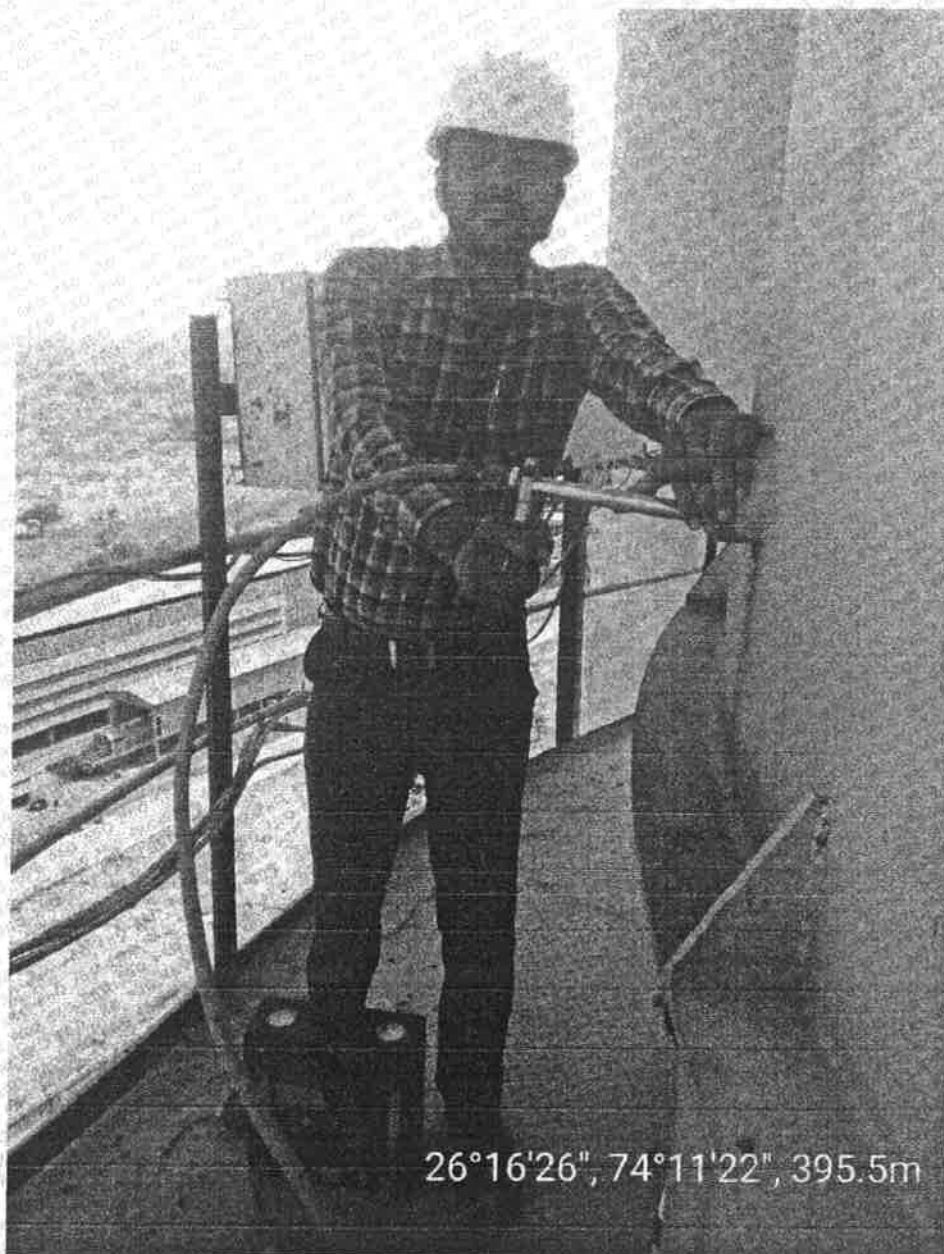
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Stack Emission - Raw Mill (Unit- 7)



26°16'26", 74°11'22", 395.5m



Contact : +91 - 9810243870

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TEST REPORT**Stack Emission Analysis**

Test Report No : EKO/EV-SE/120/210619

Issue Date : 28/06/2019

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description	: Stack Emission
Sample Drawn on	: 20/06/2019
Sample Drawn By	: EPEPL (Mr. K.K. Mishra)
Sample Received on	: 21/06/2019
Time of Sampling (Minutes)	: 30
Sample Location	: Unit-VI
Sampling Plan & Procedure	: SOP-SE/09
Analysis Duration	: 21/06/2019 To 27/06/2019
Source of Emission	: Raw Mill & Kiln stack Attached With Bag House
Capacity	: -
Operating Load	: Normal
Normal Operation Schedule	: As per requirement
Type of Stack	: Concrete
Diameter of Stack (meter)	: 3.8
Height of Stack from Ground Level (meter)	: 112.0
Height of Stack from Roof Level (meter)	: -
Height of Sampling Location (meter)	: 44.0 From Ground Level
Type of Fuel Used	: Coal
Fuel Consumed per Hour	: -
Ambient Temperature (deg.C)	: 38.0
Stack Temperature (deg.C)	: 91.0
Average Velocity of Flue Emission (m/sec)	: 4.56
Average Flow Rate (lpm)	: 22.1
Control Measures (if any)	: Bag House
Remark (if any)	: Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

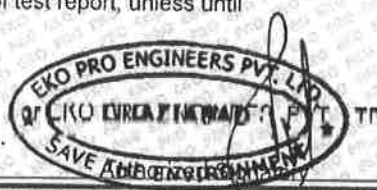
S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (PM)	IS :11255 (P-1)	14.3	12.2	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as NOx)	IS :11255 (P-7)	633.4	622.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.1

* Details as per CPCB Guidelines.

** End of Report **

Notes :

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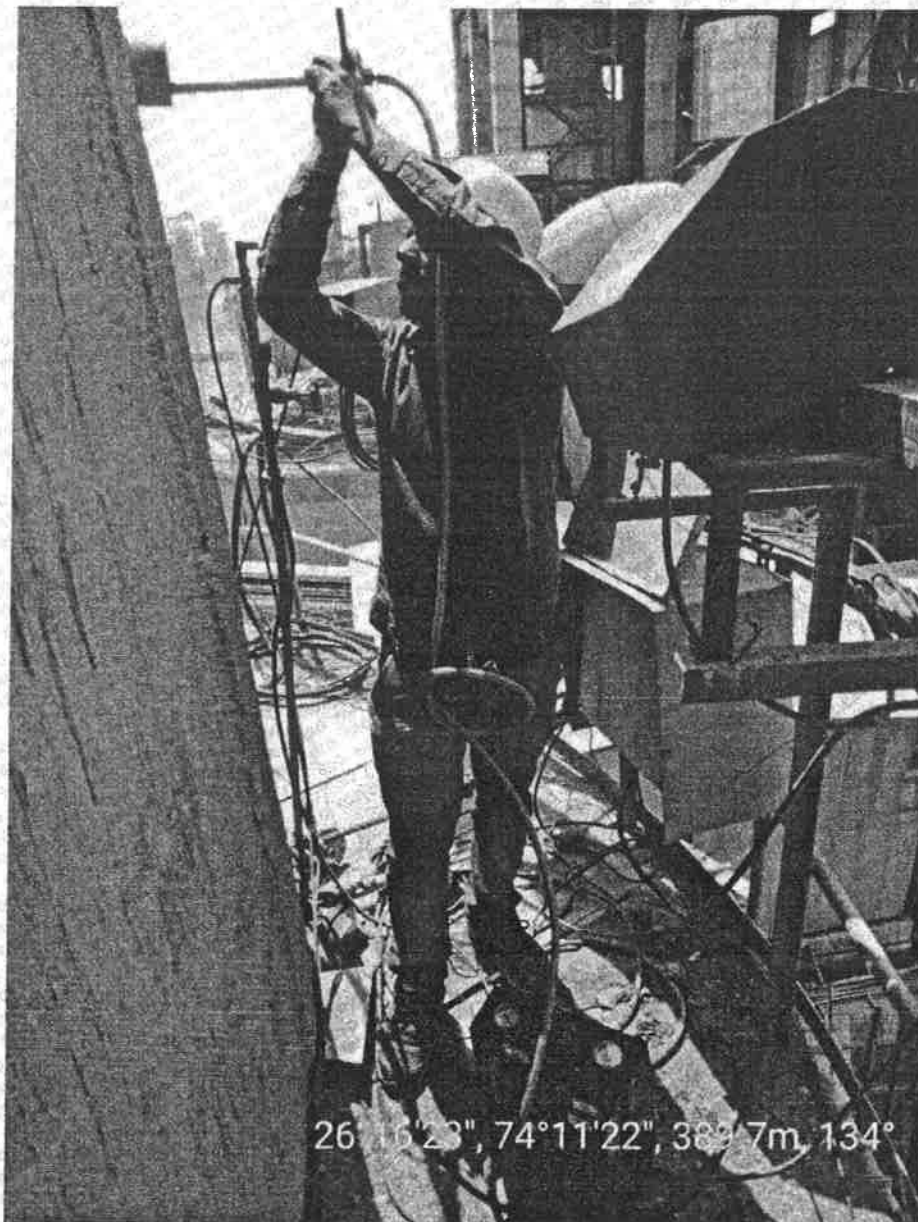
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Contact No. : 9711159210, 9711159427. SMS/Whatsapp No. : 9711163422. E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

Stack Emission - Raw Mill (Unit-6)



26° 16' 23", 74° 11' 22", 382.7m, 134°



Contact : +91 - 9810243870

EKO PRO ENGINEERS PVT. LTD.

Environmental Consultants and Analytical Laboratory

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TEST REPORT**Stack Emission Analysis****Test Report No : EKO/EV-SE/130/170619****Issue Date : 28/06/2019**

Issued To

: Shree Cement Limited
Village - Ras
Tehsil - Jaitaran
Distt. - Pali
Rajasthan - 306107

Sample Description	: Stack Emission
Sample Drawn on	: 15/06/2019
Sample Drawn By	: EPEPL (Mr. K.K. Mishra)
Sample Received on	: 17/06/2019
Time of Sampling (Minutes)	: 30
Sampling Location	: Unit-V
Sampling Plan & Procedure	: SOP-SE/09
Analysis Duration	: 17/06/2019 To 24/06/2019
Source of Emission	: Raw Mill & Klin Stack Attached With Bag House
Capacity	: -
Operating Load	: Normal
Normal Operation Schedule	: As per requirement
Type of Stack	: Concrete
Diameter of Stack (meter)	: 3.8
Height of Stack from Ground Level (meter)	: 112.0
Height of Stack from Roof Level (meter)	: -
Height of Sampling Location (meter)	: 44.0 From Ground level
Type of Fuel Used	: Coal
Fuel Consumed per Hour	: -
Ambient Temperature (deg.C)	: 39.0
Stack Temperature (deg.C)	: 116.0
Average Velocity of Flue Emission (m/sec)	: 5.63
Average Flow Rate (lpm)	: 23.8
Control Measures (if any)	: Bag house
Remark (if any)	: Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

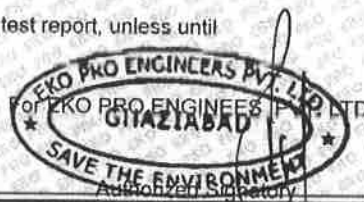
S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (PM)	IS :11255 (P-1)	10.7	9.1	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as Nox)	IS :11255 (P-7)	531.2	522.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.1

* Details as per CPCB Guidelines.

** End of Report **

Notes :

1. The results given above are related to the tested sample, for various parameters, as observed at the time of sampling. 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 report will not be used for any publicity/legal purpose.
4. The test samples will be disposed off after two weeks from the date of issued of test report, unless until specified by the customer.
5. Responsibility of the Laboratory is limited to the invoiced amount only.



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Consulting Services - EIA, SIA, EC Compliances, Consultancy for NOC of Ground Water, Hydrogeological Studies, Environmental Audit & other studies, Ground Water & Soil Investigation.



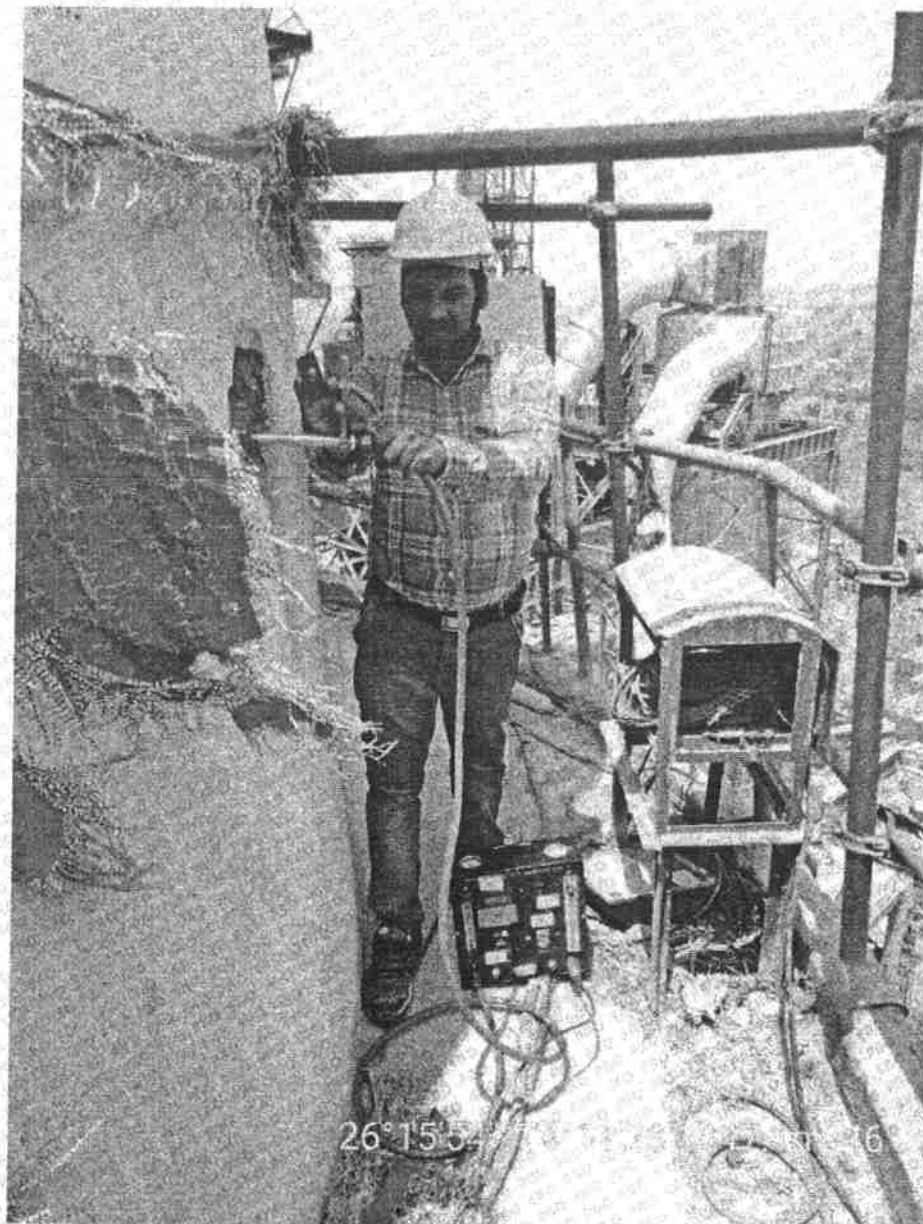
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Stack Emission - Raw Mill (Unit-5)



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 Contact No. : 9711159210, 9711159427. SMS/Whatsapp No. : 9711163422. E-mail : email@ekopro.in, ekoproengineers@gmail.com, website : www.ekopro.in

TEST REPORT**Stack Emission Analysis****Test Report No : EKO/EV-SE/141/200619****Issue Date : 28/06/2019**

Issued To

: Shree Cement Limited
 Village - Ras
 Tehsil - Jaitaran
 Distt. - Pali
 Rajasthan - 306107

Sample Description : Stack Emission
 Sample Drawn on : 16/06/2019
 Sample Drawn By : EPEPL (Mr. K.K. Mishra)
 Sample Received on : 20/06/2019
 Time of Sampling (Minutes) : 30
 Sampling Location : Common Stack Unit - 3&4
 Sampling Plan & Procedure : SOP-SE/09
 Analysis Duration : 20/06/2019 To 25/06/2019
 Source of Emission : Raw Mill & Klin Attached With Bag House
 Capacity : —
 Operating Load : Normal
 Normal Operation Schedule : As per requirement
 Type of Stack : Metal/Circular
 Diameter of Stack (meter) : 5.6
 Height of Stack from Ground Level (meter) : 112.0
 Height of Stack from Roof Level (meter) : —
 Height of Sampling Location (meter) : 70.0 from Ground level
 Type of Fuel Used : Petcoke
 Fuel Consumed per Hour : —
 Ambient Temperature (deg.C) : 39.0
 Stack Temperature (deg.C) : 91.0
 Average Velocity of Flue Emission (m/sec) : 5.18
 Average Flow Rate (lpm) : 21.9
 Control Measures (if any) : Bag House
 Remark (if any) : Monitoring Photograph showing coordinate an enclosure Annexure-1

RESULTS

S.No.	PARAMETER	TEST METHOD	RESULT	RESULT (CEMS)	UNIT	Limits as per EPA*
1	Particulate Matter (PM)	IS :11255 (P-1)	15.0	15.9	mg/Nm ³	30.0
2	Sulphur Dioxide (as SO ₂)	IS :11255 (P-2)	BDL	0	mg/Nm ³	100.0
3	Oxides of Nitrogen (as Nox)	IS :11255 (P-7)	425.9	421.0	mg/Nm ³	800.0
4	Arsenic (as As)	AWMA, 3rd Ed. Method 822	BDL	-	mg/Nm ³	0.5
5	Mercury (as Hg)	ICP-MS	BDL	-	mg/Nm ³	0.1

* Details as per CPCB Guidelines.

** End of Report **

Notes :

- The results given above are related to the tested sample, for various parameters, as observed at the time of sampling. The customer asked for the above tests only.
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- The test report will not be used for any publicity/legal purpose.
- The test samples will be disposed off after two weeks from the date of issued of test report, unless until specified by the customer.
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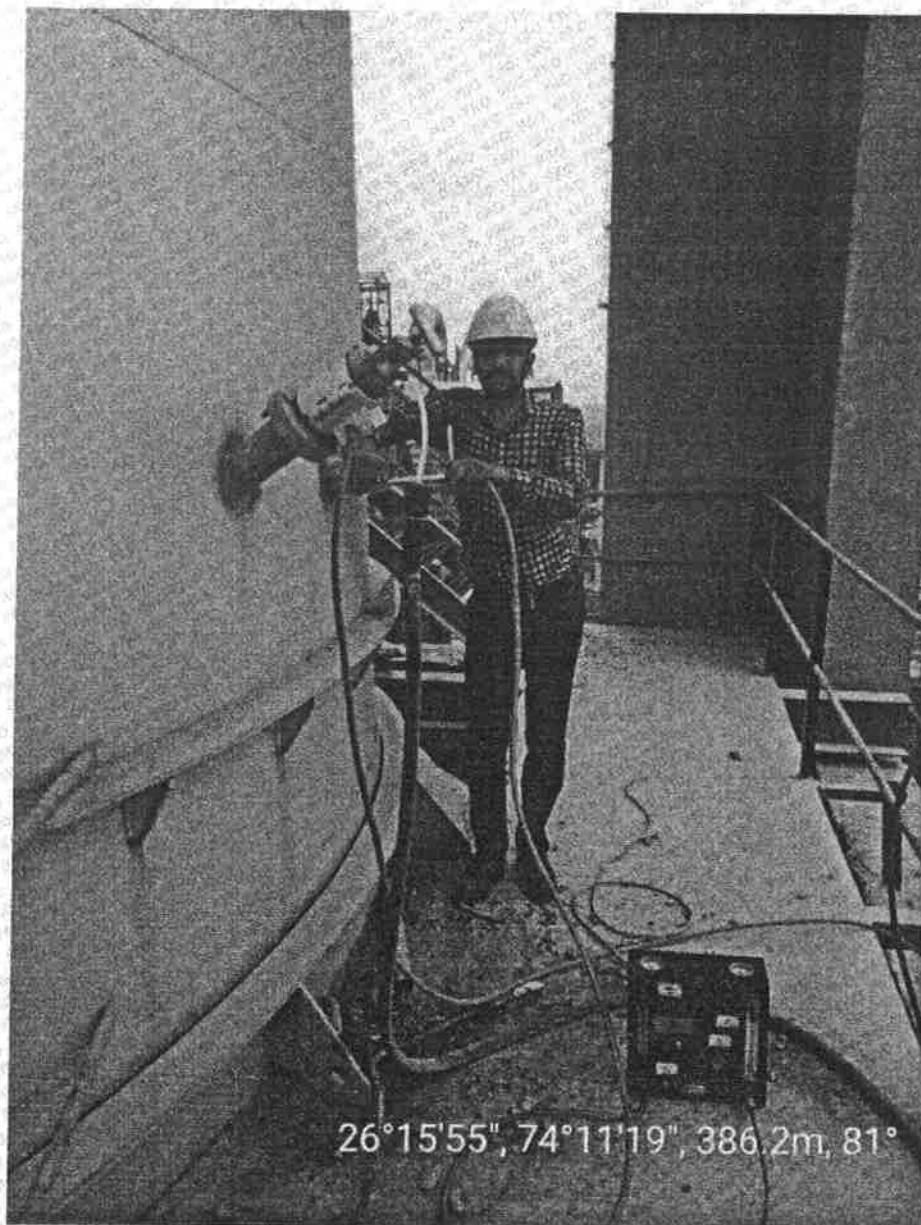
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Stack Emission - Raw Mill (Unit- 3 & 4)



26°15'55", 74°11'19", 386.2m, 81°

Annexure-5
Quality of STP Treated Water:

(STP Treated Water Quality)								
S. No.	Month→ Parameter ↓	Limits	April-19	May-19	June-19	July-19	August-19	September-19
1	Total Suspended Solids	100 mg/l	32	30	34	39	42	36
2	pH*	5.5-9.0	7.38	7.51	7.29	7.3	7.12	7.37
3	Oil and Grease**	10 mg/l	2	2.9	3.1	2.5	2.9	2.8
4	Total Residual Chlorine	1.0 mg/l	0.1	0.1	0.11	0.16	0.12	0.2
5	Ammonical Nitrogen (as N)	50 mg/l	2.69	3.2	3.79	4.11	3.9	2.8
6	BOD 3days 27°C	30 mg/l	10	11	15	13	16	12
7	Sulphide(as S)	2.0mg/l	0.19	0.2	0.4	0.31	0.21	0.28
8	Chlorides	1000 mg/l	142.1	13.4	14.9	10	10	8.8
10	COD	250 mg/l	79.9	61.2	58.4	60	55	43

Ground water level & quality monitoring

Ground water level in meter below ground level (Year-2017)

S. No	Location of well ↓ Season ⇒	Winter (Jan.,17)	Pre-Monsoon (May,17)	Monsoon (August, 17)	Post-Monsoon (Nov,17)
1	B/W Near Old Mines Office (Within Plant Area) North Side	16.31	20.84	17.46	18.59
2	O/W Jassanath Ji ki Mandi (Outside plant Area) East Side	10.38	15.84	13.50	13.24
3	Open Well # 9 Stacker & reclaimer area West side	11.41	19.80	17.26	14.26
4	Open Well # 2 Near mess area South side	11.56	22.20	18.65	15.95

S. N	Location of Well ⇒	Bore Well within Plant Area Near Old Mines Office North Side				Open Well outside plant Area JassaNath Ji ki Mandi East Side			
	Season Parameters	Winter (Jan.,17)	Pre-Monsoon (May,17)	Monsoon (August, 17)	Post-Monsoon (Nov,17)	Winter (Jan.,17)	Pre-Monsoon (May,17)	Monsoon (August, 17)	Post-Monsoon (Nov,17)
1	pH	7.28	7.22	7.15	7.33	7.34	7.27	7.48	7.28
2	Turbidity (NTU)	3.11	2.85	2.54	2.88	4.14	3.56	3.12	4.02
3	Total Hardness mg/l	367	395	295	326	398	348	385	412
4	Alkalinity mg/l	267	284	248	267	248	259	295	257
5	Iron mg/l	0.28	0.24	0.18	0.21	0.31	0.33	0.12	0.23
6	Chloride mg/l	249	251	214	238	313	286	357	336
7	TDS mg/l	1011	813	922	1035	992	1052	1354	1025
8	Calcium mg/l	311	342	249	298	347	368	325	268
9	Magnesium mg/l	51	67	48.00	53	42	35	31	38
10	Sulphate mg/l	48	51	51	46	65	58	75	62
11	Nitrate mg/l	12.5	13.5	11.50	12	16.1	15.3	12	
12	Fluoride mg/l	0.95	0.88	0.75	0.82	1.10	<1.0	<1.0	<1.0

S. N	Location of Well →	Open Well # 9 Stacker & reclaimer area West side				Open Well # 2 Near mess area South side			
	Season Parameters	Winter (Jan.,17)	Pre-Monsoon (May,17)	Monsoon (August, 17)	Post-Monsoon (Nov,17)	Winter (Jan.,17)	Pre-Monsoon (May,17)	Monsoon (August, 17)	Post-Monsoon (Nov,17)
1	pH	7.22	7.31	6.91	6.82	7.38	7.33	7.42	7.26
2	Turbidity (NTU)	2.95	2.75	2.11	4.26	2.68	2.45	1.82	2.24
3	Total Hardness mg/l	348	355	410	356	374	352	310	357
4	Alkalinity mg/l	238	249	216	268	228	235	214	241
5	Iron mg/l	0.48	0.42	0.21	0.39	0.31	0.25	0.11	0.28
6	Chloride mg/l	275	289	305	326	294	304	257	326
7	TDS mg/l	1068	1096	1324	1084	1085	1015	951	1065
8	Calcium mg/l	311	335	261	324	348	328	216	338
9	Magnesium mg/l	38	41	61	43	47	39	48	52
10	Sulphate mg/l	48	52	64	53	51	45	42	59
11	Nitrate mg/l	11.3	12.5	14.6	10.8	13.5	11.6	14.6	12.6
12	Fluoride mg/l	1.22	1.01	<1.0	<1.0	1.02	0.95	<1.0	<1.0

Ground water level & quality monitoring

Ground water level in meter below ground level (Year-2018)

S. No	Location of well ↓	Season ⇒	Winter (Jan.,18)	Pre-Monsoon (May,18)	Monsoon (August, 18)	Post-Monsoon (Nov,18)
1	B/W Near Old Mines Office (Within Plant Area)North Side		19.26	23.4	20.60	21.89
2	O/W Jassanath Ji ki Mandi (Outside plant Area)East Side		13.99	16.95	15.23	16.21
3	Open Well # 9 Stacker & reclaimer area West side		15.98	20.33	20.33	19.02
4	Open Well # 2 Near mess area South side		16.44	18.62	18.89	17.23


[illegible]

Ground water level & quality monitoring

Ground water level in meter below ground level (Year-2019)



S. No	Location of well ↓ Season ⇒	Winter (Jan,19)	Pre-Monsoon (May,19)	Monsoon (August, 19)
1	B/W Near Old Mines Office (Within Plant Area)North Side	23.02	24.89	18.60
2	O/W Jassanath Ji ki Mandi (Outside plant Area)East Side	18.26	21.66	18.30
3	Open Well # 9 Stacker & reclaimer area West side	20.01	22.01	10.11
4	Open Well # 2 Near mess area South side	19.24	22.29	21.20

S.N	Location of Well ⇒	Bore Well within Plant Area Near Old Mines Office North Side			Open Well outside plant Area Jassa Nath Ji ki Mandi East Side		
	Season Parameters	Winter (January,19)	Pre-Monsoon (May,19)	Monsoon (August, 19)	Winter (Jan.,19)	Pre-Monsoon (May,19)	Monsoon (August, 19)
1	pH	7.57	7.62	7.42	7.54	7.52	7.26
2	Turbidity (NTU)	1.95	2.12	1.85	1.36	1.68	1.44
3	Total Hardness mg/l	520	510	523	470	460	475
4	Alkalinity mg/l	320	330	146	330	340	311
5	Iron mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
6	Chloride mg/l	450.9	440.8	418	390.5	380.4	348
7	TDS mg/l	1680.0	1660.0	1523.0	1490.0	1485.0	1311.0
8	Calcium mg/l	103.4	105.0	99.6	96.2	91.4	84.3
9	Magnesium mg/l	63.7	60.3	65.1	55.9	56.4	51.6
10	Sulphate mg/l	160.4	175.2	184.3	130.8	139.2	141.4
11	Nitrate mg/l	13.60	11.90	10.10	9.67	8.60	7.66
12	Fluoride mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

S.N	Location of Well 	Open Well # 9 Stacker & reclaim area West side			Open Well # 2 Near mess area South side		
	Season Parameters	Winter (Jan.,19)	Pre-Monsoon (May,19)	Monsoon (August, 19)	Winter (Jan.,19)	Pre-Monsoon (May,19)	Monsoon (August, 19)
1	pH	6.89	7.21	7.35	7.59	7.61	7.44
2	Turbidity (NTU)	1.86	2.16	1.95	1.95	2.16	1.68
3	Total Hardness mg/l	470	490	433	240	290	246
4	Alkalinity mg/l	290	280	261	218	230	196
5	Iron mg/l	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
6	Chloride mg/l	272.4	281	256	180.9	175.5	166
7	TDS mg/l	1508.0	1490.0	1206.0	868.0	878.0	736.0
8	Calcium mg/l	94.6	98.6	90.6	45.7	55.3	51.6
9	Magnesium mg/l	56.9	59.3	49.3	30.6	36.9	33.6
10	Sulphate mg/l	150.9	162.5	151.4	28.3	35.2	34.6
11	Nitrate mg/l	8.35	7.40	6.24	4.10	2.40	3.15
12	Fluoride mg/l	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Annexure-7

Noise level within Plant Area: all values in dB (A)

S. No	Month Location  	April-19	May-19	June-19	July-19	August-19	September-19
1	Raw Mill Area	81.1	80.5	79.9	78.8	77.8	75.7
2	Coal Mill Area	79.2	77.4	80.1	78.6	79.3	77.1
3	Cooler Area	80.3	78.2	78.6	78.8	79.8	78.5
4	Cement Mill Area	80.1	80.0	79.8	78.4	78.6	76.2
5	Compressor House	81.6	79.5	77.4	79.3	79.8	76.8
6	Packing Plant Area	76.6	76.7	76.7	77.2	79.0	80.0
7	Boiler Area	81.4	80.7	80.9	79.9	77.9	77.6
8	Turbine House Area	82.3	79.8	81.9	77.7	78.9	78.4

