

# Ambuja Cement

Registered Post

Ref. ACH/EMD/F-20/06/2015

1 June, 2015

Dr. Yogesh Gairola  
Regional Office MoEF  
Pearson Road, FRI Campus  
New Forest Dehradun – 248006

Sub: Compliance Status for the period from October, 2014 to March, 2015 for:-

**A. Rauri Plant:-**

- (i) Point wise compliance of specific and general conditions of Environmental Clearance for 1.8 MTPA Cement Plant at village Rauri, Tehsil Arki, Darlaghat, Distt. Solan (H.P.) – J-11011/203/2005 IA-II(I).
- (ii) Proposed 1.8 MTPA Cement Plant at Village Rauri, District Solan in Himachal Pradesh by M/s Ambuja Cements Limited- regarding Amendment in environmental clearance dated 27<sup>th</sup> January, 2006 due to drawl of ground water instead of surface water – J-11011/203/2005-IA II(I)

**B. Kashlog Limestone Mines:-**

- (i) Expansion of Kashlog Limestone Mining Project of M/s Gujarat Ambuja Cement Ltd. Located in parts of Village(s) Kashlog, Mangu, Pati, Chola, Gyana, Rauri and Sangoi, Tehsil Arki, District Solan, Himachal Pradesh- environmental clearance reg. – J-11015 /200/2005-IA.II (M)

Dear Sir,

Please find the enclosed point-wise compliance of Specific and General Conditions of above mentioned Environmental Clearances.

List of tables attached are as below:

1. Stack Monitoring results are given in table -1.
2. Monitoring results of SWRP for the stipulated parameters like pH, BOD and TSS at inlet and outlet is given in table - 2.
3. Plantation details are attached in table 3.
4. Results of Ambient Air Quality monitored in plant at fixed locations are given in table 4.
5. Noise level report inside plant is enclosed as table - 5.
6. Gyana Khad water analysis report is enclosed as table – 6.

**AMBUJA CEMENTS LIMITED**  
(UNIT RAURI)

P. O. Darlaghat - 171 102, Tehsil Arki, Distt. Solan (H.P.)

Phone : 01796-306190, 306468 Fax : 248335, 248316, Website : www.ambujacement.com  
(Regd. Off. - P.O. Ambuja Nagar Taluka - Kadiyala Distt. - Junagadh, Gujarat - 362715)

7. Results of Ambient Air Quality monitored at 4 locations in mines area are given in table- 7.

List of annexure attached are as below:

1. Test report of HPPCB of final outlet of SWRP is attached as annexure – 1.
2. Expenditure details for Environmental Protection activities annexure 2.

This point wise compliance of specific and general conditions of EC is being forwarded along with relevant/ready **reference photographs & annexures** to your kind goodself in a systematic context, please.

Thanking you,

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

  
(Sandeep Bhimta)

CC to:

Zonal Office (North) PICUP Bhawan, Vibhuti Khand, Gomti Nagar,  
Lucknow - 226 010

Regional Officer, H P State Pollution Control Board, S.C.F. 6, 7 and 8,  
Sector – IV, PARWANOO, Distt. Solan (H.P.)

Encl.: (i) As above  
(ii) Soft copy in CD.

**Point wise compliance of specific  
and general conditions of  
Environmental Clearance for 1.8  
MTPA Cement Plant at village Rauri  
Tehsil Arki, Darlaghat, Distt. Solan  
(H.P.) – J-11011/203/2005 IA-II(I).**







**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**

| Sr. No. | Conditions  | Implementation   |
|---------|---|--|
|         | <b>A. Specific Conditions:</b>  |  |
| i.      | The gaseous and particulate matter emissions from various units should conform to the standards prescribed by the State Pollution Control Board. At no time, the particulate emissions from the cement plant and captive power plant (CPP) shall exceed 50 mg/Nm <sup>3</sup> . Continuous on-line monitors for particulate emissions, SO <sub>2</sub> and NO <sub>x</sub> in Raw/Kiln mill, clinker cooler, coal mill, cement mill etc. shall be provided and shall make necessary arrangements for submission of on-line real time emission data to CPCB website. Low NO <sub>x</sub> burners shall be installed to control NO <sub>x</sub> emissions. Interlocking facility shall be provided between pollution control equipment and the process operation so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically. | <p>(a). The gaseous and Particulate Matter emissions from various units conform to the standards prescribed by the SPCB i.e. below 50mg/Nm<sup>3</sup>. Stack Monitoring report is enclosed as table 1.</p> <p>(b). We have installed the Continuous Particulate Matter (CPM) at our coal mill stack and cooler stack, Continuous Emission Monitoring System is installed at our main stack (stack attached to Raw Meal &amp; Kiln). Low NO<sub>x</sub> burners have been installed to control the NO<sub>x</sub> emissions.</p> <p>(c). Interlocking facility has also been provided between pollution control equipment and the process operation so that in the event of the pollution control equipment not working, the respective unit (s) is shut down automatically.</p> <p>(d) In addition to this we also conduct third party stack monitoring by SGS India Ltd.</p> |
| ii.     | Ambient air quality including ambient noise levels shall be monitored at different locations including fence of the sanctuaries and must not exceed the standards stipulated under EPA or by the State authorities. Monitoring of ambient air quality and stack emissions shall be carried out regularly in consultation with HPSEP & PCB and report submitted to the Board quarterly and to the Ministry's Regional Office at Chandigarh half-yearly. Continuous stack monitoring system shall be installed.   | <p>(a). We are monitoring the ambient air quality and ambient noise levels at our different locations and at the fence of the sanctuaries and the results are well within limits as compared to the standards laid down by the EPA.</p> <p>(b). There is a regular monitoring of ambient air quality; the results of the same are being submitted to SPCB.</p> <p>(c). Continuous stack emission monitoring systems have been installed at our stacks attached to Raw/Kiln mill, coal mill and clinker cooler stack.</p>   |
| iii.    | Electrostatic precipitators (ESP) shall be installed in clinker   | (a). Electrostatic precipitator has been installed in clinker cooler and bag   |

**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**



|     |   |   |
|-----|---|---|
|     | <p>cooler to control air emissions. Bag house in raw mill and kiln, bag filters in cement mill and all the transfer points shall be provided. The dust collected from the pollution control equipments shall be recycled back into the process. Storage of raw materials viz. lime stone, coal, clinker shall be in closed roof sheds covered stockpiles. Water sprinkling arrangement should be made in the raw material stockyard and cement bag loading areas.</p>   | <p>house in raw meal and kiln sections to control the emissions. All the transfer points have been provided with bag filters.</p> <p>(b). Dust collected from the APCE's is automatically recycled back into the process.</p> <p>(c). All the raw materials are being stored under closed roof sheds. Clinker is being stored under covered stockpiles.</p>  <p align="center">Chinese Sheds for Limestone &amp; Coal</p>   |
| iv. | <p>The company shall install adequate dust collection and extraction system to control fugitive dust emissions at various transfer points. Fugitive emissions from raw material storage yards, loading and unloading operation, material transfer points shall be controlled by providing bag filters and water sprinkling systems etc. Covered sheds shall be provided coal storage, iron containing material and red ochre. Unloading of the fly ash shall be carried out by providing pneumatic conveying system up to silo.</p> | <p>Adequate dust collection and extraction system has been installed to control fugitive dust emissions. All the material transfer points have been provided with bag filters. Covered sheds has been provided to store the raw materials. As the unit is only clinkerisation unit &amp; there is no usage of fly ash. Tennant Road sweeping Machines are also being used to clean the roads to control the fugitive dust emission. All the roads are pucca however sprinkling is also being carried out wherever necessary.</p>  <p align="center">Water sprinkling system installed</p> |
| v.  | <p>Total water requirement shall not exceed the limit stipulated by</p>   | <p>(a). Being a dry process no effluent is generated from the process.</p>  |



**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**

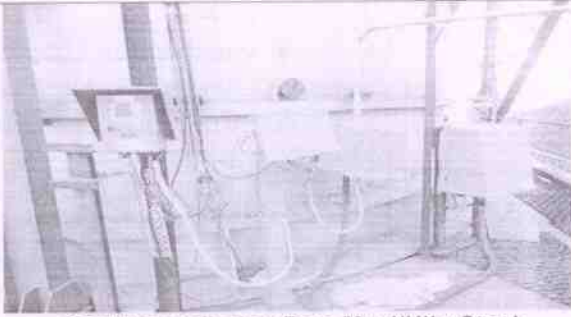
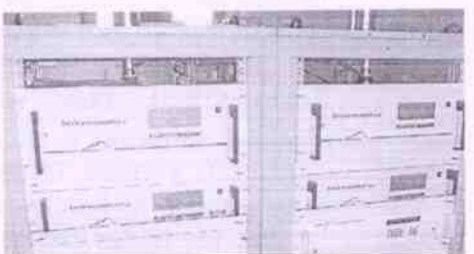
|       |  |   |
|-------|--|---|
|       | the Central/State Ground Water Board and prior permission shall be obtained for drawl of ground water. No effluent shall be discharged from the process outside the premises and all the treated wastewater from Sewage Water Reclamation Plant (SWRP) shall be utilized for green belt development and other plant related activities. SWRP shall be further augmented as per the requirement of the expansion project. | (b). However the domestic waste water generated from residential facilities as well as from the offices is being treated at SWRP. Treated water thus generated is reused for greenery development, dust suppression, cooling makeup etc and the biological sludge generated is used for greenery development.<br>(c) Treated water report is enclosed as table 2.<br>(d) Test report of HPPCB of final outflow of SWRP is attached as annexure 1. |
| vi.   | Due to enhanced movement of the trucks due to expansion of the project and other cement industries in the same region, the industry may consider feasibility of setting up of the conveyer belt transportation system for the raw material as well as final product to decongest the traffic in the hill region in collaboration with the Central Road Research Institute, New Delhi.                                    | Noted.  |
| vii.  | The company must harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.   | Six rainwater recharging pits has been constructed in the plant premises.   |
| viii. | Green belt shall be developed in and around the expansion project in at least 25 % of the area as per the CPCB guidelines in consultation with the local DFO. Plantation shall also be done along the roadside between Ropar and Darlaghat in collaboration with the State   | (a). Green belt development works for the available landscape is already under implementation.<br>(b). We have already initiated the plantation works along NH- 88 for the widened sites in collaboration with SFD<br>(c). The details of plantation is enclosed as table 3.  |

**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**

|     |   |   |
|-----|---|---|
|     | Forest Department due to regular plying of trucks carrying fly ash and cement.  |   |
| ix. | Solid waste generated shall be 100 % recycled and reutilized in the process itself. Treated STP sludge shall be used for green belt development.  | <p><b>Eco- Green Park along NH - 88 Kararaghat</b></p> <p>(a). Solid waste generated is being recycled and reutilized in the process by 100 %.</p> <p>(b). Treated Biological Sludge generated from STP is being used for green belt development</p>  <p><b>Sewage Water Reclamation Plant</b></p> |
| x.  | The company shall undertake eco-development measures including community welfare measures in the project area.  | Ambuja Cement Foundation, (N.G.O.) has already been formed to look after the community welfare activities. An amount of Rs/- 2,35,79,898/- has been used for community welfare activities for the period from October, 2014 to April, 2015.   |
| xi. | The company shall follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP) especially all the major stacks shall be provided with continuous emission monitoring for particulate matter. | All the major stacks i.e. Raw Mill/Kiln stack, Coal Mill stack and Clinker Cooler stack have been provided with Continuous Particulate monitor systems. We are sending our online realtime emission data of CEMS to CPCB & HPSPCB.  |



**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**


|       |  |   |
|-------|--|---|
|       |  |  <p align="center"><b>CEMS Installed at Raw Meal/Kiln Stack</b></p>   |
| xii.  | Rehabilitation and resettlement plan prepared and submitted for the land acquired for the expansion project shall be implemented as per the R & R policy of the State Govt. in a time bound manner and report submitted to the Ministry.   | According to Rehabilitation and resettlement plan as per state policy several families rehabilitated.   |
| xiii. | No work at site shall be undertaken without obtaining prior permission from the Chief Wildlife Warden, Govt. of H.P.   | Necessary permission has been obtained from Chief Wildlife Warden, Govt. of H.P.  |
|       | <b>B. General Conditions:</b>  |   |
| i.    | The project authority must adhere to the stipulations made by H.P. State Environment Protection & Pollution Control Board (HPSEP & PCB) and State Government.  | Company is adhering to comply with the stipulations made by H.P. State Environment Protection & Pollution Control Board (HPSEP & PCB) and State Government.   |
| ii.   | No further expansion or modification of the plant should be carried out without prior approval of this Ministry.   | Noted & shall be adhered.   |
| iii.  | At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO <sub>2</sub> and NO <sub>x</sub> are anticipated in consultation with the HPSEP & PCB. Data on ambient air quality and stack emissions should be regularly submitted to this Ministry including its regional office at Chandigarh and HPSEP & PCB once in six months. | <p>We are already monitoring the ambient air quality at three locations and regularly submitting the reports to SPCB and to MoEF. We have also installed the Continuous Ambient Air Quality monitoring station. Ambient Air Quality Monitoring report is enclosed as <b>table 4</b>.</p>  |

**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**

|       |   | Continuous Ambient Air Quality Monitoring Station  |
|-------|---|--|
| iv.   | Industrial wastewater should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 <sup>th</sup> May, 1993 and 31 <sup>st</sup> December 1993 or as amended from time to time. The treated wastewater should be utilized for plantation purpose.   | Being a dry process, no industrial waste water will be generated from the process. However the waste water generated from offices and residential facilities shall be treated and utilized for plantation and other purposes.  |
| v.    | The overall noise level in and around the plant area should be kept within the standards (85 dbA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules 1989 viz. 75 dbA (day time) and 70 dbA (night time) | Noise control measures have been provided at all sources of noise generation. The results are well within limit as prescribed under Environmental (Protection) Act, 1986 Rules 1989. HPSPCB also carryout noise monitoring on regular basis. The noise level report is enclosed as <b>table 5</b> .  |
| vi.   | Proper housekeeping and adequate occupational health programmes must be taken up. All the persons working in the sensitive areas shall wear protective covers. Occupational health surveillance programmes shall be done on a regular basis and records maintained. The programme must include lung function and sputum analysis tests once in six months.  | Ambuja Cement Ltd. company is very much conscious about the occupational health and safety of employees and workers. Different types of health and house keeping programmes are regularly being organized by the company and the records are maintained. All the workers and employees are trained about the use of Personal Protective Equipments. Being a conscious company about the safety of employees the company has its own five cardinal rules for safety which each and everyone has to be followed. |
| vii.  | The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP  | Complied.  |
| viii. | A separate Environmental management cell with full-fledged laboratory facilities to carry out various management and monitoring functions should be set up under the control of   | (a). A separate Environmental Management Division has already been set up to look after environment related activities.<br>(b). Monthly EMS awareness program & other regular eco-green activities are being   |



**COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSED  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).**

|     |  |   |
|-----|--|---|
|     | Senior Executive.  | carried out as per our scheduled targets<br>                      |
|     |  | <b>Earth Hour celebration</b>   |
| ix  | The project authorities will provide adequate funds both recurring and non recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes. | Being complied.   |
| x   | The Regional Office of this Ministry at Chandigarh / Central Pollution Control Board / HPSEP & PCB will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with the statistical interpretation should be submitted to them regularly.   | Six monthly compliance reports for the conditions stipulated in environmental clearance granted by MoEF are being submitted to The Regional Office. |
| xi  | The project authorities should 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.  | Land development work for the project has been started from June 2007 and the same has been conveyed to the Regional Office of ministry.            |
| xii | The project proponent should inform the public that the project has been accorded environmental clearance by the Ministry and the copies of the clearance letter are available with the HPSEP & PCB/Committee and may also   | Advertisement has been made in two local news papers and a copy has been submitted to the Regional Office of MoEF Chandigarh.                       |



COMPLIANCE OF SPECIFIC & GENERAL CONDITIONS IMPOSED BY THE MoEF FOR PROPOSE  
CEMENT PLANT AT VILLAGE RAURI - J-11011/203/2005 IA-II(I).

be seen at website of the Ministry of Environment and Forests 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 vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office.



Protect our environment, keep it safe; tomorrow, we'll be saved!  
EMD- Team, ACL Darlaqhat

**Proposed 1.8 MTPA Cement  
Plant at Village Rauri,  
District Solan in Himachal  
Pradesh by M/s Ambuja  
Cements Limited- regarding  
Amendment in  
environmental clearance  
dated 27<sup>th</sup> January, 2006 due  
to drawl of ground water  
instead of surface water – J-  
11011/203/2005-IA II(I)**

**Compliance of conditions imposed by MoEF regarding Amendment in EC for Rauri Plant  
Village Rauri, Distt. Solan, Himachal Pradesh [(F.No. J-11011/203/2005-IA II (I)]**

| S. No. | Conditions   | Implementation  |
|--------|--|---|
| (i)    | No contaminated water shall be diverted in to the storm water drains. The peripheral drains shall be constructed to divert the runoff to the recharge structures. Before the onset of monsoon, the catchment area considered for recharge shall be cleaned. The recharge structures shall be in operation during monsoon season.   | Being complied.   |
| (ii)   | The National Ambient Air Quality Standards issued by the Ministry vide G.S.R. No. 8226 (E) dated 16 <sup>th</sup> November, 2009 shall be followed.  | Being Complied.   |
| (iii)  | 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 respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The Regional Office of this Ministry at Chandigarh / CPCB/SPCB shall monitor the stipulated conditions.   | We are submitting the six monthly compliance reports on regular basis along with the results of monitored data (both in hard and soft copies)             |
| (iv)   | The environmental statement for each financial year ending 31 <sup>st</sup> March in Form V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under Environment (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company alongwith the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MoEF by e-mail. | Environmental statement is being submitted to HPSPCB every year. Monthly reports and monthly compliance reports are uploaded on website on regular basis. |
| (v)    | A copy of clearance letter shall be sent by proponent to concerned Panchayat, Zila Parishad/Municipal  | Being complied.   |



**Compliance of conditions imposed by MoEF regarding Amendment in EC for Rauri Plan  
Village Rauri, Distt. Solan, Himachal Pradesh [(F.No. J-11011/203/2005-IA II (I)]**

|      |  |                 |
|------|--|-----------------|
|      | Corporation, Urban Local Body and the Local NGO, if any, from whom clearance letter shall also put up on the website of the Company by the proponent.  |                 |
| (vi) | The Company shall submit within three months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/procedure to being into focus any infringement / deviation / violation of environmental or forest norms/ conditions, (ii) Hierarchical system or Administrative order of the Company to deal with environmental issues and ensuring compliance to the environmental clearance conditions and (iii) System of reporting of non compliance /violation environmental norms to the Board of Directors of the company and /or stakeholders or shareholders. | Being complied. |

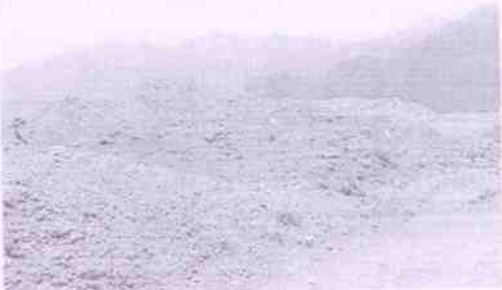


**Expansion of Kashlog  
Limestone Mining Project of  
M/s Gujarat Ambuja Cement  
Ltd. Located in parts of  
Village(s) Kashlog, Mangu,  
Pati, Chola, Gyana, Rauri  
and Sangoi, Tehsil Arki,  
District Solan, Himachal  
Pradesh- environmental  
clearance reg. – J-11015  
/200/2005-IA.II (M)**

**COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF  
KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)**


| Sr. No.                        | STIPULATION   | ACTION   |
|--------------------------------|---|--|
| <b>2A. Specific Conditions</b> |   |  |
| (i)                            | All the conditions stipulated by the State Pollution Control Board in their Consent should be effectively implemented.  | Implemented.   |
| (ii)                           | The project proponent shall obtain prior approval of the Chief Wildlife Warden before enhancing the production from the mine.   | Necessary permission / No Objection Certificate for increase in the rate of limestone extraction from the existing Mining Lease area located in parts of village(s) Kashlog, Mangu, Pati Chola, Gyana, Rauri and Sangoi has been obtained. |
| (iii)                          | The project proponent shall obtain requisite forestry clearance for diversion of entire forestland involved in the project from the competent authority prior to start of enhanced production from the mine. No mining work shall be carried out in the forest area for which forestry clearance has not been obtained.   | Required Forestry clearance for diversion of forestland has been obtained.   |
| (iv)                           | The project proponent should prepare a comprehensive plan to combat environmental degradation including landslide keeping in view the location of mine in seismically active zone IV and landslide prone zone. The proponent should identify critically degraded areas in terms of hectares and prepare the area maps along with time bound action plan for their improvement including details of protective structures using perennial soil binding native grass species, shrubs and tree species and earmark separate budgetary provision for this activity. Details in this regard shall be submitted to this Ministry and its Regional Office located at Chandigarh within 3 months. | A comprehensive plan to combat environmental degradation has been made and submitted vide our office letter No. ACH/EMD/F-13/01-70 dated 31 <sup>st</sup> January 2007.  |
| (v)                            | The environmental clearance is subject to approval of the State Landuse Department, Government of Himachal Pradesh for diversion of agricultural land for non-agricultural use.   | Noted  |
| (vi)                           | The mining operations shall not intersect groundwater table. Prior approval of the Ministry of Environment & Forests and Central Ground Water Authority shall be  | Mining does not intersect ground water.  |



COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF  
KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)

|        |  |   |
|--------|--|---|
| (vii)  | <p>obtained for mining below water table.</p> <p>Topsoil should be stacked separately at earmarked sites and should not be kept active for long period. It should be used for reclamation and rehabilitation of the mined out areas.</p>   | <p>Availability of Topsoil is very less in quantity. However, this quantity of Top soil is being used for plantation.</p>  <p><b>Top soil stacked separately for reclamation and rehabilitation</b></p>   |
| (viii) | <p>Catch drains and siltation ponds of appropriate size should be constructed for the working pit, and soil dump to arrest flow of silt and sediment. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly.</p> <p>Garland drain (size, gradient and length) shall be constructed for mine pit and soil dumps and sump capacity should be designed keeping 50 % safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.</p> | <p>Necessary care shall be taken during mining operation. Check dams &amp; check filters have already been provided surrounding to mines area for water quality management. Except these retaining walls and Surface drains etc. are also constructed.</p>  <p><b>Check Dam/Check Walls</b></p> <p>To harvest rainwater for ground water recharging three rainwater harvesting pond of capacity 73457m3 is constructed in Mines.</p>  <p><b>A Rainwater harvesting pond at mines.</b></p> |
| (ix)   | Dimension of the retaining wall at the OB  | Not Applicable.   |


**COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)**

|        |   |  |
|--------|---|--|
|        | benches within the mine to check run-off and siltation should be based on the rainfall data.  | No Over Burden shall be generated.   |
| (x)    | Plantation shall be raised in an area of 239.06 ha including a green belt around ML area, roads etc. by planting the native species in consultation with the local DFO / Agriculture Department. The density of the trees should be around 2000 plants per ha.  | <p>Plantation is being raised by planting the native species in consultation with the local DFO / Agriculture Department.</p>  <p align="center">Plantation in Mines</p> |
| (xi)   | Regular monitoring of the flow rate of the springs and perennial nallah will be carried out and records maintained.   | Regular monitoring is being carried out and records are maintained. Water quality monitoring reports are enclosed as <a href="#">table 3</a> .   |
| (xii)  | Regular monitoring of ground water level and quality should be carried out by establishing a network of existing wells and constructing new piezometers at suitable locations by the project proponent in and around project area in consultation with Regional Director, CGWB. The frequency of monitoring should be four times a year, pre-monsoon (April / May), monsoon (August), post-monsoon (November), and winter (January). Data thus collected should be sent at regular intervals to MoEF, CGWA and Regional Director, CGWB. | <p>Due to open cast mining, we are not using the ground water, so there is no requirement for this monitoring in our case.</p> <p>Further ground water quality monitoring is being carried out by third party (NABL accredited lab).</p>                   |
| (xiii) | Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB   | <p>Noted.</p> <p>To harvest rainwater for ground water recharging ponds of total capacity 73457 m3 is constructed in Mines.</p>  |
| (xiv)  | Only wet drilling shall be adopted. Drills should either be operated with dust extractors or equipped with water injection system.  | Being complied.  |
| (xv)   | Blasting operation should be carried out only during the daytime. Controlled blasting should be practiced. The  | <p>(a). Blasting operation is being carried out in daytime only.</p> <p>(b). We use IKON digital energy</p>  |

**Environment protection measures & technology**



COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF  
KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)

|         |  |  |
|---------|--|--|
|         | mitigative measures for control of ground vibration and to arrest fly rocks and boulders should be implemented.  | control system to blast in critical areas. This is system is more precise and accurate and generates less ground vibrations, fly rock and give better fragmentation.<br>Advanced controlled blasting technique is practiced such as use of NTD, Excel, muffled blasting, optimum quantity of blasting material are practiced to avoid dust generation, fly rock, noise level and ground vibration because of the activity.<br>Secondary blasting is avoided by use of hydraulic breaker. |
|         |  |    |
|         |  | <b>Hydraulic Breaker</b>   |
| (xvi)   | Minerals handling plant should be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.   | Minerals handling plant are being provided with bag filters. Bag filters are attached at all the transfer points to arrest the dust. The dust so collected is automatically recycled in the process  |
| (xvii)  | Vehicular emissions should be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles should be covered with a tarpaulin and shall not be overloaded.   | We are carrying out regular maintenance of Heavy Earth Moving Machinery used in mining operation to keep vehicular emission under control.   |
| (xviii) | The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as leopard, wild dog etc. reported in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in conservation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the | We have prepared wildlife conservation plan in consultation with State Forest & Wildlife Department and the same is authenticated by PCCF wildlife vide letter dated WL(Misc)-73/Mining/VI/8295 dated 14/1/2014.   |

Environment protection measures & technology




COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF  
KASHI LIME STONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)

|         |   |   |
|---------|---|---|
|         | funds so allocated shall be included in the project cost. Copy of action plan may be submitted to the Ministry and its Regional Office within 3 months.   |   |
| (xix)   | Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land and pattern and report submitted to MoEF and its regional office. | Digital processing of the lease area has been carried out and report has been submitted to MoEF's regional office Chandigarh vide our office letter no. ACH/EMD/F-20/12/2013 dated 5 <sup>th</sup> December, 2013 |
| (xx)    | Land oustees should be rehabilitated as per the Resettlement and Rehabilitation plan approved by the Government of Himachal Pradesh.  | Land oustees are being rehabilitated as per the Resettlement and Rehabilitation plan approved by the Government of Himachal Pradesh.  |
| (xxi)   | Consent to operate should be obtained from SPCB before starting enhanced production from the mine.  | Consent to operate has been granted by HPSPCB.  |
| (xxii)  | Sewage treatment plant should be installed for the colony. ETP should also be provided for workshop and mineral separation plant wastewater.  | Sewage treatment plant has been provided for colony. Settling tank and Oil & Grease Trap has been provided for workshop.  |
| (xxiii) | A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forest 5 Years in advance of final mine closure for approval.                                | The point has been noted and shall be taken care well within time.  |

### B. General conditions

|       |  |   |
|-------|--|---|
| (i)   | No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.  | If there is any change in mining technology and scope of working, prior approval shall be taken from Ministry of Environment and Forests.     |
| (ii)  | No change in the calendar plan including excavation, quantum of mineral limestone and waste if any should be made.   | Shall be taken care of.   |
| (iii) | Four ambient air quality - monitoring stations should be established in the core zone as well as in the buffer zone for RPM, SPM, SO <sub>2</sub> , NO <sub>x</sub> monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be under taken in consultation with the State Pollution Control Board. | Ambient air quality is being carried out at four locations & reports of the same are being submitted to HPSPCB. Same are enclosed as table 7. |

**COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)**

|        |   |   |
|--------|---|---|
| (iv)   | <p>Data on ambient air quality (RPM, SPM, SO<sub>2</sub>, NO<sub>x</sub>) should be regularly submitted to the Ministry including its Regional office located at Chandigarh and the State Pollution Control Board / Central Pollution Control Board.</p>  | <p>Data are regularly being submitted to HPSPCB, CPCB and MoEF Chandigarh on regular basis.</p>   |
| (v)    | <p>Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.</p>  | <p>To control the fugitive dust emission from various sources we have installed the bag filters. Restricted speed limits for the vehicles inside plant &amp; mines also help to reduce the fugitive dust emission. Water spraying arrangement on haul roads, loading and unloading and at transfer points have been provided and properly maintained.</p>  <p align="center"><b>Water Sprinkling on Haul Roads</b></p> |
| (vi)   | <p>Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc should be provided with ear plugs / muffs.</p>   | <p>All the precautionary measures have been taken to keep the noise levels within limits. The noise level inside the cabin of HEMM is very low however the workers engaged in operations of HEMM are provided with ear plugs/ muffs.</p>  |
| (vii)  | <p>Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19<sup>th</sup> May, 1993 and 31<sup>st</sup> December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.</p> | <p>Settling tank and Oil &amp; Grease Trap has been provided.</p>   |
| (viii) | <p>Personnel working in dusty areas should</p>  | <p>Company is very much conscious</p>   |



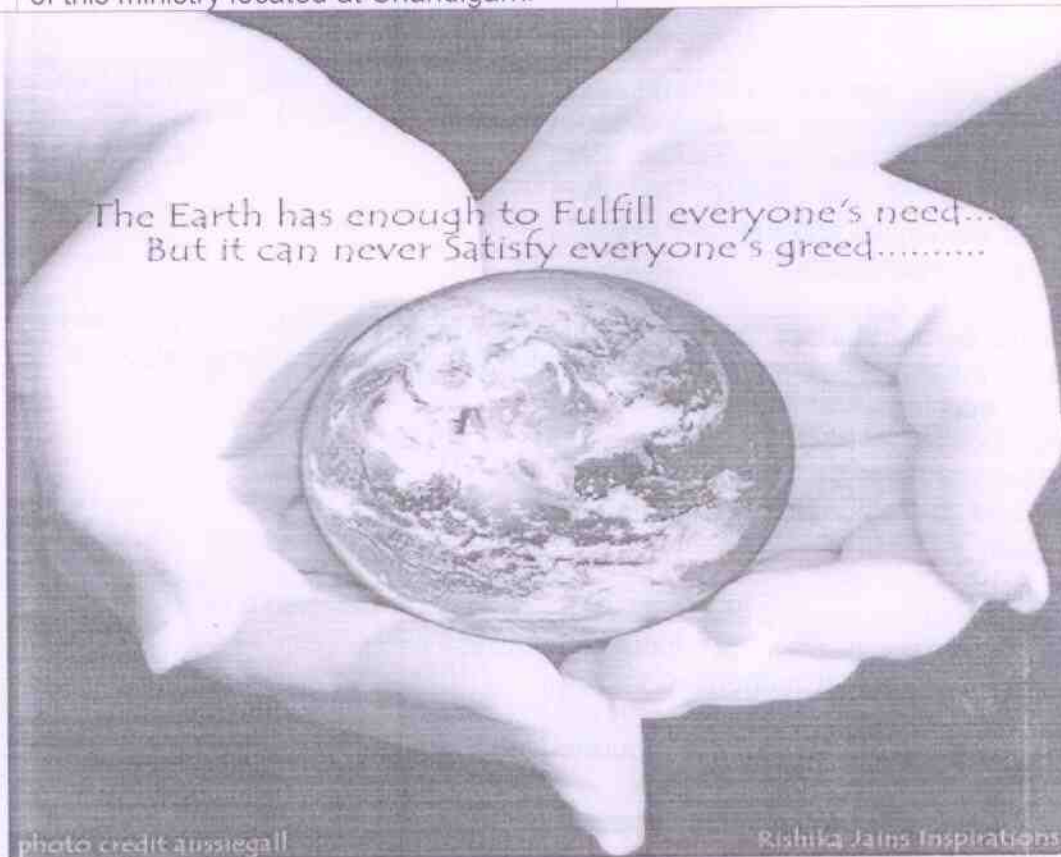
**COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF  
KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)**

|        |   |   |
|--------|---|---|
|        | <p>wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects</p> <p>Occupational health surveillance programme of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.</p> | <p>about the occupational health and safety of employees and workers. Different types of health and house keeping programmes are regularly being organized by the company and the records are maintained. All the workers and employees are trained about the use of Personal Protective Equipments. Being a conscious company about the safety of employees the company has its own five cardinal rules for safety which each and everyone has to be followed.</p> |
| (ix)   | <p>A separate environment management cell with suitable qualified personnel should be set up under the control of a senior executive, who will directly report to the Head of the Organisation.</p>   | <p>(a) A separate Environmental Management Division has already been set up to look after environment related activities.</p> <p>(b). Monthly EMS awareness program &amp; other regular eco-green activities are being carried out as per our scheduled targets.</p>  |
| (x)    | <p>The project authorities should inform to the Regional Office located at Chandigarh regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.</p>   | <p>The production was started from 27<sup>th</sup> March 2010.</p>  |
| (xi)   | <p>The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry and its Regional Office located at Chandigarh.</p>   | <p>Year wise expenditure is reported to the Ministry and its Regional Office.</p>   |
| (xii)  | <p>The Regional Office located at Chandigarh shall monitor compliance of stipulated conditions. The project authorities should extend full co-operation to the officer (s) of Regional Office by furnishing the requisite data / information / monitoring reports.</p>  | <p>Officer(s) of Regional Office is always fully co-operated.</p>   |
| (xiii) | <p>A Copy of clearance letter will be marked to concerned panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.</p>   | <p>A Copy of clearance letter has been marked to concerned panchayat.</p>   |



COMPLIANCE OF CONDITIONS LAID DOWN BY MoEF IN NOC GRANTED FOR THE EXPANSION OF  
KASHLOG LIMESTONE MINES OF AMBUJA CEMENTS LIMITED J-11015 /200/2005-IA.II (M)

|       |  |   |
|-------|--|---|
| (xiv) | State Pollution Control Board should display a copy of clearance letter at the Regional Office, District Industry Centre and Collector's Office / Tehsildar's office for 30 days.  |   |
| (xv)  | The project authorities should advertise at least in two local newspapers widely circulated, one of which should be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> and a copy of the same should be forwarded to the Regional Office of this ministry located at Chandigarh. | Advertisement has been made in two local local news papers, a copy of which has already been submitted to MoEF, Chandigarh. |



Save Environment, Save Earth  
EMD- Team, ACL Darlaghat

Table - 1

**Monthly Average of Stack Monitoring Results**  
**(Average Value)**  
**(From October 2014 to March 2015)**

| MONTHS | Monthly PM Value in mg/Nm <sup>3</sup> |            |               |                       |
|--------|--|------------|---------------|-----------------------|
|        | Glass Bag House                        | Cooler ESP | Coal Mill B/F | Limestone Crusher B/F |
| Oct-14 | 8.42                                   | 20.84      | 22.88         | 23.39                 |
| Nov-14 | 7.87                                   | 24.09      | 26.08         | 20.45                 |
| Dec-14 | *                                      | *          | *             | *                     |
| Jan-15 | 9.53                                   | 20.36      | 22.13         | 23.25                 |
| Feb-15 | 6.33                                   | 22.43      | 27.36         | 25.88                 |
| Mar-15 | 8.84                                   | 18.15      | 24.45         | 19.38                 |

\* Plant under maintenance

Table - 2

**Inlet and Outlet Sewage Water Characteristics (Monthly Average)**  
(From October 2014 to March 2015)

| MONTHS | INLET |        |        | OUTLET |       |       |
|--------|-------|--------|--------|--------|-------|-------|
|        | pH    | BOD    | TSS    | pH     | BOD   | TSS   |
| Oct-14 | 8.10  | 273.00 | 370.00 | 7.40   | 13.50 | 53.50 |
| Nov-14 | 8.10  | 262.00 | 353.60 | 7.40   | 12.80 | 15.20 |
| Dec-14 | 8.10  | 242.00 | 351.30 | 7.50   | 11.80 | 12.70 |
| Jan-15 | 8.10  | 202.00 | 350.50 | 7.40   | 12.00 | 13.30 |
| Feb-15 | 8.10  | 240.00 | 330.00 | 7.50   | 11.00 | 13.30 |
| Mar-15 | 8.10  | 255.00 | 340.00 | 7.50   | 11.20 | 14.90 |

Except pH, all parameters are in mg/lit.



Table - 3

**TOTAL NOS. OF PLANTS PLANTED**  
(FROM Oct 2014 TO March, 2015)

| Area of Plantation | Oct-14     | Nov-14     | Dec-14     | Jan-15     | Feb-15      | Mar-15     | Total       |
|--------------------|------------|------------|------------|------------|-------------|------------|-------------|
| Inside Plant Area  | 55         | 72         | 50         | 115        | 373         | 30         | 695         |
| Around Plant Area  | 0          | 39         | 0          | 0          | 0           | 0          | 39          |
| Within Colony Area | 380        | 88         | 80         | 0          | 0           | 45         | 593         |
| Inside Mines Area  | 300        | 0          | 0          | 0          | 1104        | 55         | 1459        |
| <b>Total</b>       | <b>735</b> | <b>199</b> | <b>130</b> | <b>115</b> | <b>1477</b> | <b>130</b> | <b>2786</b> |

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

Table- 4

**Monthly Average of Ambient Air Quality Monitoring Results Rauri Plant**  
**( PM 10, PM 2.5, SO<sub>2</sub> & NO<sub>2</sub> )**

(From October, 2014 to March, 2015)

| MONTH  | Rauri - 1                              |                                      |   |   | Rauri - 2                              |                                      |   |   | Rauri - 3                              |                                      |   |   |
|--------|--|--------------------------------------|---|---|--|--------------------------------------|---|---|--|--------------------------------------|---|---|
|        | PM 2.5<br>( $\mu\text{g}/\text{m}^3$ ) | PM<br>10( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | PM 2.5<br>( $\mu\text{g}/\text{m}^3$ ) | PM<br>10( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | PM 2.5<br>( $\mu\text{g}/\text{m}^3$ ) | PM<br>10( $\mu\text{g}/\text{m}^3$ ) | SO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) | NO <sub>2</sub><br>( $\mu\text{g}/\text{m}^3$ ) |
| Oct-14 | 18.75                                  | 54.87                                | 4.25  | 11.63   | 20.37                                  | 56.56                                | 5.00  | 12.38   | 21.87                                  | 60.69                                | 5.25  | 13.00   |
| Nov-14 | 21.87                                  | 65.42                                | 5.00  | 10.00   | 23.96                                  | 63.50                                | 5.75  | 11.75   | 26.04                                  | 69.98                                | 6.38  | 11.38   |
| Dec-14 | 16.67                                  | 58.35                                | 5.71  | 12.38   | 20.83                                  | 64.20                                | 6.43  | 8.00  | 25.00                                  | 61.63                                | 6.14  | 12.14   |
| Jan-15 | 14.58                                  | 62.50                                | 4.13  | 10.88   | 16.67                                  | 57.68                                | 4.88  | 11.50   | 18.75                                  | 60.07                                | 4.63  | 11.00   |
| Feb-15 | 22.40                                  | 58.08                                | 3.60  | 6.43  | 24.48                                  | 60.09                                | 3.60  | 7.00  | 19.27                                  | 54.99                                | 4.20  | 7.00  |
| Mar-15 | 13.54                                  | 50.47                                | 4.33  | 7.29  | 17.71                                  | 53.53                                | 4.50  | 7.86  | 19.79                                  | 56.74                                | 5.33  | 8.29  |

**Monthly Average of Ambient Air Quality Monitoring Results Rauri Plant**  
**(Lead, Nickel, Arsenic & CO)**

(From October, 2014 to March, 2015)

| MONTH  | Rauri - 1                            |                                      |                                       |                                  | Rauri - 2                            |                                      |                                       |                                  | Rauri - 3                            |                                      |                                       |                                  |
|--------|--------------------------------------|--------------------------------------|---------------------------------------|----------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|----------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|----------------------------------|
|        | Lead<br>( $\mu\text{g}/\text{m}^3$ ) | Nickel<br>( $\text{ng}/\text{m}^3$ ) | Arsenic<br>( $\text{ng}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | Lead<br>( $\mu\text{g}/\text{m}^3$ ) | Nickel<br>( $\text{ng}/\text{m}^3$ ) | Arsenic<br>( $\text{ng}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) | Lead<br>( $\mu\text{g}/\text{m}^3$ ) | Nickel<br>( $\text{ng}/\text{m}^3$ ) | Arsenic<br>( $\text{ng}/\text{m}^3$ ) | CO<br>( $\text{mg}/\text{m}^3$ ) |
| Oct-14 | ND                                   | ND                                   | ND                                    | 0.680                            | ND                                   | ND                                   | ND                                    | 0.725                            | ND                                   | ND                                   | ND                                    | 0.654                            |
| Nov-14 | ND                                   | ND                                   | ND                                    | 0.650                            | ND                                   | ND                                   | ND                                    | 0.780                            | ND                                   | ND                                   | ND                                    | 0.648                            |
| Dec-14 | ND                                   | ND                                   | ND                                    | 0.680                            | ND                                   | ND                                   | ND                                    | 0.710                            | ND                                   | ND                                   | ND                                    | 0.700                            |
| Jan-15 | ND                                   | ND                                   | ND                                    | 0.620                            | ND                                   | ND                                   | ND                                    | 0.680                            | ND                                   | ND                                   | ND                                    | 0.710                            |
| Feb-15 | ND                                   | ND                                   | ND                                    | 0.810                            | ND                                   | ND                                   | ND                                    | 0.725                            | ND                                   | ND                                   | ND                                    | 0.685                            |
| Mar-15 | ND                                   | ND                                   | ND                                    | 0.720                            | ND                                   | ND                                   | ND                                    | 0.740                            | ND                                   | ND                                   | ND                                    | 0.800                            |

Table-5

**MONTHLY NOISE MONITORING RESULTS (INSIDE PLANT)  
AT AMBUJA CEMENTS LTD. (UNIT - RAURI)  
(From October 2014 TO March 2015)**

| MONITORING LOCATION             | Oct-14 |       | Nov-14 |       | Dec-14 |       | Jan-15 |       | Feb-15 |       | Mar-15 |       |
|---------------------------------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
|                                 | DAY    | NIGHT | DAY    | NIGHT | DAY    | NIGHT | DAY    | NIGHT | DAY    | NIGHT | DAY    | NIGHT |
| <b>TIME OFFICE RAURI</b>        |        |       |        |       |        |       |        |       |        |       |        |       |
| (i) With Vehicular Movement     | 74.1   | 72.8  | 79.6   | 75.2  | 71.6   | 68.5  | 75.7   | 72.9  | 67.5   | 65.8  | 67.9   | 65.4  |
| (ii) Without Vehicular Movement | 71.6   | 70.2  | 70.1   | 68.7  | 59.1   | 53.8  | 65.8   | 59.3  | 52.9   | 51.6  | 60.2   | 58.7  |
| Coal Dump Hopper                | 58.4   | 52.1  | 64.2   | 62.8  | 78.2   | 73.4  | 62.8   | 58.3  | 56.4   | 52.1  | 70.2   | 68.9  |
| Near Raw Maerial Hopper         | 64.2   | 61.0  | 87.4   | 82.6  | 67.6   | 65.2  | 74.5   | 74.5  | 53.6   | 51.7  | 69.7   | 68.5  |
| GBH (Bear YSS 15)               | 67.9   | 64.5  | 74.8   | 72.0  | 56.1   | 53.7  | 82.1   | 82.9  | 61.5   | 54.4  | 73.2   | 71.7  |
| Raw Mill                        | 89.4   | 86.3  | 89.2   | 89.9  | 66.3   | 63.8  | 88.9   | 87.4  | 73.4   | 60.2  | 88.6   | 87.9  |
| Infront of CCR                  | 65.7   | 62.3  | 72.5   | 70.3  | 64.5   | 60.1  | 80.3   | 78.2  | 60.2   | 56.8  | 60.4   | 58.2  |
| Compressor House - 1 Inside     | 89.1   | 87.6  | 81.7   | 80.1  | 74.9   | 71.5  | 83.1   | 82.7  | 54.8   | 51.2  | 89.8   | 89.5  |
| Compressor House - 1 Outside    | 89.7   | 87.3  | 90.5   | 90.0  | 67.5   | 65.2  | 89.4   | 88.9  | 65.9   | 63.6  | 88.7   | 87.9  |
| Compressor House - 2 Inside     | 81.5   | 79.2  | 89.4   | 89.1  | 54.8   | 53.1  | 90.6   | 89.8  | 52.3   | 51.8  | 86.2   | 85.7  |
| Compressor House - 2 Outside    | 86.2   | 84.2  | 84.0   | 83.0  | 65.1   | 60.7  | 86.7   | 87.4  | 60.4   | 58.9  | 89.1   | 88.3  |
| Compressor House - 3 Inside     | 89.3   | 87.4  | 90.1   | 89.8  | 59.7   | 57.5  | 90.0   | 89.2  | 62.1   | 61.6  | 87.6   | 87.1  |
| Compressor House - 3 Outside    | 87.5   | 85.2  | 89.7   | 89.6  | 72.3   | 67.4  | 86.4   | 84.5  | 65.3   | 62.7  | 88.9   | 87.8  |
| Near Coal Mill                  | 88.2   | 86.2  | 85.2   | 84.9  | 65.8   | 63.1  | 88.7   | 87.9  | 64.8   | 63.4  | 89.2   | 89.0  |
| <b>Factory Gate Rauri</b>       |        |       |        |       |        |       |        |       |        |       |        |       |
| (i) With Vehicular Movement     | 83.6   | 81.6  | 76.8   | 72.5  | 78.2   | 75.3  | 80.6   | 76.1  | 80.2   | 78.5  | 76.5   | 75.2  |
| (ii) Without Vehicular Movement | 56.7   | 54.7  | 59.1   | 58.9  | 56.8   | 51.6  | 55.1   | 52.5  | 68.6   | 65.9  | 62.4   | 60.8  |



Table -6

**Monthly Average of Gyana Khad Water Quality Analysis Report**  
(From Oct 2014 to March 2015)

| MONTH  | SAMPLING POINTS | PARAMETERS |      |       |      |
|--------|-----------------|------------|------|-------|------|
|        |                 | pH         | TSS  | TDS   | DO   |
| Oct-14 | 1               | 7.3        | 29.5 | 312.3 | 4.90 |
|        | 2               | 7.7        | 49.0 | 362.5 | 4.20 |
|        | 3               | 7.6        | 44.4 | 351.1 | 4.70 |
|        | 4               | 7.5        | 40.5 | 345.6 | 5.00 |
| Nov-14 | 1               | 7.4        | 41.5 | 317.8 | 5.00 |
|        | 2               | 7.8        | 56.3 | 376.3 | 4.30 |
|        | 3               | 7.6        | 52.8 | 351.2 | 4.80 |
|        | 4               | 7.5        | 46.8 | 348.2 | 4.90 |
| Dec-14 | 1               | 7.3        | 41.2 | 316.5 | 4.80 |
|        | 2               | 7.8        | 58.2 | 346.7 | 4.10 |
|        | 3               | 7.6        | 45.9 | 335.2 | 4.90 |
|        | 4               | 7.5        | 41.2 | 332.6 | 5.10 |
| Jan-15 | 1               | 7.5        | 30.9 | 300.0 | 5.20 |
|        | 2               | 7.7        | 42.2 | 345.1 | 4.60 |
|        | 3               | 7.5        | 36.1 | 322.6 | 5.00 |
|        | 4               | 7.4        | 29.2 | 319.0 | 5.30 |
| Feb-15 | 1               | 7.5        | 35.4 | 320.9 | 5.50 |
|        | 2               | 7.7        | 48.3 | 363.6 | 4.70 |
|        | 3               | 7.6        | 42.9 | 345.1 | 5.30 |
|        | 4               | 7.6        | 35.8 | 345.9 | 5.40 |
| Mar-15 | 1               | 7.4        | 39.4 | 314.8 | 5.60 |
|        | 2               | 7.8        | 47.4 | 356.8 | 4.80 |
|        | 3               | 7.5        | 44.9 | 341.1 | 5.20 |
|        | 4               | 7.5        | 42.9 | 344.2 | 5.50 |

**AVERAGE      7.6      42.6      338.1      5.0**

Except pH all the parameters are in mg/lit.

**Sampling Points**

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

(Table -7 )

Monthly Average of Ambient Air Quality Monitoring Results Mining Area(PM 10, PM 2.5, SO<sub>2</sub> and NO<sub>x</sub> CONCENTRATION IN µg/m<sup>3</sup>)

(From October 2014 To March 2015)

| MONTH  | Mines Dormitory |       |                 |                 | Rathoh |       |                 |                 | Mangoo |       |                 |                 | Chandi |       |                 |                 |
|--------|-----------------|-------|-----------------|-----------------|--------|-------|-----------------|-----------------|--------|-------|-----------------|-----------------|--------|-------|-----------------|-----------------|
|        | PM 2.5          | PM 10 | SO <sub>2</sub> | NO <sub>x</sub> | PM 2.5 | PM 10 | SO <sub>2</sub> | NO <sub>x</sub> | PM 2.5 | PM 10 | SO <sub>2</sub> | NO <sub>x</sub> | PM 2.5 | PM 10 | SO <sub>2</sub> | NO <sub>x</sub> |
| Oct-14 | 31.36           | 67.07 | 4.8             | 7.8             | 26.81  | 63.64 | 3.5             | 12.6            | 14.44  | 55.36 | 3.4             | 10.0            | 22.43  | 44.63 | 3.3             | 7.5             |
| Nov-14 | 28.00           | 40.63 | 5.3             | 13.0            | 26.81  | 55.36 | 3.6             | 12.4            | 14.44  | 55.36 | 4.5             | 11.1            | 31.37  | 38.21 | 4.2             | 8.7             |
| Dec-14 | 36.98           | 65.45 | 4.0             | 7.0             | 27.52  | 64.00 | 4.0             | 6.5             | 21.56  | 55.56 | 4.0             | 8.4             | 22.43  | 41.88 | 4.0             | 6.1             |
| Jan-15 | 31.45           | 62.63 | 4.9             | 7.4             | 22.07  | 61.86 | 4.9             | 10.0            | 26.82  | 47.01 | 4.9             | 10.0            | 26.47  | 67.70 | 4.0             | 7.6             |
| Feb-15 | 44.04           | 67.81 | 5.1             | 7.3             | 38.36  | 64.58 | 4.0             | 12.1            | 34.03  | 52.63 | 5.0             | 10.1            | 34.41  | 66.91 | 4.0             | 7.6             |
| Mar-15 | 44.04           | 67.81 | 5.1             | 7.3             | 38.36  | 64.58 | 4.0             | 12.1            | 34.03  | 52.63 | 5.0             | 10.1            | 34.41  | 66.91 | 4.0             | 7.6             |

Monthly Average of Ambient Air Quality Monitoring Results Mining Area

(Lead, Nickel, Arsenic and CO)

(From October 2014 To March 2015)

| MONTH  | Mines Dormitory           |                             |                              |                         | Rathoh                    |                             |                              |                         | Mangoo                    |                             |                              |                         | Chandi                    |                             |                              |                         |
|--------|---------------------------|-----------------------------|------------------------------|-------------------------|---------------------------|-----------------------------|------------------------------|-------------------------|---------------------------|-----------------------------|------------------------------|-------------------------|---------------------------|-----------------------------|------------------------------|-------------------------|
|        | Lead<br>µg/m <sup>3</sup> | Nickel<br>ng/m <sup>3</sup> | Arsenic<br>ng/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Lead<br>µg/m <sup>3</sup> | Nickel<br>ng/m <sup>3</sup> | Arsenic<br>ng/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Lead<br>µg/m <sup>3</sup> | Nickel<br>ng/m <sup>3</sup> | Arsenic<br>ng/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> | Lead<br>µg/m <sup>3</sup> | Nickel<br>ng/m <sup>3</sup> | Arsenic<br>ng/m <sup>3</sup> | CO<br>mg/m <sup>3</sup> |
| Oct-14 | ND                        | ND                          | ND                           | 0.7                     | ND                        | ND                          | ND                           | 0.8                     | ND                        | ND                          | ND                           | 0.6                     | ND                        | ND                          | ND                           | 0.6                     |
| Nov-14 | ND                        | ND                          | ND                           | 0.6                     | ND                        | ND                          | ND                           | 0.8                     | ND                        | ND                          | ND                           | 0.6                     | ND                        | ND                          | ND                           | 0.6                     |
| Dec-14 | ND                        | ND                          | ND                           | 0.6                     | ND                        | ND                          | ND                           | 0.7                     | ND                        | ND                          | ND                           | 0.6                     | ND                        | ND                          | ND                           | 0.6                     |
| Jan-15 | ND                        | ND                          | ND                           | 1.3                     | ND                        | ND                          | ND                           | 1.2                     | ND                        | ND                          | ND                           | 1.1                     | ND                        | ND                          | ND                           | 1.3                     |
| Feb-15 | ND                        | ND                          | ND                           | 1.3                     | ND                        | ND                          | ND                           | 1.2                     | ND                        | ND                          | ND                           | 1.1                     | ND                        | ND                          | ND                           | 0.9                     |
| Mar-15 | ND                        | ND                          | ND                           | 0.6                     | ND                        | ND                          | ND                           | 0.7                     | ND                        | ND                          | ND                           | 0.7                     | ND                        | ND                          | ND                           | 0.6                     |

Note: Location/Direction from the Mines

Mines Dormitory 4.0 km E from Plant  
 Rathoh 0.5 km Near Crusher



# ANALYSIS REPORT FOR WATER / WASTE WATER SAMPLE

Annex-I

Himachal Pradesh Pollution Control Board, Parwanoo

Sample ID:38302 - Analysis Completion:30/01/2015

Cement. / LAB Inward : 9880

Sector-  
Parwanoo, Distt. Solan  
Parwanoo-17322  
Tele:01792-23254

## TEST REPORT

Test Report No. : 9880

Date: 30/01/2015

1. Name of the Customer : Ambuja Cements Limited (Suli Plant) - 10034
2. Address : Village - Suli, P.O. - Darlaghat, Tehsil - Arki, District - Solan, Himachal Pradesh - 171102, Taluka : Arki, District : Solan (Parwanoo), GIDC : Not In SIDC
3. Nature of Sample : WAT-Water Act (Legal), (Insp Type : ROU-Routine Visit)
4. Sample Collected By : Brij Bhushan, EE
5. Quantity of Sample Received :
6. Code No. of the Sample : 38302
7. Date & Time of Collection & Inwarding : 21/01/2015, (0930 to 0930) & 21/01/2015
8. Date of Start & Completion of Analysis : 21/01/2015 & 30/01/2015
9. Sampling Point : final outlet of STP ~
10. Flow Details (Remarks) : -
1. Mode of Disposal : -
2. Ultimate Receiving Body : 0
3. Temperature on Collection : - & pH Range on pH Strip : 6-8
4. Carboys Nos for : Ambuja Cement Suli & Color & Appearance :-
5. Water Consumption & W.W.G (KLPD) : Ind : 800.000, Dom : 400.000 & Ind : 0.000, Dom : 150.000

| Sr | Parameter                       | Unit | Test Method | Range of Testing | Result    |
|----|---------------------------------|------|-------------|------------------|-----------|
| 1  | Suspended Solids                | -    | -           | -                | 15.0 mg/l |
| 2  | Biochemical Oxygen Demand (BOD) | -    | -           | -                | 1.0 mg/l  |
| 3  | COD                             | -    | -           | -                | 8.0 mg/l  |
| 4  | Oil and Grease                  | -    | -           | -                | Nil       |
| 5  | pH                              | -    | -           | -                | 7.03      |

**Laboratory Remarks :** Analysis results are within prescribed limits. Data other than analysis results pertains to concerned regional office. By 27-lab\_27 Dt: 30/01/2015

Prakash Sharma, SO

Field Observation :

Note :

- \* - These parameters are covered under the scope of NABL.
- The results refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied.
- Samples will be destroyed after 10 days from the date of issue of test report unless otherwise specified.
- This report is not to be reproduced wholly or in part or used in any advertising media without the permission of the Board in writing.
- The Board is not responsible for the authenticity for the samples not collected by the Board's officials.
- Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Himachal Pradesh Jurisdiction only.
- Permissible Limits as per Schedule VI of EPA Rules, 1986 as amended by Second and Third amendment 1993 for Effluents.



## REPORT ON EXPENSES RELATED TO ENVIRONMENTAL PROTECTION AND OTHER ENVIRONMENTAL RELATED ACTIVITIES

The expenditure for Environmental Protection and other environmental related activities for the period from October, 2014 to March, 2015 are as under:

| Sr. No. | Heads   | Amount in (Rs.) |
|---------|---|-----------------|
| 01      | Cost of monitoring and analysis of different Environmental related parameters, studies, purchase of new equipment, fee & salary etc.* | 3977286         |
| 02      | -Community Development work**   | 23579898        |
|         | Total   | 27557184        |

Total Expenditure on Environmental Protection = 27557184 /-Rs

(Rs. Two Crore Seventy Five Lakh Fifty Seven Thousand One Hundred Eighty Four only)

\* Expenditure is common for Rauri Plant & Kashlog Limestone Mines.

\*\* Expenditure is common for Rauri Plant, Suli Plant & Kashlog Limestone Mines.