

HALF YEARLY COMPLIANCE REPORT**NAME OF THE PROJECT****THANDIBERI LIMESTONE MINES OF BINANI CEMENT LIMITED****MOEF LETTER NO. & DATE**ENVIRONMENT CLEARANCE (EC) J-11015/3/95-IA-II(M)
dated 23.04.1996

ALL THE CONDITIONS OF EC HAVE BEEN COMPLIED. PRESENT STATUS OF AIR QUALITY, WATER EFFLUENT ETC. VIDE EC No. J-11015/22/2006-IA II (M) dated 10 Nov, 2006 FOR 1.065 MTPA THANDIBERI LIME STONE MINE OF BCL IS MENTIONED HEREUNDER.

PERIOD OF COMPLIANCE REPORT**01.04.12 to 30.09.2012**

S. No.	Conditions	Compliance
A. SPECIFIC CONDITIONS		
1	All the conditions stipulated by the SPCB in their NOC shall be effectively implemented.	All the conditions of RPCB NOC vide letter NO. F.5(SR-107) RPCB/Gr.II/5992 dated 7/1/06 have been implemented.
2	Topsoil, if any, shall be stacked with proper slope with adequate measures and should be used for reclamation and rehabilitation of mined out areas.	Since Limestone is outcropped off the surface, there is negligible quantity of top soil available in the mine.
3	Over burden should be stacked at earmarked dump sites and should not be kept active for long period. The maximum height of the dump should not exceed 40m having three stages of 10 m each and the overall slope of the dump shall not exceed to 28 degrees. The OB dump should be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self sustaining. Compliance status should be submitted to the Ministry of Environment & Forests on six monthly basis.	The waste generated while mining is used for widening of roads & ramps. Additional quantity is dumped in the earmarked dump yards & shall be used for filling of non-mineralised valley portion to level it for future plantation & development of Green Belt.
4	Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from mine working, OB and mineral dumps. The water so collected should be utilised for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after monsoon and maintained properly. Garland drain (Size, gradient and length) shall be constructed for both mine pit and for waste dump 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.	Catch drains and siltation ponds have been constructed so as not to allow flow of debris, silt & sediment into the drainage channels. Collected water is used for plantation. Garland drains have been constructed for mine pit & waste dumps as specified. These drains are de-silted and properly maintained, especially during rainy season.
5	Plantation shall be raised in an area of 55 ha including a green belt of adequate width around ML area, roads, waste dump etc. by planting the native species in consultation with the local DFO / Agriculture Department. The density of the trees should be around 1500 plants per ha.	Green Belt development is under progress. Year wise number of trees planted is given in the table below: The tree species planted are Neem, Gulmor, Serus, Jamun, Mango, Cassia, Shisham, Amalthas, Karanj, Pepal, Accassia, etc.

Year wise plantation				
Area	Up to 2008-09	Up to 2009-10	Up to 2011-12	Total area covered (Hect.)
Mines	10265	11265	17493	32.67
6	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 the 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 CGWB Western region, Jaipur.	Ground water level & water quality is monitored as per prescribed schedule. Hydrological network has been set up in Malap area from where the groundwater is withdrawn. Groundwater levels of all the piezometers and key wells for four seasons as prescribed have been collected and submitted to MoEF, CGWA & CGWB. Data collected on groundwater level fluctuation from pre-monsoon 2011 to post-monsoon 2011 indicate that there is no adverse impact on the quantity & quality of the static reserves of Malap Basin due to abstraction of groundwater.		
7	Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB	The conservation measures implemented till Sept'12 , in consultation with CGWB, Jaipur, for augmenting GW sources are as under :- (a) Construction of 10 masonry & 4 loose stone Check Dams in Amla mine area. (b) Construction of 6 masonry & 1 loose stone Check Dams in Thandiberi Mine area (c) 9 masonry check dams in Plant, colony & Malap + 3 injection wells in colony		
8	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with Regional Director, CGWB.	All the above structures are part of our long term GW recharge planning. 3 More water harvesting structures have been constructed during 2011-12. In addition, 2 nos. of model rainwater harvesting structures (Tankas) were also constructed in village Malap for creating public awareness towards RWH.		
9.	Prior permission from the competent authority, if any, required shall be obtained for drawl of ground water.	Permission for drawl of ground water obtained from CGWA vide No. 21-4(28)/WR/CGWA/2005-758 dated 14.06.2011.		
10	Blasting operation should be carried out only during the daytime. Controlled blasting should be practised. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Blasting operations are carried out ONLY during the daytime. Mitigatory measures for control of ground vibration & to arrest fly rocks are as follows: <ul style="list-style-type: none">- Blast holes are initiated by short delay Non-electric detonators.- Low grain detonating fuse is used for trunk line connections. NONEL initiating system is used.- Use of low velocity detonation ANFO is used to reduce ground vibration.- Adequate stemming column is maintained to reduce fly rock. Ground vibrations from the studies of the blasts, conducted by Indian Bureau of Mines, Gulf Oil Co. etc. were found to be within the permissible limits.		
11	Drills should be wet operated or operated with dust extractors.	Built in arrangements for wet drilling are provided in the drill machines and water injection is ensured while drilling operation.		
12	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.	Proper maintenance & monitoring of the mining equipment is carried out. Vehicles are loaded upto 80% of their capacity.		
13	Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to MoEF and its Regional Office.	Digital processing of the entire mining area using remote sensing technique has been carried out in Amla and Thandiberi mine in 10-11 & reports are already submitted with EC compliance for the period Oct. 10 to March 11 dated 27.05.2011.		

14	Consent to operate should be obtained from SPCB before enhancing the production from mine.	Consent to operate has been granted by RSPCB vide letter No. F(Mines) / Sirohi (Pindwara) /30 (1)/ 2010-2011 /947-951 dated 21.05.2010 and is valid till 31.05.2013.
15	Sewage treatment plant should be installed for the colony, ETP should also be provided for workshop and mineral separation plant waste water	STP is installed in the colony (common for Plant & Mines) The STP effluent is used for afforestation. ETP has been installed in Amlhi Mine workshop. Treated water is used for Green Belt development.
16	The project proponent should take all precautionary measures during mining operation for conservation and protection of endangered fauna such as Sloth Bear, Desert Cat, Peacock etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest & Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the 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 three months.	Action Plan for the conservation of flora and fauna has been prepared and is being implemented as per scheduled action plan.
17	A final mine closure plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure, for approval.	Final mine closure plan will be submitted to the MoEF 5 years in advance of final mine closure.

B. GENERAL CONDITIONS

1	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	No change / modification shall be done without approval of the MoEF																							
2	No change in the calendar plan including excavation, quantum of limestone and waste should be made.	No change in the calendar plan will be made																							
3	Four ambient air quality monitoring stations should be established in the core zone as well as the buffer zone for RPM, SPM, SO ₂ and NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Data on ambient air quality (RPM, SPM, SO ₂ & NO _x) should be regularly submitted to the Ministry including its Regional Office located at Lucknow and the State Pollution Control Board / Central Pollution Control Board once in six months.	A total of Seven Ambient Air Quality Monitoring stations have been set up in plant & mine area. Results of Ambient Air quality monitored in south block of Thandiberi mine are as under :- <table border="1" data-bbox="836 1186 1494 1470"> <thead> <tr> <th rowspan="2">Parameters</th> <th colspan="3">Values in microgram per cubic meter</th> </tr> <tr> <th>Min.</th> <th>Max.</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>PM – 10</td> <td>39.46</td> <td>69.57</td> <td>59.82</td> </tr> <tr> <td>PM – 2.5</td> <td>16.67</td> <td>25.3</td> <td>21.12</td> </tr> <tr> <td>SO₂</td> <td>4</td> <td>4.73</td> <td>4.4</td> </tr> <tr> <td>NO_x</td> <td>6.55</td> <td>8</td> <td>7.22</td> </tr> </tbody> </table>	Parameters	Values in microgram per cubic meter			Min.	Max.	Average	PM – 10	39.46	69.57	59.82	PM – 2.5	16.67	25.3	21.12	SO ₂	4	4.73	4.4	NO _x	6.55	8	7.22
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4	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangements on haul roads, loading & unloading and at transfer points should be provided and properly maintained.	Following measures are adopted for controlling the fugitive dust emission from various sources : <ul style="list-style-type: none"> - Water spraying at the Faces/site, haul roads, crusher hopper, apron conveyor & belt conveyor through water sprinklers. - Use of sharp drill bits & wet drilling - Bag Filters provided at all the transfer points at Limestone crusher. - Scheduled Preventive Maintenance of vehicles. 																							

5	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>Adequate measures have been taken to control the work place noise level within stipulated limits. Some of the measures are</p> <ul style="list-style-type: none"> - Mining equipment provided with noise proof cabins. - Regular maintenance of noise generating machinery - Blasting operations using milliseconds detonators and cord relay to avoid high noise intensity. - Development of green belt along the roads - Workmen engaged in HEMM operation are provided with ear plugs /muffs. 																													
6	Industrial waste water (Workshop & waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed in the GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil & Grease trap should be installed before discharge of workshop effluents.	<p>Workshop is common for both Amla & Thandiberi mines. Effluent generated is treated in ETP & the treated effluent is used for plantation.</p> <p>Results of Mine effluent samples collected from Amla workshop are as under:</p>																													
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7	<p>Personnel working in dusty areas should 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 program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and corrective measures, if needed.</p>	<p>Dust masks are provided to workers engaged at dust generation points like drills, loading, unloading, crushing etc. Regular training programs on OHS are conducted.</p> <p>Occupational Health Surveillance programme for workmen is done as per DGMS guidelines.</p>																													
8	A separate environmental management cell with suitable qualified personnel should be set up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Environment Management Cell has been set up this includes DGM (Mines), Manager (Environment), Chemist, Horticulturist, Environmental Engineer, Sample boys etc.																													
9	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 Lucknow.	Allocations made & actual expenditures incurred on Environment Management till March'12 are given in the enclosed Data Sheet.																													
10	The Regional Officer of this Ministry located at Lucknow shall monitor compliance of the stipulated conditions. The project authorities should provide a set of filled-in questionnaire and EIA/EMP report to them and extend full cooperation to the Officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	A set of EIA/EMP and detailed Project Report has been submitted to MoEF vide our letter BCL/ENV/MoEF/GMTS/06-07/2778 dated 19.03.2007.																													
11	The project authorities should inform to the Regional Office located at Lucknow as well as to the Ministry of Environment & Forests regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">Date of final approval of the project (by IDBI)</td> <td style="width: 30%;">20.06.2005</td> </tr> <tr> <td>Date of financial closure</td> <td>20.06.2006</td> </tr> <tr> <td>Date of commencing land development work</td> <td>NA (Mine is in operation since 1997)</td> </tr> </table>			Date of final approval of the project (by IDBI)	20.06.2005	Date of financial closure	20.06.2006	Date of commencing land development work	NA (Mine is in operation since 1997)																					
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12	A copy of the clearance letter will be marked to the concerned Panchayat / NGO, if any, from whom suggestions / representation has been received while processing the proposal.	Copy of the clearance letter given to Amlı Village Panchayat on 18.11.2006										
13	The project authorities should advertise atleast in two local newspapers widely circulated around the project, one of which shall 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 environment clearance and a copy of the clearance letter is available with the state pollution Control board and also at web site of the Ministry of Environment & Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Lucknow.	Public has been informed about grant of EC by advertisement in the Rajasthan Patrika 20 th November 2006 and Dainik Bhaskar dated 19 th November, 2006.										
	<p>Static physical data about the mine lease:</p> <p>(Ref; MoEF letter ref: File No. IV/ENV/R/Ind-58/431/2006/1037 dated 07.09.2011 & MoEF Circular No. J-20012/1/2006-IA.II(M))</p>	<table border="1"> <thead> <tr> <th>Parameter</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Mine Lease area</td> <td>254.125 Hactare</td> </tr> <tr> <td>Production</td> <td>1.065 MT/Annum</td> </tr> <tr> <td>Lease duration</td> <td>20 years</td> </tr> <tr> <td>Date of commencement of work</td> <td>24.07.1995</td> </tr> </tbody> </table>	Parameter	Value	Mine Lease area	254.125 Hactare	Production	1.065 MT/Annum	Lease duration	20 years	Date of commencement of work	24.07.1995
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	<p>Peak particle velocity at 300 m distance or within the nearest habitation, whichever is closer, for opencast mine using large diameter hole blasting (100 mm or above) are tabulated below:</p> <p>(Ref; MoEF letter ref: File No. IV/ENV/R/Ind-58/431/2006/1037 dated 07.09.2011 & MoEF Circular No. J-20012 / 1/ 2006-IA.II(M))</p>											

DATA ON GROUND VIBRATION MEASUREMENT

Blast no.	Maximum charge per delay (kg)	Distance between blast site and Monitoring station (m)	Resultant PPV (mm /sec)	Frequency at maximum Peak Particle Velocity (Hz)			Peak air over pressure (db)
				T	V	L	
1	193	295	1.45	32	20	21	122.8

NOTE:- T: Transverse, L: Longitudinal, V: Vertical, PVS: Peak Vector Sum, 1/1-Mininmate (Sr.No.BC-5759), /2 Minimate (Sr.No.5386), 1/3-Blast Mate-II (Sr.No.1948), and 1/4- Minimate Gulf Expl (Sr.No.4953)

Authorized Signatory