Name of the Project: Bankuiyan Limestone Mine (A unit of M/s Jaiprakash Associates Limited) for Mining Capacity of 1.6 MTPA at village Bankuiyan, Tehsil Huzur, District Rewa (M.P.)

Project Code:

Clearance Letter No. : MoEF vide letter no: - J-11016/202/2003-IA-II (M) Dated 6th Jan 2005

Period of Compliance Report: April – September 2015

A. SPECIFIC CONDITIONS

S. No.	Conditions	Status
I	Topsoil shall be stacked properly with proper slope at ear marked site(s) with adequate measures and should be used for green belt development.	Topsoil is being stacked properly at earmarked site with proper slope and is being used for green belt development.
II	OB should be stacked at earmarked dump site only on temporary basis. Garland drains will be provided around the excavations to prevent storm water from catchments area to come in contact with freshly excavated areas. The drains will be provided all along the toe of the dump to arrest any soil erosion. Loose material slopes will be planted by making contour trenches at 2m intervals to check soil erosion. Plantation should be taken up for soil stabilization along the slopes of the dump. Sedimentation pits should be constructed at the corners of the garland drains. The surface run-off should be desilted through a series of check dams & drains before final disposal.	OB is stacked at earmarked dump site; at present 1422 Cum. OB generated is accommodated in the waste dump site on temporary basis. Backfilling of mined out area has commenced. Garland drains along with the sedimentation pit at the corner have been provided around the excavation to prevent storm water from catchment area to come in contact with freshly excavated area. Drains are provided at the toe of the dump. Plantation has been done on slopes for stabilization. Check dams have been constructed.
III	Peripheral bunds, check dams & siltation ponds of appropriate size should be constructed to arrest silt & sediments flow from the mining operations. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted & maintained. Garland drain (size, gradient & length) & sump capacity should be designed keeping 50% safety margin over & above the peak sudden rainfall & maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.	In order to arrest silt and sedimentation flow from the mining operation, check dams/siltation ponds have been constructed. The collected water has been used for sprinkling on the mine haul roads and green belt development. Sump & garland drain has been suitably designed and provided with 50% safety margin over the peak sudden rainfall. Sump capacity with adequate retention period has been provided to allow proper settling of silt material. Desalting of garland drains and sump is being done before rainy season.
IV	Drills should be wet operated or with dust extractors & controlled blasting should be practiced.	Drilling operation is carried out with wet drilling. Controlled Blasting is carried out under the supervision of statutory qualified person. Warning boards are displayed at various major approach roads to aware the villagers about the danger zone.

V	Crusher should be operated with high efficiency bag filters, water sprinkling system should be provided to check fugitive emissions from crushing operations, haulage roads, transfer points etc.	Crusher is provided with adequate capacity bag filters. Water sprinkling system has also been provided at crusher, screens & transfer points. Haul roads are kept in wet conditions round the clock by water sprinklers.
VI	Plantation should also be raised along the roads, dump sites etc. This includes a wide green belt along the periphery of the ML area, OB dump & along roadside within the lease area by planting native plant series in consultation with local DFO/ Agriculture Department. At least 2500 plant species /ha should be planted.	Plantation is carried out along the roads, dumpsites and on reclaimed areas. Plantation details with survival percentage and area covered as under ; Total Area (Ha.): 392.679 Total Plantation : 22722 Survival Rate : 80% % of Area Covered : 11.36
VII	OB generated shall be used to backfill the 195 ha of mined out area. A progressive Mine Closure Plan shall be implemented reclamation & rehabilitation programme of the mined out area shall be done.	The mined out area has been rehabilitated by back filling and subsequently spreading of top soil and carried out the plantation. Some of the area has been rehabilated by converting the mine pit into a water reservoir. The reclamation & rehabilitation of the abandoned mine pits have been carried out in line with progressive mine closure plan.
VIII	Mining shall not intersect ground water. Prior approval of the MOEF & CGWA shall be obtained before mining below ground water.	The mining operation will not intersect the ground water table till the end of mine life.
IX	Regular monitoring of ground water level & quality should be carried out by establishing a network of existing wells & constructing new peizometers at suitable locations in project area. The frequency of monitoring should be minimum four times a year - January, pre-monsoon (April/May, monsoon (August), post monsoon (November), & winter (January) seasons for ground water level & in May for quality. Data generated from groundwater regime monitoring will be submitted to CGWB, Regional Office on an annual basis.	Regular monitoring of ground water level & its quality is being carried out. The analysis report result will within the prescribed Standard. Last Report submitted on dated 05.05.2015 vide letter no. JRP/EC/CGWB/2015 - 16.
X	Digital processing of the entire lease area using remote sensing techniques should be done regularly once in 3 years for monitoring land use pattern & report submitted to MOEF & its Regional Office at Bhopal.	Study has been carried out by external agency and report is submitted to MoEF, CPCB & MPPCB vide our latter no. JAL / EC / MoEF/2013 – 14 / 5107 dated 20.05.2013.
XI	A final mine closure plan along with details of Corpus Fund should be submitted to Ministry of Environment & Forests 5 years in advance of final mine closure for approval.	It is a running Mine and Progressive Mine closure plan has been approved by IBM, Nagpur.
XII	Consent to Operate should be obtained from the SPCB before commencing production.	Consent to operate from MPPCB vide their letter no. 5596/ TS/ MPPCB/ Mine / 2005 dated 22.03.2005 & subsequently renewal and valid up 05.05.2016.
XIII	The proponent shall earmark a separate fund of 1% with a minimum of Rs. 50,000/- of the total project cost for eco-development measures including community welfare measures in the project area. The amount shall be deposited by the company in a separate account within three months to be maintained by the Madhya Pradesh State	Expenditure during the period April – September 2015 Rs. 49.35 Lacs in eco-development measures and community welfare under Comprehensive Rural Development Programme (CRDP).

	Pollution Control Board. The action plan in this regard shall be submitted to the SPCB as well as to MOEF & its Regional Office at Bhopal within three months of issue of this letter. After approval of the action plan by the SPCB, the amount deposited shall be released in two installments to the project authorities based on progress of implementation. The SPCB shall ensure that implementation of the action plan for eco-development measures is completed within two years from date of its approval by SPCB. Further, the interest accrued during this period on the amount deposited by the proponent with the SPCB shall be ploughed back to the same eco-development fund.	

B. General Conditions

<table>
<tr><th>S. No.</th><th>Details of Conditions</th><th>Status of compliance</th></tr>
<tr><td>I</td><td>No change in technology & scope of working should be made without prior approval of the Ministry of Environment & Forest.</td><td>Noted and Agreed</td></tr>
<tr><td>II</td><td>No change in the calendar plan including excavation, quantum of limestone, waste / OB dumps should be made.</td><td>Noted and Agreed</td></tr>
<tr><td>III</td><td>Four ambient air quality-monitoring stations should be established in the core zone as well as buffer zone for SPM, RPM, NO_X & SO_2. Location of the ambient air quality stations should be decided on meteorological data, topographical features & environmentally & ecologically sensitive targets & the frequency of monitoring should be undertaken in consultation with State Pollution Control Board.</td><td>Regular monitoring carried out of Ambient Air quality of Core zone as well as buffer zone six monthly average monitoring report given below;
Core Zone:
<u>Parameter</u> <u>Location</u>
<table>
<tr><th></th><th>Near Drilling Site</th><th>Near L/S Loading Site</th><th>Near Haulage Road</th><th>Near Bankuiyan Camp</th></tr>
<tr><td>$PM_{2.5}$ (µg/m3)</td><td>30 - 41</td><td>32-43</td><td>30-41</td><td>23-44</td></tr>
<tr><td>PM_{10} (µg/m3)</td><td>52-56</td><td>53-57</td><td>51-56</td><td>41-57</td></tr>
<tr><td>SO_2 (µg/m3)</td><td>7-12</td><td>6-11</td><td>6-11</td><td>8-11</td></tr>
<tr><td>NO_x (µg/m3)</td><td>14-18</td><td>13-17</td><td>14-18</td><td>13-22</td></tr>
<tr><td>CO (µg/m3)</td><td>110-206</td><td>116-190</td><td>110-187</td><td>116-242</td></tr>
<tr><td>O_3 (µg/m3)</td><td>2-4</td><td>3-4</td><td>2-4</td><td>3-4</td></tr>
<tr><td>Pb (µg/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
<tr><td>NH_3 (µg/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
<tr><td>C_6H_6 (µg/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
<tr><td>BaP (ng/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
<tr><td>As (ng/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
<tr><td>Ni (ng/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
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<tr><td></td><td></td><td>Buffer Zone:
<u>Parameter</u> <u>Location</u>
<table>
<tr><th></th><th>Near Marha</th><th>Near Banjaraha</th><th>Near Babupur</th><th>Near Sakarwat</th></tr>
<tr><td>$PM_{2.5}$ (µg/m3)</td><td>19-23</td><td>18-24</td><td>19-24</td><td>19-26</td></tr>
<tr><td>PM_{210} (µg/m3)</td><td>33-44</td><td>34-44</td><td>38-43</td><td>32-46</td></tr>
<tr><td>SO_2 (µg/m3)</td><td>5-10</td><td>5-7</td><td>4-10</td><td>6-9</td></tr>
<tr><td>NO_x (µg/m3)</td><td>11-15</td><td>9-13</td><td>10-14</td><td>9-13</td></tr>
<tr><td>CO (µg/m3)</td><td>78-156</td><td>78-154</td><td>76-141</td><td>105-156</td></tr>
<tr><td>O_3 (µg/m3)</td><td>2-4</td><td>3-4</td><td>3-4</td><td>3-4</td></tr>
<tr><td>Pb (µg/m3)</td><td>BDL</td><td>BDL</td><td>BDL</td><td>BDL</td></tr>
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<tr><td>IV</td><td>Data on Environmental Quality should be regularly submitted to the Ministry including its Regional Office at Bhopal & the State Pollution Control Board / Central Pollution Control Board once in six months.</td><td>Data on environmental quality has been regularly submitted to the MoEF including its Regional Office at Bhopal, State Pollution Control Board and Central Pollution Control Board, once in six months.
Monitored environmental data of last six month have already been submitted vide our letter no. JAL/EC/MoEF/2015 – 16 dated May 23, 2015.</td></tr>
<tr><td>V</td><td>Adequate measures for control of fugitive emissions should be undertaken such as water spraying arrangements on haul roads, loading & unloading points, & transportation of minerals etc. Fugitive dust emissions from all sourced should be regularly monitored & data recorded properly.</td><td>Measures have been taken for control of fugitive emissions, such as water spraying arrangements through tankers for dust suppression on haul roads, loading and unloading points and by providing covers on conveyors belts for transportation of minerals.</td></tr>
<tr><td>VI</td><td>Adequate measures should be taken for control of noise levels below 85(dB)A in the work environment. Workers engaged in blasting & drilling operations, operations of HEMM etc., should be provided with ear plugs / muffs.</td><td>Adequate measures have been adopted for control of noise levels and is maintained below 85 dB (A) in the work environment. Workman engaged in drilling & blasting operation and operators of HEMM have been provided with ear plugs/muffs.</td></tr>
<tr><td>VII</td><td>Industrial wastewater (workshop & wastewater from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May 1993 & 31st December 1993 or as amended from time to time. Oil & grease trap should be installed before discharge of effluents from the workshop.</td><td>No wastewater is generated from the mining operation.
A centralized mines auto workshop is in operation at Jaypee Nagar.
The waste water generated from Mine workshop is passed through oil and grease separator and settling tank and clean water conform to the standards. The collected water is being used for dust suppression on haul roads. Analysis data are well within the prescribed standard.</td></tr>
<tr><td>VIII</td><td>Personnel working in dusty areas should wear protective respirator devices & they should also be provided with adequate trainings & information on safety & health</td><td>Personnel working in dusty areas have been provided protective respiratory devices and also they have been provided with adequate training and awareness on safety and health aspects.</td></tr>
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<tr><td></td><td>aspects.
Occupational health surveillance programme of the workers should be undertaken periodically & corrective measures taken, if required.</td><td>Occupational health surveillance programme of the workers have been undertaken periodically and corrective measures are taken, if required.
The details of occupational health surveillance program conducted during last six months as under.
OCCUPATIONAL HEALTH RECORD
MEDICAL EXAMINATION REPORT APRIL - SEPTEMBER - 2015
<table><tr><th>Particulars</th><th>Apr</th><th>May</th><th>Jun</th><th>Jul</th><th>Aug</th><th>Sep</th><th>Total</th></tr><tr><td>PFT</td><td>118</td><td>80</td><td>101</td><td>143</td><td>91</td><td>105</td><td>638</td></tr><tr><td>AUDIOMETRY</td><td>100</td><td>74</td><td>92</td><td>125</td><td>89</td><td>94</td><td>574</td></tr><tr><td>EYE TEST</td><td>32</td><td>40</td><td>31</td><td>25</td><td>38</td><td>21</td><td>187</td></tr><tr><td>MSD</td><td>43</td><td>45</td><td>35</td><td>83</td><td>42</td><td>55</td><td>303</td></tr><tr><td>DERMATITIS</td><td>49</td><td>28</td><td>37</td><td>68</td><td>26</td><td>55</td><td>263</td></tr><tr><td>Total</td><td>342</td><td>267</td><td>296</td><td>444</td><td>286</td><td>330</td><td>1965</td></tr></table></td></tr>
<tr><td>IX</td><td>The data on environmental quality should be collected & analyzed either through an in-house environmental laboratory established with adequate number & type of pollution monitoring & analysis equipment or got analyzed through an approved laboratory under the Environment (Protection) Rules 1986 in consultation with the State Pollution Control Board.</td><td>The monitoring and analysis of environmental parameter are being carried out in-house in well equipped environmental laboratory run under experienced and well trained environment personal.</td></tr>
<tr><td>X</td><td>A separate environmental management cell with suitable qualified personnel should be set under the control of a senior executive who will report directly to the head of the Organization.</td><td>A separate environmental management cell with suitable personnel under the control of a senior executive has already been established.</td></tr>
<tr><td>XI</td><td>The funds earmarked for environmental protection measures should be kept in separate account & not diverted for any other purpose. Year-wise expenditure should be reported to Ministry of Environment & Forest.</td><td>The expenditure incurred for Environment protection measures for the period April – September 2015 is Rs 15.25 Lacs.</td></tr>
<tr><td>XII</td><td>The project authorities should inform to the Regional Office located at Bhopal regarding date of financial closures & final approval of the project by the concerned authorities & the date of start of land development work.</td><td>Noted. The mine is in operation since 2005</td></tr>
<tr><td>XIII</td><td>The Regional Office of this Ministry located at Bhopal shall monitor compliance of the stipulated environmental conditions. The project authorities should extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data/information/monitoring reports.</td><td>Noted and Agreed</td></tr>
<tr><td>XIV</td><td>A copy of the clearance, letter should be marked to the concerned Panchayat/local NGO, if any, from whom any suggestion/representation has been received while processing the proposal.</td><td>Environment Clearance letter sent to respective Panchayat and receipts were taken.</td></tr>
<tr><td>XV</td><td>The State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industry Center & the Collector’s/Tehsildar’s Office for 30 days.</td><td>Environment Clearance letter copy sent to respective deptt. and receipts were taken.</td></tr>
<tr><td>XVI</td><td>The project authorities should advertise at least in two newspapers widely circulated around the project, one of which shall be in the vernacular language of the locality</td><td>Complied. The mine is already in operation since 2005.</td></tr>
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	concerned within 7 days of issuance of the clearance letter informing that the project has been accorded environmental clearance & a copy of the clearance letter is available with the State Pollution Control Board & may also be seen at website of the Ministry of Environment & Forest at http://envfor.nic.in.	
3.	The Ministry or any other competent authority may stipulate any further additional condition for environmental protection.	Noted and Agreed
4.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance.	Noted and Agreed
5.	The above conditions will be enforced, inter-alia, under the provision of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act. 1986 & the Public Liability Insurance Act 1991 alongwith their amendments & rules.	Noted and Agreed