

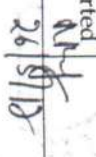
HALF YEARLY COMPLIANCE REPORT OF ENVIRONMENT CLEARNACE FOR JSW LIMESTONE MINES

NAME OF THE PROJECT: M/S JSW LIMESTONE MINES, BILAKALAGUDUR (VILL), GADIVEMULA (MANDAL) DIST. KURNOOL (AP)

MOEF LETTER NO. & DATE: J-11015/800/2007-IA.II (M) Dated 21.04.2008

PERIOD OF COMPLIANCE REPORT: 01.10.16 to 31.03.2017

Sl. No.	CONDITIONS	COMPLIANCE
1	<p>SPECIFIC CONDITIONS: The environmental clearance is subject to obtaining approved modified mining plan (including progressive mine closure plan) from the Indian Bureau of Mines for 350.57 ha.</p>	<p>Modified Mining Plan approved by Indian Bureau of Mines vide letter no: MP/AP/KNL/Lst-157-SZ dated: 02.12.2008</p>
2	<p>A comprehensive conservation plan for wildlife shall be prepared and implemented in consultation with the Chief Wild Life Warden. Necessary fund for implementation of the same shall be separately allocated and undertaking submitted to the Regional Office of the Ministry along with status of implementation.</p>	<p>We have prepared the conservation plan for wildlife and the same is under implementation in consultation with the Forest Department, AP.</p>
3	<p>Primary survey data of flora and fauna in the core and buffer zone and also authenticated list of the same shall be submitted to the Ministry within six months.</p>	<p>We have submitted details of flora available in the core and buffer zone vide letter No :JSWCL/MOEF/RO/10-111/01 Dt:30.11.2010</p>
4	<p>A 50 m barrier no mining zones on the side facing the river (all along) and also on both sides of the seasons canal running through the lease shall be demarcated and the area shall be vegetated with thick native vegetation of difference species.</p>	<p>We are maintaining the 50 meters barrier all along the river and seasonal canal. The area will be vegetated with native vegetation species in due course.</p>
5	<p>Land-use pattern of the nearby villages shall be studied, including common property resources available for conversion into productive land. Action plan for abatement and compensation for damage to agricultural land / common property land (if any) in the nearby villages, due to mining activity shall be submitted to the Regional Office of the Ministry within six months. Annual status of implementation of the plan and expenditure thereon shall be reported to the Regional Office of the Ministry.</p>	<p>Land use pattern study of the nearby villages has been conducted and report submitted to MOEF. The study report indicates that no damage caused to agricultural land / common property land in the nearby villages due to mining activity</p>



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<p>6</p> <p>Need based assessment of the near by villages shall be conducted to study economic measures which can help in upliftment of poor section of society. Income generating projects / tools such as development of fodder farm, fruit bearing orchards, vocational training, etc., can form a part of such programme. Company shall provide separate budget for community development activities and income generating programmes. This will be in addition to vocational training for individuals imparted to take up self employment and jobs.</p>	<p>The project authorities have arranged need based vocational training programme like vehicle driving etc. for the local youth. Medical facility for two villages has been provided with two doctors and one staff nurse.</p> <p>We have also allocated Rs. 2.50 Crores budget for community development activities for 2017-18</p> <p>We have conducted cattle breeding in surrounding villages, viz. Bliakalagudar & Bujunur. Other CSR activities being undertaken by the project authorities are as under:</p> <p>Health:</p> <ul style="list-style-type: none"> • Conducting 21 Mobile Health Camps covering 11 villages in a month • Established Drop-in Centre to prevent HIV AIDS among the truckers through Bhoruka Charitable Trust • Organising medical camps in the local festival celebrations • Supporting Gynaec services & Lab services at PHC Gadivemula • Doing anti-malarial fogging • Promoting personal & menstrual hygiene among rural women and distributing sanitary napkins <p>Education:</p> <ul style="list-style-type: none"> • Established 2 modular kitchens and providing mid day meal in two govt. schools • Support for 3 computer aided learning centers • Supporting 1 vidya volunteer • Repairs/Renovation of running water facility at Social Welfare Hostel • Providing eggs 3 days per week to 1957 students • Distribution of sanitary napkins to 271 adolescent girls • Digital classes extended to 7 more schools <p>Woman Empowerment:</p> <ul style="list-style-type: none"> • Imparting training on tailoring, Saree painting to woman of DIZ., villages • Providing training on pheryl & Acid making to woman • Initiated training on jeans and gent's garments stitching <p>Swachh Bharat :</p> <ul style="list-style-type: none"> • Constructed 191 individual household toilets with water tap connection in association with govt. • Swachh village program every month (cleaning the roads, removing the roadside bushes drains cleaning etc.,) • Supporting toilet cleaners at 38 govt. schools of mandal.
<p>7</p> <p>Socio Economic profile and rehabilitation action plan for families affected directly or indirectly due to mining (and whose land has been acquired) shall be prepared for immediate implementation before starting mining and shall be submitted within six months to the Regional Office of the Ministry.</p>	<p>As committed during the Public Hearing, the company is providing preferential employment to the members of the affected families based on their qualification and skills.</p> <p>Further, the unskilled villagers are engaged in such jobs as housekeeping, office work, road sweeping, plantation /horticulture etc. not requiring specialized skills.</p>

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 21/11/18

8	<p>Water to be supplied for drinking purposes shall be treated to meet the prescribed standards. Monitoring of water quality for drinking shall be undertaken on daily basis especially for fluoride and arsenic and records maintained.</p> <p>We are supplying treated R.O. to our employees for drinking purpose. Drinking water is being tested at regular intervals and records maintained. Fluorides and Arsenic contents are well within the prescribed limits.</p>															
9	<p>Transportation of limestone ore to the cement plant shall be through closed conveyor belt system.</p> <p>Crushed Limestone is transported through closed belt conveyors. In addition, water sprinkler has also been provided at the dump hopper. Pulse Bag house is provided at the main Crusher whereas bag filters provided at material transfer points for dust extraction.</p>															
10	<p>Rain water harvesting scheme shall be undertaken in consultation with the Regional Director, Central Ground Water Board and action plan for implementation of the scheme shall be submitted to the Regional Office of the Ministry, the Central Ground Water Board and the State Govt. Within six months.</p> <p>We have adopted the following measures for rainwater harvesting and groundwater recharge:</p> <ul style="list-style-type: none"> - Constructed rooftop rainwater harvesting structure at Old Project Office Building, Stores Building and Bliakalagudur School building. - 4 nos. of percolation tanks in mining area - 17 Nos. of recharge wells inside plant premises to harvest rainwater from the storm drains. - 3 nos. of additional recharge wells are also being constructed during the year 2016-17. 															
11	<p>Water quality both for surface as well as ground water in the core zone shall be regularly monitored and records maintained. Water supplied for drinking shall be monitored on daily basis and records maintained. In case contamination is observed, measures for control and action taken shall be reported to the State Government as well as the Regional Office of the Ministry.</p> <p>Water quality (surface as well as groundwater) is regularly monitored and records maintained. RO water is supplied to mines for drinking purpose.</p> <p>Results of drinking water for the period Oct '2016 to March '17 are as under:</p> <table border="1" data-bbox="614 1232 877 2188"> <thead> <tr> <th>s. no</th> <th>Parameters</th> <th>Units (mg/L)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>pH</td> <td>6.71</td> </tr> <tr> <td>2</td> <td>TDS</td> <td>58.35</td> </tr> <tr> <td>3</td> <td>Total hardness</td> <td>24</td> </tr> <tr> <td>4</td> <td>Fluoride</td> <td>0.17</td> </tr> </tbody> </table>	s. no	Parameters	Units (mg/L)	1	pH	6.71	2	TDS	58.35	3	Total hardness	24	4	Fluoride	0.17
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12	<p>Measures for prevention and control of soil erosion and management of silt shall be undertaken. Protection of dumps against erosion shall be carried out with geo textile matting or other suitable material, and thick plantations of native trees and shrubs shall be carried out at the dump slopes. Dumps shall be protected by retaining walls. As there are eleven other mines which are contiguous to the subject mine, total silt load shall be assessed and measures for prevention and control of silt shall be submitted to the Regional Office of the Ministry within six months.</p> <p>Waste rock generated in the mine is being dumped at the earmarked dumpsite. Waste dumping has recently started and we are committed to take suitable measures for prevention and control of soil erosion as and when required. Plantation is in progress. It has also been confirmed by the deptt. of Mining and geology, A.P. vide their letter no. 4705/M4/2008, 19-06-2013 that no other mines are existing in contiguous to JSW Limestone mine and as such we request the Ministry to waive the condition of assessing silt load.</p>															

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<p>13</p> <p>Trenches / garland drains shall be constructed at foot of dumps and coco filters installed at regular intervals to arrest silt from being carried to water bodies. Adequate number of Check Dams and Gully Plugs shall be constructed across seasonal / perennial nullahs following through the ML area and silts arrested. De-silting at regular intervals shall be carried out.</p>	<p>We have constructed a trench around the waste dump which has recently started. We commit to construct garland drains, Check Dams and Gully plugs across seasonal / perennial nullahs as and when required.</p>
<p>14</p> <p>Occupational Health and safety measures for the workers including identification of work related health hazards, training on malaria eradication, HIV, and health effects on exposure to mineral dust etc., shall be carried out. The company shall engage a full time qualified doctor who is trained in occupational health. Periodic monitoring for exposure to respirable mineral dust on the workers shall be conducted and records maintained including health records of the workers.</p> <p>Awareness programme for workers on impact of mining on their health and precautionary measures like use of personal equipments, etc., shall be carried out periodically. Review of impact of various health measures undertaken (at interval of five years or less) shall be conducted followed by follow up action wherever required.</p>	<p>We have implemented the following measures to safeguard Occupational Health and safety of the workers:</p> <ol style="list-style-type: none"> Identification and control of OHS hazards as part of company's 3rd party certified Occupational Health & Safety Management System conforming to OHSAS 18001:2007. We have set up an Occupational Health Centre within the factory premises with all facilities including audiometry, X-ray, spirometry, pathology lab etc. and have engaged 3 full time qualified doctors to provide round the clock medical services to its employees. Workplace dust levels are regularly monitored and accordingly workers' exposure to dust is controlled. Workers health records are maintained at OH Centre as per requirements of the Factories Act. <p>Awareness programmes for workers on health and safety are regularly conducted by the Company's safety personnel. We shall review the impact of various health measures undertaken at the prescribed interval and will take corrective measure as appropriate.</p>
<p>15</p> <p>Action taken report on issues raised and commitments made during Public hearing shall be submitted to the Regional Office of the Ministry and the State Govt. within six months after mining operations begins.</p>	<p>We have submitted the action plan/ action taken report on the issues raised and commitments made during the Public Hearing. Compliance status of the issues of PH is as under:</p> <ol style="list-style-type: none"> We commit to restrict the mining activities upto a depth of 40 M only. We have adopted sequential controlled blasting technique to control ground vibrations, fly rock generation, dust and noise pollution. Grazing ground has been formed and grass feeding is allowed to cattle of local villagers. Photographs submitted to MOEF. Details of the approach roads constructed by the project authorities is as under: <ol style="list-style-type: none"> Velpanur Rasta: Road strengthening and concreting completed Madhavaram Rasta joining to Velpanur Road - Road construction completed



	<p>c) Pesarvai Road - Road strengthening completed d) Culvert and road at Sunkalama Devalayam - Road construction completed. 5) We have generated employment opportunities for the local villagers based on their skills and qualification. 6) We have also provided employment to the land losers based on their skills and qualification. 7) We will construct the bridge over river Kundu if the irrigation department permits. 8) Drinking water is regularly monitored specifically for Fluoride and Arsenic levels which are well below the permissible limits of drinking water.</p>
16	<p>Dust fall measurement shall be periodically carried out including particle size analysis in work zone area. Results shall be submitted to the Regional Office of the Ministry and the State Govt. within six months after mining operation begins.</p>
17	<p>Top soil/solid waste shall be stacked properly with proper slope and with adequate safeguards for prevention of erosion and shall be used for backfilling for reclamation and rehabilitation of mined out area.</p>
18	<p>Over burden shall be stacked at earmarked dump site(s) only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30 m, each stage shall preferably be of 10 m and overall slope of dump shall not exceed 28°</p>
19	<p>Garland drains shall be constructed to arrest silt and sediment flows from soil, and mineral dumps. The water so collected shall be utilized for watering the mine area, roads, green belt development, etc. The drains shall be regularly desilted particularly after monsoon and maintained properly. Garland drain of appropriate size, gradient and length shall be constructed for both mine pit and for waste dump and sump capacity shall be designed keeping 50% safety margin over and above sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation pits shall be constructed at the corners of the garland drains and desilted at regular intervals.</p>
20	<p>Slope of the mining bench and ultimate pit limit shall be as per mining scheme as approved by the Indian Bureau of Mines.</p>

We agree to comply with the said condition.

21	Drilling and blasting shall be conducted by using dust extractors / wet drilling.	All the drilling machines are equipped with dust extractors to prevent emission of dust during drilling.
22	Green belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO / Agriculture Department. Herbs and shrubs shall also form a part of afforestation programme besides tree plantation. Plantation shall be raised in 12.10 ha around the ML area, haul roads, OB dump sites, etc. The density of the trees shall be not less than 2500 plants per ha. The company shall involve local people with the help of self help group for plantation programme. Further the company shall practice poly culture plantation instead of monoculture of plant species. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Ministry within six months.	Greenbelt development is under progress and is being undertaken in line with CPCB guidelines. Necessary guidance from the DFO/ Agriculture deptt. will also be taken during development. Herbs, shrubs and grasses form an integral part of our Greenbelt development programme. Different native plant species are being grown as per CPCB guidelines for plantation. Different plant species such as neem, Peltaform, Gulmohar, Cassia Simitiya and Pongamiya are being planted to promote polyculture plantation. We have so far planted approx. 48196 Nos. of tree saplings, Shrubs -14,182 and Herbs 10342 in the mining area with 80% survival rate. Total of 232.99 Acres (94.33 Ha or 26.9% of mine lease area) of mine area has been developed into greenbelt.
23	Prior permission from the Competent authority shall be obtained for extraction of ground water, if any.	Permission from Central Ground Water Authority obtained vide their letter No. 21-4(15)/SR/CGWA/2008-860 dated 23/06/08 valid upto 22.06.2013. However, later on, as advised by CGWA, we obtained one time NOC for groundwater extraction from State GW Dept. Vide letter no:226/D1/2014 dt.30.12.2014.
24	Vehicles used for transportation of ores and other mining operations shall have valid permissions as prescribed under Central Motor Vehicle Rules, 1989 and its amendments. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of ores. Transporting of ores shall be done covered with a tarpaulin or other suitable enclosures so that no dust particles / fine matters escape during the course of transportation. No overloading of ores for transportation shall be undertaken.	All necessary permissions w.r.t. Central Motor Vehicle Rules have been obtained and rules followed. Vehicles are periodically maintained as per PM schedule by trained maint. Staff. The max. distance of crusher from the working bench of the mine is approx. 1 km and the vehicles used for transportation of limestone are full bodied tippers covered from 3 sides in such a manner that dust cannot escape during the course of transportation.
25	A final mine closure plan, along with details of Corpus Fund, shall be submitted to the Regional Office of the Ministry of Environment & Forests, 5 years in advance of final mine closure for approval.	Details of corpus fund and final mine closure plan will be submitted to the regional office 5 years in advance before closing the mines.
B. General Conditions		
1	No change in mining technology and scope of working shall be made without prior approval of the Regional Office of the Ministry of Environment & Forests.	We agree to comply with the said condition
2	No change in the calendar plan including excavation, quantum of mineral ore	We agree to comply with the said condition

3	Conservation measures for protection of flora and fauna in the core and buffer zone shall be drawn up in consultation with the local forest and wildlife department.	Conservation plan for flora and fauna has been prepared in consultation with local forest dept. and is being implemented as planned.
4	Four ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM SO ₂ , NOx 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 undertaken in consultation with the State Pollution Control Board once in six months.	Four ambient air quality monitoring stations have been setup in core zone. Air quality monitoring in core and buffer zone is carried out as per key plan (Topo sheet No:57 1/6) duly approved by the Indian Bureau of Mines (IBM)
5	Data on ambient air quality (RSPM, SPM, SO ₂ , NOx) should be regularly submitted to the Ministry including its Regional Office located at Bangalore and the state Pollution Control Board / Central Pollution Control Board once in six months.	Ambient air quality monitoring data are regularly submitted to MoEF, Bangalore and APPCB, Kurnool alongwith 6 monthly compliance reports.
6	Fugitive dust emissions from all the sources shall be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.	We have adopted the following arrangements for dust suppression in mining area: <ul style="list-style-type: none"> - Water spray on haul roads, loading and unloading points - All the drilling machines are equipped with dust extractors to prevent emission of dust during drilling - Controlled blasting is done to control emission of dust during blasting. - Bag filters installed on transfer points for conveying of crushed limestone. - All the conveyors are covered with shade The overall ambient air quality in and around the area is well within the standards.
7	Measures shall be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc., shall be provided with ear plugs / muffs.	Following measures have been taken to control the workplace noise level/ workers exposure to noise level below 85 dBA: <ul style="list-style-type: none"> - Installation of wobbler in the Crushing Plant that generates lesser noise compared to conventional Grizzlies. - Regular maintenance of crusher and HEMM - All mining vehicles are equipped with dust & noise proof cabins - Regular monitoring of workplace & ambient noise and corrective actions as and when required. - Development of greenbelt along mine periphery Overall noise levels in and around the area is well within the standards.



8	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 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.	Presently, no waste water is generated from the mining operations.
9	Personnel working in industry areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.	Training and awareness to workers on health and safety is given on regular basis. Workers engaged in dust prone areas are provided with dust mask
10	A separate Environmental Management Cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	JSWCL has set up a separate Environment management cell with qualified staff and all the necessary equipment and monitoring & measurement facilities. The Environment Cell works under the control of Plant Head.
11	The project authorities shall inform to the Regional Office of the Ministry located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Date of financial closure:28.02.2010 Date of financial approval of the project:26.03.2010 Date of start of the project: July 2010
12	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purposes. Year wise expenditure shall be reported to the Ministry and its Regional Office located at Bangalore.	Agreed. Expenditure (capital / Recurring) on environment management incurred during 2015-16 is given in the attached Data Sheet.
13	The project authorities shall inform the Regional Office of the Ministry located at Bangalore regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Date of financial closure:28.02.2010 Date of financial approval of the project:26.03.2010 Date of start of the project: July 2010
14	The Regional Office of the Ministry, Bangalore shall monitor compliance of the stipulated conditions. The project authorities shall extend full cooperation to the officer(s) of the Regional Office by furnishing the requisite data / information / monitoring reports.	We are extending full cooperation to the officers of MoEF during their site visit.
15	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.	Copy of the clearance letter has been marked to Panchayat Bilakalaguduru.
16	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industry Centre and Collector's office / Tahsildar's office for 30 days.	

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<p>17 The project authorities shall advertise at least in two local newspapers widely circulated, 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 environmental 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 and Forests at http://envfor.mic.in and a copy of the same shall be forwarded to the Regional Office of the Ministry located at Bangalore.</p>	<p>We have circulated the information regarding grant of EC in two news papers "Sakshi" and "Deccan Chronicle" on 14.05.2008. Copies of the newspaper clippings were been submitted to the Regional office, Bangalore on 14.05.2008.</p>
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(Authorized Signatory)
JSW Cement Limited

