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THE RAMCO CEMENTS LIMITED

(formerly known as Madras Cements Ltd.)

RCL/MoEF/R. RF-239/

Dt.25.05.2018

The Additional Principal Chief Conservator of Forests,
The Ministry of Environment and Forests,
Regional Office (Southern Zone),
No. 34, Cathedral Garden Road,
Nungambakkam,
CHENNAI – 600 034.

Dear Sir,

- Sub: Submission of Half-Yearly Compliance Report for Environmental Clearances for Ravirala Limestone Mine of The Ramco Cements Limited for the period from October 2017 to March 2018 – Reg.
- Ref: 1. Ravirala Limestone Mine (0.5 million TPA) - Environmental Clearance Lr. No.J-11015/18 /2000-IA.II(M) dated 16.10.2002.
2. Ravirala Limestone Mine Expansion (from 0.5 million TPA to 1.2 million TPA) - Environmental Clearance Lr. No. J-11015/149/2008-IA(M) dated 26.08.2009.


We are herewith submitting the Half-Yearly Compliance for Environmental Clearances for the period from October 2017 to March 2018 along with relevant enclosures for Ravirala Limestone Mine, Jaggayyapet Mandal, Krishna District, Andhra Pradesh.

Name, designation and contact details of person in-charge of environmental division are:

T. Sridhar Reddy
Asst. Vice President (Works)
Phone No. 08654 – 224400,
Fax No. 08654 – 222532,
e-mail: mcljpm@ramcocements.co.in

This is for your kind information and perusal please.
Thanking you,

Yours faithfully,
For The Ramco Cements Limited,
(Formerly known as Madras Cements Ltd.)


P JANI REDDY
Agent & Sr. Deputy General Manager - Mines

Encl: a.a

THE RAMCO CEMENTS LIMITED
(Formerly known as Madras Cements Ltd.)
COMPLIANCE REPORT FOR ENVIRONMENTAL CLEARANCE –
RAVIRALA MINING LEASE – 0.5 MILLION TPA CAPACITY

EC Lr. No. : J-11015/18/2000-IA.II (M) dated 16.10.2002
Period : October 2017 to March 2018

A. SPECIFIC CONDITIONS:

- *APPCB's fresh consent should be obtained for producing 30.25 lakh tonnes / annum of limestone for the first five years prior to increase in already consented annual production capacity of 0.50 million tonnes.*

In the financial year 2010-11; EC, CFE & CFO are obtained for production capacity of 1.20 million TPA from 0.50 million TPA. During the financial year 2017-18, the limestone production was 0.526 million tonnes. The latest CFO is accorded vide letter No. APPCB/HO/UH-IV/CFO:VJA/Auto Renewal-8/2016 dated 08.12.2016.

- *Top soil will be properly stacked at earmarked dump site(s) with adequate measures and should be used for reclamation and rehabilitation of mined out area.*

There is no top soil available in the mining lease area.

- *Check dams and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil and mineral dumps. The water so collected should be utilized for watering the mine area, roads, greenbelt development etc., and the drains should be regularly de-silted and maintained. Garland drain (size, gradient and length) and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall 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.*

Various measures taken are:

- Garland drain of a cumulative length of 2005 m with a size of 2.0m*1.0m has been made towards the Southern lease boundary as well as all along the bottom of the waste dump.
- The drains follow the natural slope with a gradient about 1 in 100 ultimately leading to the desilting sump.
- A mine sump with dimensions of 62m*20m*3m is made to settle the suspended solids in the water.
- The water collected is being utilized for watering the mine area, haul roads, greenbelt development, etc. within lease area.
- The drains are being regularly de-silted and maintained.
- *A 30 m wide green belt all around the ML area should be developed by planting the native plant species in consultation with local DFO / Agricultural department. At least 1600 plant species/ha should be planted. Plantation should also be raised along the roads, OB dump sites etc.*

Greenbelt of 30 m wide will be developed along the ML boundary in phase wise manner. Total greenbelt area is 7.01 Ha within ML by the end of this half year period.

- *Blasting operations should be carried out only during the day time. Controlled blasting should be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.*

Blasting operations are being carried out in day-time only. Controlled blasting is being practiced by using advanced technology viz., Shock tube bottom initiation detonators to reduce ground vibrations.

- *Backfilling of excavated area should concurrently start from 7th year of operations.*

Backfilling is initiated, as per approved mining plan. IBM further advised during 2016, to stop back filling and exploit the bottom mineral also. Accordingly back filling material re handled to expose the mineral benches. Hence the back filling will be initiated after exhaustion of mineral.

- *A detailed decommissioning plan should be submitted to the MOEF 5 years in advance for approval.*

This will be submitted accordingly. The life of the mine as per latest mining scheme approved by IBM is up to year 2024-25.

- *The drills should be attached with dust extraction system.*

All drills are provided with wet drilling system.

- *Regular monitoring of ground water level and quality should be carried out by establishing a network of existing well and constructing new piezometers. Monitoring should be done four times in 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 and The Central Ground Water Authority.*

Ground water level is being monitored regularly at established piezometer with automatic water level monitor. Ground water level is also being manually monitored by 3 Nos. of piezometers and the Ground Water level data is being submitted to the CGWA. Copy of the letter addressed to CGWB regarding the water level data through piezometers for the period October 2017 to March 2018 is enclosed as Annexure – I. Consolidated reports for ground water quality analysis carried out by MoEF&CC approved external environmental monitoring agency (M/s B.S. Envitech Hyderabad) for the period October 2017 to March 2018 is enclosed as Annexure – II.

B. GENERAL CONDITIONS:-

- No change in mining technology and scope of working should be made without prior approval of the MoEF*

There is no change in the mining technology and scope of working.

- No change in the calendar plan including excavation, quantum of limestone, waste / OB dump should be made.*

During 2010-11; EC, CFE & CFO are obtained for production capacity of 1.20 million TPA from 0.50 million TPA. The limestone production was 0.526 million tonnes and 138703 Cu.m. of development done during the financial year 2017-18.

iii) *Three ambient air quality monitoring stations should be established in the core zone as well as buffer zone for SPM, RPM, SO₂, NO_x and CO monitoring. Location of the ambient air quality stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the SPCB.*

4 and 9 Nos. of ambient air quality monitoring stations are established in core and buffer zones respectively. Ambient air quality is being monitored regularly by MoEF&CC approved external environmental monitoring agency (M/s B.S. Envi-tech, Hyderabad).

iv) *Data on ambient air quality should be regularly submitted to the Ministry including its RO at Bangalore and the SPCB / CPCB once in six months.*

Data of the Ambient Air Quality is being submitted to the Regional Office, MoEF&CC located at Chennai and the SPCB regularly once in six months. Compiled data for the period October 2017 to March 2018 is enclosed vide Annexure – III.

v) *Adequate measures for control of fugitive emissions should be taken during drilling and blasting operations, loading and transportation of minerals etc.*

- Wet drilling is being practiced.
- Water is being sprayed by mobile water tanker on haul road and permanent water sprinkling system is being operated on part of main haul road leading to the limestone crusher.
- Water is being sprayed on internal ramp roads, muck piles and unloading points (on dumps) by mobile water tankers.
- To avoid spillage of material while transporting, the following measures are being in practice:
 - Moderate loading of tippers.
 - The body height of the vehicle is raised by 1 foot.

vi) *Adequate measures should be taken for control of noise levels below 85 dB(A) in the work environment.*

Vehicles are being maintained properly for control of noise level and the noise levels are well within the limit. Ear plugs / muffs are provided to respective HEMM operators. Compiled data on noise levels measured for the period from October 2017 to March 2018 is enclosed as Annexure – IV.

vii) *Vehicular emissions should be kept under control and regularly monitored.*

Vehicles are being maintained properly. Emission levels are being monitored regularly and kept under control.

viii) *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. 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.*

Protective respiratory devices are provided to the personnel working in dusty areas (near drilling and loading areas) and adequate training and information on safety and health aspects are being provided as part of Mines Vocational Training.

Periodical medical tests for all the workers are carried out as per statute and the records are being maintained. The same is reviewed periodically. Occupational Health Centre (with qualified Occupational Health Specialist) is established with the following facilities:

- i. X-ray
- ii. ECG
- iii. Spirometry (lung function test)
- iv. Audiometry
- v. Semi-auto analyser to carryout bio-chemical tests
- vi. Clinical lab for micro-biological tests (including sputum test)
- vii. Checking colour blindness
- viii. Dental chair
- ix. Ambulance

ix) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purposes. Year-wise expenditure will be reported to MoEF.

The funds earmarked for environment protection are not diverted for other purposes. The details of environmental protection expenditure for the financial year 2017-18 and funds allotted for the financial year 2018-19 are enclosed as Annexure -V .

x) The RO of this Ministry located at Bangalore will monitor compliance of the stipulated environmental safeguards. The project authorities should send one set of EIA / EMP report and mining plan to them and extend full co-operation to the officer(s) of the RO by furnishing the requisite data / information / monitoring reports.

Necessary co-operation along with relevant data is being provided.

xi) The project authorities should inform to the RO located at Bangalore as well as to the MoEF 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 for this project is not required as total funding for this project is from own funds.

xii) SPCB should display a copy of the clearance letter at RO, District Industries Centre and Collector's Office / Tahsildar's office for 30 days.

Noted.

xiii) The project authorities should advertise at least in two local newspapers widely circulated, one of which will be in 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 SPCB and also be seen at website of the MoEF at <http://envor.nic.in> and a copy of the same will be forwarded to the RO of this Ministry located Bangalore.

Advertised in Eenadu Telugu daily and The Hindu English daily on 16.11.2002 and a copy of the same is forwarded to RO, Bangalore vide Lr. No. MCL/MINES/RF dt. 31.12.2002.

THE RAMCO CEMENTS LIMITED
(Formerly known as Madras Cements Ltd.)
COMPLIANCE REPORT FOR ENVIRONMENTAL CLEARANCE -
RAVIRALA MINING LEASE – 0.50 TO 1.20 MILLION TPA CAPACITY

EC Lr. No. : J-11015/149/2008-IA II (M) dated 26th August 2009
Period : October 2017 to March 2018

A. SPECIFIC CONDITIONS:

i. The environmental clearance is subject to the condition, if any, stipulated by the IBM on the mining scheme submitted by the project proponent for its approval.

No condition is stipulated by IBM during the approval of Scheme of Mining for 1.20 million TPA limestone production.

ii. No new two pits shall be simultaneously worked i.e., before the first pit is exhausted and reclamation work completed, no mineral bearing area shall be worked.

Only one (existing) pit is in operation and the same pit will be continued for future also.

iii. After exhausting the first mine pit and before starting mining operations in the next pit, reclamation and plantation works in the exhausted pit shall be completed so as to ensure that reclamation, forest cover and vegetation are visible during the first year of mining operations in the next pit. This process will follow till the last pit is exhausted. Adequate rehabilitation of mined pit shall be completed before any ore bearing area is worked.

Only one (existing) pit is in operation and the same pit will be continued for future also. Backfilling is initiated, as per approved mining plan. IBM further advised during 2016, to stop back filling and to exploit the bottom mineral benches also. Accordingly back filling material was re handled and exposed the benches for exploitation of mineral. Hence the back filling will be initiated after exhaustion of mineral.

iv. Adequate buffer zone shall be maintained between two consecutive mineral bearing deposits.

The total mining lease is only one mineral (limestone) bearing deposit.

v. Hydro-geological study of the area shall be reviewed annually and results submitted to the Ministry and concerned agency in the State Govt. In case adverse effect on ground water quality and quantity is observed mining shall be stopped and resumed only after mitigating steps to contain any adverse impact on ground water is implemented. Specific hydro-geological studies shall be conducted at the end of mining plan period i.e. at the end of the 5th year of mining, before proceeding to undertake mining in the 6th year. The report shall be submitted to the Regional Office of the Ministry.

The Hydro-geological study of the area reviewed and specific hydro-geological study is conducted and final copy of the report submitted to the Regional Office, MoEF vide Lr. No. MCL/MoEF/1486/2013 dated 28.05.2013. Presently regular monitoring of water levels is being done and there is no adverse effect on ground water quality and quantity from the mining activities and vice versa.

- vi. *The following shall be undertaken:*
- i. *The ground water observation network in the mining area shall be strengthened by constructing at least 4 piezometers which shall be constructed up to a depth of 50 m below ground level;*
 - ii. *At least three piezometers may be installed with automatic water level recorders and increase the frequency of monitoring water levels to six hourly per day;*
 - iii. *Water recharging from roof top in the colony (if any within the lease or nearby) shall be undertaken.*
- 4 Nos. piezometers are used to measure Ground Water level of which 3 Nos. with portable water level indicator constructed to the depth of 50 m.
 - One Automatic Water Level recorder is installed and data is being recorded on six hourly basis. In other locations data is being recorded manually. The recorded data is being submitted to the Regional Office, Ministry regularly.
 - 48 Nos. of rain water harvesting pits are made at colony & 4 Nos. of rain water harvesting pits are made at associated cement plant to recharge ground water table, as on March 2018.
- vii. *A 50 m barrier of no mining zone all along the side(s) facing the nallahs / streams passing through or adjacent the lease area shall be demarcated and thick vegetation of native species raised. Status of implementation shall be submitted to the Regional Office of the Ministry on half yearly basis. It shall be ensured that no silt originating from mining activity is transported in the nallah / surface water course.*

Not applicable as no nallah or stream is passing through or adjacent to the mining lease area.

- viii. *Need based assessment for the nearby 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. Local employable youth shall be trained in skills relevant to the project for eventual employment in the project itself to the extent feasible.*

Company is organizing various socio-economic activities for the surrounding villages. Children from the surrounding villages are studying in the school located in the cement plant colony. Apprentice training with stipend is being given for local people who have completed Industrial Training Institute (ITI) certificate, regularly.

All the CSR activities for the nearby villages are being carried out as per the need basis of the local people (requirements collected from them), subjected to the budget availability. Details of expenditure for the financial year 2017-18 are enclosed as Annexure -VI.

- ix. *Land-use pattern of the nearby villages shall be studied and 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 from time to time.*

The entire mining lease area is in forest land and is surrounded by forest land as well as waste land. There is no agriculture land in the vicinity of the mining lease area. Hence damage of agriculture land does not arise. A study has been made on land-use pattern of the nearby villages and extract of the report is mentioned in EIA report.

- x. *Maintenance of village roads through which transportation of ores are undertaken shall be carried out by the company regularly at its own expenses. The roads shall be black topped.*

There is no transportation of ore through any village road. A separate road is made on company owned lands from mining lease to the cement plant for transportation of limestone.

- xi. *Rain water harvesting shall be undertaken to recharge the ground water source. Status of implementation along with detailed plan shall be submitted to the Regional Office of the Ministry within six months and thereafter every year from the next consequent year*

48 Nos. of rain water harvesting pits are made at colony & 4 Nos. of rain water harvesting pits are made at associated cement plant to recharge ground water table, as on March 2018.

- xii. *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.*

Plantation with native plants is done as part of stabilization on steps made at regular interval and also spreading seeds on these steps to allow natural growth of plant, so to prevent erosion. Vegetation on the top and slopes of the dump yard is under progress, to prevent erosion.

- xiii. *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 nallahs (if any) flowing through the ML area and silts arrested. Desilting at regular intervals shall be carried out. 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 peak 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 de-silted at regular intervals.*

Various measures taken are:

- Garland drain of a cumulative length of 2005 m with a size of 2.0m*1.0m has been made towards the Southern lease boundary as well as all along the bottom of the waste dump.
- The drains follow the natural slope with a gradient about 1 in 100 ultimately leading to the desilting sump.
- A mine sump with dimensions of 62m*20m*3m is made to settle the suspended solids in the water.

- The water collected is being utilized for watering the mine area, haul roads, greenbelt development, etc. within lease area.
- The drains are being regularly de-silted and maintained.
- Latest de-silting operation carried out in May 2017 and the de-silted quantity is about 8 tonne.

xiv. *Ground water in the core zone shall be regularly monitored for contamination and depletion due to mining activity and records maintained. The monitoring data shall be submitted to the regional office of the Ministry regularly. Further, monitoring points shall be located between the mine and drainage in the direction of flow of ground water shall be set up and records maintained.*

One Automatic Water Level recorder is installed and data is being recorded. 3 Nos. piezometers are also used to measure Ground Water level with portable water level indicator. There is no contamination and depletion has observed due to mining activity and the recorded data is being submitted to the RO, Ministry regularly. Data compiled for period October 2017 to March 2018 is enclosed as Annexure – I. The data is being submitted to the CGWB. Compiled data on ground water quality carried out by MoEF&CC approved external environmental agency (M/s B.S. Envitech, Hyderabad) for the period October 2017 to March 2018 is enclosed as Annexure – II.

xv. *Cultivable waste land (within 5 km of the lease) shall be identified and fodder farming or other suitable productive use of waste land shall be taken up in phased manner. Status of implementation shall be submitted to the Regional office of the Ministry.*

Cultivable waste land is identified within 5 km of lease area and supplying water for irrigation for productive use & also to conserve ground water resources in the vicinity.

xvi. *Shelter Belt i.e., Wind Break of 30 m width and consisting of at least 5 tiers around lease facing the school / agricultural fields / human habitation etc. (if any in the vicinity) shall be raised.*

There is no school / agricultural fields / human habitation, etc., in the vicinity of the mining lease area. The nearest habitation is about 3.0 km from mine, hence not applicable.

xvii. *Fugitive dust generation shall be controlled. Fugitive dust emission shall be regularly monitored at locations of nearest human habitation (including schools and other public amenities located nearest to sources of dust generation as applicable) and records submitted to the Regional Office of the Ministry.*

Fugitive dust generation is controlled at the source. Water is being sprayed on internal roads, muck piles and unloading points by mobile water tankers. The nearest habitation is about 3.0 km from mine.

xviii. *Monitoring of soil samples for assessment of contamination due to mining activity (as applicable) shall be regularly conducted and records maintained.*

Not applicable as there is no top soil.

xix. *Transportation of ore shall be done by covering the trucks with tarpaulin or other suitable mechanism so that no spillage of ore / dust takes place.*

With proper supervision regularly, it is ensuring that the vehicles are not overloaded. While transporting, the following measures are being taken:

- Transportation of mineral is being done by moderately loading the vehicles to avoid the spillage.
 - The body height of the vehicle is raised by 1 foot to avoid the spillage of material.
- xx. *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. 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.*

Awareness programme on health & safety for workers of work related health hazards, training on malaria eradication, HIV and health effects on exposure to mineral dust etc., and precautionary measures like the use of PPE are also being imparted. Protective respiratory devices are provided to the personnel working in dusty areas (near drilling and loading areas) and adequate training and information on safety and health aspects are being provided as part of Mines Vocational Training.

A full time qualified doctor who is trained in occupational health services is appointed. Periodical medical tests for all the workers are carried out as per statutory laws and the records are maintained. The same is being reviewed periodically.

- xxi. *Occupational Health Cell shall be created at the mining site office under the charge of an officer of adequate seniority who is a qualified person in occupational health.*

A full time qualified doctor who is trained in occupational health is appointed. The services from this Occupational Health Centre extend to this mine's workers also. Occupational Health Centre is established with the following facilities:

- X-ray
- ECG
- Spirometry (lung function test)
- Audiometry
- Semi-auto analyser to carryout bio-chemical tests
- Clinical lab for micro-biological tests (including sputum test)
- Checking colour blindness
- Dental chair
- Ambulance

- xxii. *Personnel exposure monitoring for dust shall be carried out for the workers. This shall include monitoring of mercury and hexavalent chromium.*

Personal dust sampling is being carried out periodically and records are maintained. There is no generation of any mercury and hexavalent chromium related dust in Limestone Mining Activities, hence this is not applicable.

xxiii. Top soil / solid waste shall be stacked properly with proper slope and adequate safeguards and shall be utilized for backfilling (wherever applicable) for reclamation and rehabilitation of mined out area. Top soil shall be separately stacked for utilization later for reclamation and shall not be stacked along with over burden.

Not applicable with respect to top soil, as there is no top soil. Solid waste is being stacked separately with proper slope & adequate safeguards and will be utilized for reclamation.

xxiv. Over burden (OB) 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 the dump shall not exceed 28°. The OB dump shall be backfilled. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests on six monthly basis.

Phyllitic waste is being stacked separately and the height and slope is maintained as specified. Plantation has started on the inactive slopes on the Northern / Western flanks of the dump. Saplings are planted on dump yard, along the mines ramps etc. to control the soil erosion and management of silt as preventive measure. This is being submitted as part of half-yearly compliance report to RO, Ministry.

xxv. Slope of the mining bench and ultimate pit limit shall be as per the mining scheme approved by Indian Bureau of Mines.

Being followed as per Indian Bureau of Mines approved mining scheme vide Lr. No. AP/KSN/MS/LST-278-SZ/1848, dated 01.11.2013.

xxvi. Adequate plantation shall be raised in the ML area, haul roads, OB dump sites etc. 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. The density of the trees shall not be less than 2500 plants per ha. The company shall involve local people with the help of self help group for plantation programme. Details of year wise afforestation programme including rehabilitation of mined out area shall be submitted to the Regional Office of the Ministry every year.

Native species are planted on dump yard, along mines ramps etc., in consultation with local Horticulturist. The plantation work is being carried out by involvement of local people. An area of 7.01 Ha. covered under plantation within ML by the end of March 2018.

xxvii. Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year – pre monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected shall be regularly sent to MoEF, Central Ground Water Authority and Regional Director, Central Ground Water Board.

One Automatic Water Level recorder is installed and data is being recorded. And 3 Nos. of piezometers are also used to measure Ground Water level with portable water level indicator and the recorded data is being submitted to the Regional Office, Ministry regularly. The data of the same submitted to CGWB is enclosed as Annexure – I. Water

quality monitoring data for the period October 2017 to March 2018 is enclosed as Annexure – II.

xxviii. Adequate air monitoring stations shall be established in areas of human habitations near the mine and the results of ambient air quality shall be maintained and regularly submitted to the Regional Office of the Ministry. The monitored data of criteria pollutants shall be regularly uploaded on the company's website and also displayed at project site.

The nearest habitation from the mine is 3 km. 9 Nos. of ambient air quality monitoring stations are established in the nearby villages and 4 Nos. of stations are established in core zone are being carried out by MoEF&CC approved external environmental agency on fortnightly basis. The monitoring results are compiled and maintained. The data for the period from October 2017 to March 2018 is enclosed as Annexure – III, submitted to RO, Ministry. The half-yearly compliance reports are being uploaded on the company's website.

xxix. The waste water from the mine shall be treated to conform to the prescribe standards before discharging into the natural stream. The discharged water from the Tailing Dam (if any) shall be regularly monitored and report submitted to the Ministry of Environment & Forests, Central Pollution Control Board and the State Pollution Control Board.

There is no generation of waste water from the mine. Tailings are not generated from limestone mining activity; hence it is not applicable.

xxx. Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation of ores and others shall have valid permissions as prescribed under Central Motor Vehicle Rules, 1989 and its amendments. Transportation of ore shall be done only during day time. The vehicles transporting ores shall be 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 committed. The trucks transporting ore shall not pass through wild life sanctuary.

Vehicular emissions are being kept under control and regularly monitored. Only vehicles having valid permission as per Central Motor Vehicle Rules, 1989 is being used for transportation of material. While transporting, the following measures are adopted:

- Moderately loading of tippers.
- Body height of the tippers is raised by 1 foot.

A separate road on company's own land is made for transportation of limestone to crusher, which is not passing through any wild life sanctuary.

xxxi. Prior permission from the Competent Authority shall be obtained for extraction of ground water, if any.

Permission is obtained from the Ground water Department for extraction of ground water @ 7,000 m³/day vide Lr. No. 13830 /Hg.II(2)/06 dt. 09.03.2007 (enclosed as Annexure -VII IV) for all four captive limestone mines including associated cement plant, thermal power plant and colony.

xxxii. *Action plan with respect to suggestions / improvements and recommendations made during public consultation / hearing shall be submitted to the Ministry and the State Govt. within six months.*

Details enclosed in EIA report submitted to the Ministry for this proposal.

xxxiii. *A final mine closure plan, along with details of Corpus Fund, shall be submitted to the Ministry of Environment & Forests, 5 years in advance of final mine closure for approval.*

Noted for compliance. The life of the mine as per mining scheme approved by IBM is up to year 2024-25.

B. GENERAL CONDITIONS:-

i. *No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.*

There is no change in the mining technology and scope of working.

ii. *No change in the calendar plan including excavation, quantum of mineral and waste shall be made.*

There is no change in the excavation of mineral and waste.

iii. *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.*

Various measures taken are:

- Wet drilling is being practiced.
- Water is being sprayed by mobile water tanker on haul road and permanent water sprinkling system is being operated on part of main haul road leading to the limestone crusher.
- Water is being sprayed on internal ramp roads, muck piles and unloading points (on dumps) by mobile water tankers.
- Water fogging system is being operated at limestone crusher dump hopper (limestone unloading point) to suppress the fugitive emissions.
- Transportation of ore is being done by moderately loading the tippers to avoid spillage.
- The body height of tipper is raised by 1 foot to avoid spillage of material.

iv. *Four ambient air quality monitoring stations shall be established in the core zone as well as buffer zone for RPM, SPM, SO₂, NO_x 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.*

9 Nos. of ambient air quality monitoring stations are established in buffer zone and 4 stations in core zone based on the meteorological data and monitoring is being done on fortnightly basis.

v. *Data on ambient air quality (RPM, SPM, SO₂, NO_x) 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. The monitored data of criteria pollutants mentioned above shall be regularly uploaded on the company's website and also displayed at project site.

Data of ambient air quality monitored by MoEF&CC is being submitted regularly. Compiled data for the period October 2017 to March 2018 is enclosed as Annexure – III, submitted to Regional Office, Ministry.

vi. *Measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in operations of HEMM, etc. shall be provided with ear plugs / muffs.*

Vehicles are being maintained properly for control of noise level and the noise levels are well within the limit. Ear plugs / muffs are provided to respective HEMM operators. Compiled data on noise levels measured for the period from October 2017 to March 2018 is enclosed as Annexure – VI.

vii. *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 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluents.*

Oil and Grease trap is installed at Workshop to separate oil & grease before letting waste water out. Oil and Grease trap outlet water quality analysis is carried out by MoEF&CC approved external environmental agency for the period October 2017 to March 2018 is enclosed as Annexure – VIII. There is no generation of waste water from the mine.

viii. *Personnel working in dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.*

Protective respiratory devices are provided to the personnel working in dusty areas (near drilling and loading areas) and adequate training and information on safety and health aspects are being provided as part of Mines Vocational Training.

ix. *Provision shall be made for the housing the labourers within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.*

Separate colony is constructed for contract workmen with all necessary infrastructure facilities near cement plant. Potability certificates for RO plant inlet and outlet water samples are enclosed as Annexure - IX.

x. *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.*

Environmental cell is established with qualified personnel and is reporting to senior executive of the company. The organization chart is enclosed as Annexure - X.

xi & xiii. 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 for this project is not required as total funding for this project is from own funds.

xii. The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its Regional Office located at Bangalore.

The funds earmarked for environment protection are not diverted for other purposes. The details of environmental protection expenditure for the financial year 2017-18 and funds allotted for the financial year 2018-19 are enclosed as Annexure - V.

xiv. The Regional Office of the Ministry located at 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.

Necessary cooperation along with relevant data is being provided.

xv. The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the Ministry of Environment and Forests, its Regional Office, Bangalore, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environment of the environmental clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, Ministry of Environment and Forests, Bangalore.

Six monthly compliance reports on the status of the implementation of the environmental safeguards are being submitted to the RO, Ministry and State Pollution Control Board regularly in hard copies as well as through e-mail to the Ministry. We have uploaded Environmental Clearance letters and half yearly compliance reports to the company's website regularly.

xvi. 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. The clearance letter shall also be put on the website of the company.

Noted. The clearance letter is uploaded to the company's website.

xvii. State Pollution Control Board shall display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office / Tehsildar's Office for 30 days.

Noted.

xviii. The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended

subsequently and shall also be put on the website of the company along with the status of compliance of environmental clearance conditions. The same shall also be sent to the Regional Office of Ministry by e-mail.

Environmental statement for each financial year ending 31st March in Form-V is being submitted to the State Pollution Control Board regularly. The Environmental Statement for the year 2016-17 is submitted vide our Lr. No. RCL/PCB-Form V/312 dated 26.09.2017 and is uploaded on the website of the company. The same is sent to Regional Office of Ministry through email.

xix. 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.nic.in> and a copy of the same shall be forwarded to the Regional Office of the Ministry located in Bangalore.

Advertised in Eenadu Telugu daily and The Hindu English daily on 09.09.2009 and a copy of the same is forwarded to RO, Bangalore vide Lr. No. MCL/MoEF/5041/2009 dt. 09.09.2009.