



सत्यमेव जयते

***Proceedings of the State Environment Impact Assessment Authority  
Kerala***

*Present : Prof. (Dr.) K.P. Joy, Chairman; Dr. J. Subhashini, Member and Sri. P. Mara Pandiyan, I.A.S.,  
Member Secretary.*

Sub: SEIAA- Environmental clearance for the proposed quarry project in Sy. No. 164/2, 164/1-36, 164/1-111 and 164/1-113 at Ayyampuzha Village, Aluva Taluk, Ernakulam District, Kerala by Sri. Paulson P. Varkey -Granted- Orders issued.

**STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY**

**No. 560/SEIAA/KL/4121/2014**

***Dated, Thiruvananthapuram 01-06-2016***

- Read:-
1. Application dated 22.08.2014 submitted Sri. Paulson P. Varkey – Managing Partner, Pynadath House, Nayathodu P.O, Ernakulam District, Kerala.
  2. Minutes of the 46<sup>th</sup> meeting of SEAC held on 29/30-09-2015
  3. Minutes of the 53<sup>rd</sup> meeting of SEAC held on 26/27-02-2016
  4. Minutes of the 52<sup>nd</sup> meeting of SEAC held on 29-4-2016

**Environmental Clearance No 90 /Q/2016.**

Sri. Paulson P. Varkey – Managing Partner, Pynadath House, Nayathodu P.O, Ernakulam District, Kerala. vide his application dated 22-07-2014, has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. No. 164/2, 164/1-36, 164/1-111 and 164/1-113 at Ayyampuzha Village, Aluva Taluk, Ernakulam District, Kerala for an area of 2.9349 hectares. The project comes under Category B, Activity 1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50hectares) and as per O.M. No. L-11011/47/2011-IA.II (M) dated 18th May 2012 of Ministry of Environment and Forests. It is further categorized as Category B2 as per the O.M. No. J-13012/12/2013-IA-II (I) dtaed 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares. Other details of the proposal are as follows:

### Basic information

Name of project		M/S. MP Sands				
Category/Subcategory & Schedule		Schedule No. – 1(a) Category – B, Sub-category – B2				
Location Sy no/ district, Taluk/ village etc.		Survey no's: 164/2, 164/1-36, 164/1-111 and 164/1-113  AyyampuzhaVillage Aluva Taluk ErnakulumDistrict Kerala state				
GPS co-ordinates		N - 10°14'28.83" to 10°14'39.44" E - 76°27'39.73" to 76°27'46.09"				
for Mining projects	Extent of area (in hectares)	2.9349 Ha				
	Minimum and maximum height of excavation (MSL)	+135m AMSL to +208m AMSL				
	Life of mine proposed	5 years				
	Ultimate depth of mining (in MSL)	Northern part - up to +155m AMSL (Min & Max Depth – 20 m to 53 m) Southern part – upto +140m AMSL (Min & Max Depth – 5 m to 68 m)				
	Distance from the adjacent quarry	Adjacent				
	Capacity of production	500 TPD (or say 1,00,000 TPY)				
	Details of project cost	Rs.94.87 lakhs				
	Financial statement including funding source and details of insurance	Necessary funding already made				
CRZ recommendations		The proposed project does not require approval or clearances under CRZ Notification (1991), The Forest Conservation Act (1980)and Wild Life Protection Act (1972). since there is no declared Biosphere, Wild Life Sanctuaries, or Tiger sanctuary or migrating corridor or Coastal zone etc.				
Forest clearances						
Does it attract violation proceedings		Action initiated for obtaining EC				
EnvtMgmt plan/ Eco restoration plan (brief details)		<table><tr><td>AIR POLLUTION</td><td><b>MANAGEMENT PLAN:</b> ➤ Regular wetting of transport road using water tanker ➤ Avoiding overloading of tippers ➤ Covering of loaded tippers with tarpaulins during transportation ➤ Development of green belt / barriers wherever possible</td></tr><tr><td>WATER POLLUTION</td><td>➤ Sewage generated will be properly discharged into septic tanks with soak pits. ➤ During the course of mining, it is</td></tr></table>	AIR POLLUTION	<b>MANAGEMENT PLAN:</b> ➤ Regular wetting of transport road using water tanker ➤ Avoiding overloading of tippers ➤ Covering of loaded tippers with tarpaulins during transportation ➤ Development of green belt / barriers wherever possible	WATER POLLUTION	➤ Sewage generated will be properly discharged into septic tanks with soak pits. ➤ During the course of mining, it is
AIR POLLUTION	<b>MANAGEMENT PLAN:</b> ➤ Regular wetting of transport road using water tanker ➤ Avoiding overloading of tippers ➤ Covering of loaded tippers with tarpaulins during transportation ➤ Development of green belt / barriers wherever possible					
WATER POLLUTION	➤ Sewage generated will be properly discharged into septic tanks with soak pits. ➤ During the course of mining, it is					

		<p>suggested to develop rainwater harvesting sump at the bottom most level of mining which can be utilized for the industrial water requirement and can also as rain water harvesting pit.</p> <p>➤ It is suggested to construct settlement ponds at North West side and in the southern side of the lease area so that the water can be diverted into this pond. Clear supernatant water after settling can be let out of this pond after passing through settling traps.</p>
	NOISE	<p>➤ Noise levels can be abated through good preventive maintenance of machineries, green belt creation, provision of ear muffs to workers, etc.,</p> <p>➤ Sound proof operator's cabin for equipments like dumpers, shovel, tippers, etc.,</p> <p>➤ Ground vibration are controlled through optimum design for burden &amp; spacing, inclined drilling practice, using ordinary electric milli second delay detonators, in combination with detonating fuse etc.,</p>
	Solid waste Management	<p>➤ Other than a small portion in the northern side of the lease area which is already mined, the remaining area has top soil layer and some overburden. The total quantity of waste to be generated from the lease area is 29737 m<sup>3</sup> comprising 2379 m<sup>3</sup> of top soil and 27358m<sup>3</sup> of overburden.</p> <p>➤ The top soil will be used for reclamation purpose. Small quantity of waste to be generated can be used for road formation, filling of the low lying areas and backfilling of mined out void on the northern part.</p>
	Eco restoration	<p>➤ In the mine closure stage, out of 2.0026 Ha of mined out area, 0.4109 Ha of northern part mined out void up to +173m AMSL can be backfilled with the waste generated during mining of southern part and reclaimed with plantation. The remaining 1.5917 Ha of the mined out void can be reclaimed</p>

		back with bench plantation/ plantation. Ultimately there will not be any water body. The mined area will be properly fenced all around  ➤ Plantation will be carried out in all possible vacant places within the lease area. Local species in consultation with the state forest department can be chosen for this purpose.
ABOUT THE PROJECT		
Environmental parameters considered	Description	
WATER		
Water requirement & sources	The water requirement for the mining operation is as follows: For domestic & sanitary needs -1.0 KLD  For dust suppression and Plantation etc., } 5.0 KLD  Total - 6.0 KLD The entire water requirement for industrial activities such as Dust suppression and greenbelt development can be met from the rain water harvested in the mine sump pond and for drinking will be from bore well.	
RWH units proposed	The rain water falling in the quarry will be harvested in the sump at the lowest level of the quarry. This sump will act as a settling pond to prevent solids escaping along with discharge before outlet etc., Mine sump water will be used for green belt, dust suppression, etc.,	
Facilities for liquid waste treatment	The only effluent arising from project is domestic waste to the maximum of about 0.6 KLD. This is disposed into septic tanks with soak pits.	
Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	Not Applicable	
Water quality meeting requirements	Rainwater from the higher benches is made to drain into the sump and the mine pit bottom. Supernatant settled water is used to meet the water requirement.	
Does it have provisions for use of recycled water	Other than using of mine sump water no other recycling envisaged.	
LAND		
Proximity to forest lands	NIL	
Is the land assigned for any other special purpose; Give details	NIL	
Access road to the site –Width & Condition	The project is approachable from Pallypadan Junction (2 km), which is connecting Manjapra - chulli road. The width of the	

	access road is 5.0 m.
Storage of explosives /hazardous substances	License to store and use of Explosive obtained from Dy. Chief Controller of Explosives, Ernakulum, Explosive License No: E/SC/KL/22/589(E23843) Date of Renewal: 26.03.2012, which is Valid up to: 31.03.2017.
Facility for solid waste management	<ul style="list-style-type: none"> <li>➤ Other than a small portion in the northern side of the lease area which is already mined, the remaining area has top soil layer and some overburden. The total quantity of waste to be generated from the lease area is 29737 m<sup>3</sup> comprising 2379 m<sup>3</sup> of top soil and 27358m<sup>3</sup> of over burden.</li> <li>➤ The top soil will be used for reclamation purpose. Small quantity of waste to be generated can be used for road formation, filling of the low lying areas and backfilling of mined out void on the northern part.</li> </ul>
Topographic features/ slope	The granite deposits occur in an elevated terrain with the highest level +208 m AMSL in the eastern part and sloping towards North West and south with the lowest level +135 m AMSL
Proneness of the area for landslides	Granite occur here as a hard massive rock which can withstand steep slopes. Hence not prone to landslides.
Significant land disturbance resulting in erosion, subsidence & instability	This being an opencast mine there will not be any subsidence. The bench slopes will be maintained as per DGMS rules and requirement and hence there cannot be any instable slopes. There will be land disturbance due to mining activity.
Top soil, overburden etc.	Total quantity – 29737 m <sup>3</sup> Top soil – 2379 m <sup>3</sup> Overburden – 27358m <sup>3</sup>
<b>AIR</b>	
Air quality meeting requirements	The result of Ambient Air Quality carried out at 4 locations for PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub> were found to be well within the prescribed NAAQ limits.
Noise level meeting requirements	Noise level monitored in 4 locations show that the value are within the prescribed standards.
Likely emissions affecting environment	There will be some dust emission due to mining and allied activities which will be controlled by following measures like: <ul style="list-style-type: none"> <li>• Proper maintenance of HEMM</li> <li>• Frequent water sprinkling</li> <li>• Development of greenbelt</li> <li>• Covering of transport material with tarpaulin cover etc.,</li> </ul>
<b>ENERGY</b>	
Energy requirement	No electricity is needed for quarry operations etc., as only diesel operated mining machinery including jack hammer are used for quarrying. Hence the negligible power requirement of the administrative buildings, etc., can be met from state grid. The peak power demand is expected to be about 1 to 2 KVA only.
Energy sources	KSEB

Extent of usage of alternative energy resources	Not applicable
<b>BIODIVERSITY</b>	
Presence of any endangered species or red listed category	NIL
Loss of native species and genetic diversity	Not Applicable
Likely displacement of fauna	No
Any introduction of alien / invasive species	Nil
<b>SOCIAL ASPECTS</b>	
Proximity to nearest habitation	More than 150 m away
<p align="center"><b>CSR components suggested</b></p> <p>For future CSR activities, need based assessment for the local community to the tune of Rs.10.5 lakhs is made and budgetary provision of Rs. 3.5 lakhs per year is provided.</p>	
<b>GENERAL</b>	
Sufficiency of parking spaces/ traffic management	The entire quarried stone from this lease is directly dispatched to outside crusher unit.
Litigation/ court cases, if any, against the project (Provide details)	No litigation is pending against the project, as per declaration of the proponent
Details of Authorised Signatory	<p>Sri. Paulson P Varkey - Managing Partner  M/S. MP Sands  Pynadath House, Nayathodu P.O,  Ernakulam District, Kerala.  Pincode – 683 581  Mobile – 9388811452  Email ID: paulsonpvarkey@gmail.com</p>
Details of NABET approved EIA consultant organisation	<p>Creative Engineers &amp; Consultants,  9/4b, Barathwajar Street, East Tambaram,  Chennai – 600 059.  PH – 044 – 22395170  Mobile : 9444133619  Email – cecgiri@yahoo.com</p>

2. The proposal was considered in 46<sup>th</sup> meeting of SEAC held on 29<sup>th</sup> and 30<sup>th</sup>, September 2015. It was decided in the meeting to defer the item for field visit and for production of more realistic Corporate Social Responsibility (CSR).

The site visit was conducted by subcommittee of SEAC on 02.12.2015, comprising Dr. E.A. Jayson, Dr. K.G. Padmakumar and Mr. P. Sreekumaran Nair. The proponent was also present at the site. The details of which are given below:

*“The project is for an existing quarry, located at about 3.5 km SE of Malayattoor, Kurisumudi and more than 12 km NE of Kaladi. The proposed quarry area falling in own land lies on a hillock with moderate to steep slopes to the east and south. Five meter benches should be strictly adhered. Top soil should be carefully stored in the designated place and should be made available for landscaping. Settling ponds should be constructed for allowing the water from the quarry to go outside. Warning boards are not in place and this has to be ensured before the operations are initiated. Dwelling units are not seen in the immediate vicinity of 100 m. Millisecond technology is to be used strictly. Protective fencing needed all over the quarry and inside the quarry to prevent any untoward incidents. Staff accommodation is in a pathetic condition and this should be improved and good buildings for canteen and accommodating the staff should be constructed. Permanent magazine should be in place as per the mining plan.*

*Based on an overall evaluation of the site, following points may be considered:*

- i) Protective fencing must be provided along the boundary of the lease area.*
- ii) Over burden is to be stored in the designated places and provided with protective support walls.*
- iii) The drainage from the quarry must be channelised with proper desiltation and clarification mechanism and led into a RWH structure. Only clarified water is to be let out of the area.*
- iv) It is necessary to provide garland drains on the upper part and catch water drains at the lower levels of the lease area to safely dispose the storm water.*
- v) The approach road to the quarry from the main road is a narrow road which must be widened and maintained in good condition by the proponent.*
- vi) The blasting time must be displayed and strictly adhered to. The PPV values must be less than 10 mm/sec and steps to be taken to limit fly rock to the quarry area.*

*Other items from general condition and detailed CSR may be added”.*

3. The committee again considered the Project in its 53<sup>rd</sup> meeting based on field inspection report received and made suggestions. The proponent shall take abundant precautions to prevent damage to life and property of the nearby dwelling units. The Committee after examining the mining plan, prefeasibility report, field inspection report and all other documents submitted decided to recommend for issuance of EC subject to general conditions in addition to the following specific conditions for mining projects.

- vii) Protective fencing must be provided along the boundary of the lease area.*
- viii) Over burden is to be stored in the designated places and provided with protective*

support walls.

- ix) The drainage from the quarry must be channelised with proper desiltation and clarification mechanism and led into a RWH structure. Only clarified water is to be let out of the area.
- x) It is necessary to provide garland drains on the upper part and catch water drains at the lower levels of the lease area to safely dispose the storm water.
- xi) The approach road to the quarry from the main road is a narrow road which must be widened and maintained in good condition by the proponent.
- xii) The blasting time must be displayed and strictly adhered to. Steps to be taken to limit fly rock to the quarry area.

4. The proposal was considered by SEIAA in its 52<sup>st</sup> meeting held on 29-03-2016. Authority decided to accept the above recommendations given in the Para 3 and to grant E.C subject to the specific condition recommended by SEAC and general conditions for mining projects.

5. The clearance issued will also be subject to full and effective implementation of all the undertakings given in the application form, mitigation measures as assured in the Environment Management Plan and the mining features including progressive mine closure plan as submitted with the application and relied on for grant of this clearance. The above undertakings and the conditions and undertakings in chapter 4 of Mining plan (Mining), Chapter 11 (EMP) of the Mining Plan, Chapter 5 of Mining plan (Blasting), Chapter 1.4.6 of PFR (Disaster Management), and the entire Progressive Mine Closure Plan as submitted will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.

5. Validity may be **five years** subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of conditions or genuine complaints from residents within the security area of the quarry. Environmental Clearance is therefore granted to the quarry project of Sri. Paulson P. Varkey – Managing Partner, Pynadath House, Nayathodu P.O, Aluva Taluk, Ernakulam District, Kerala subject to specific condition mentioned in Para3 above and the general conditions annexed hereto.

6. Compliance of the conditions herein will be monitored by the Authority or its agencies and also by the regional office of the Ministry of environment & forests, Govt. of India, Bangalore.

- i) Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.
- ii) Necessary assistance for entry and inspection should be provided by the project proponent and those who are engaged or entrusted by him to the staff for inspection or monitoring.
- iii) Instances of violation if any shall be reported to the District collector, Ernakulam to take legal action under the Environment (Protection) Act 1986.
- iv) The given address for correspondence with the authorised signatory of the project is Sri. Paulson P. Varkey – Managing Partner, Pynadath House, Nayathodu P.O, Ernakulam District, Kerala.



Sd/  
P. Mara Pandiyan., I.A.S  
Member Secretary (SEIAA)  
&  
Additional Chief Secretary to Government  
Environment & Forest Department  
Government of Kerala.

To,  
Sri. Paulson P. Varkey  
Managing Partner,  
Pynadath House,  
Nayathodu P.O,  
Ernakulam District.

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4<sup>th</sup> Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
2. Principal Secretary to Government, Environment Department.
3. The District Collector, Ernakulam.
4. The Director, Department of Environment & Climate Change.
5. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
6. The Secretary, Ayyampuzha Grama Panchayath, Ernakulam.
7. Chairman, SEIAA
8. E.C File
9. ✓ Stock File
10. O/C.



Forwarded/ By order

Administrator  
SEIAA



# STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

## GENERAL CONDITIONS (for mining projects)

1. Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
2. Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
3. Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, including of approach road and internal roads.
4. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
5. Sprinklers shall be installed and used in the project site to contain dust emissions.
6. Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
7. At least 10 percent out of the total excavated pit area should be retained as water storage areas and the remaining area should be reclaimed with stacked dumping and overburden and planted with indigenous plant species that are eco-friendly, if no other specific condition on reclamation of pit is stipulated in the E.C.
8. Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
9. The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mining. All the boundary indicators (boards, stores, markings, etc) shall be protected at all times and shall be conspicuous.
10. Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
11. Control measures on noise and vibration prescribed by KSPCB should be implemented.
12. Quarrying activities should be limited to day time as per KSPCB guidelines/specific conditions.
13. Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
14. A licensed person should supervise/ control the blasting operations.
15. Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
16. Overburden materials should be managed within the site and used for reclamation of mine pit as per mine closure plan / specific conditions.
17. Height of benches should not exceed 5 m, and width should not be less than 5 m, if there is no mention is the mining plan/specific condition.
18. Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
19. Maximum depth of mining from general ground level at site shall not exceed 10m
20. No mining operations should be carried out at places having a slope greater than 45°.
21. Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick envelop for crushers so that the noise level is kept within prescribed standards given by CPCB/KSPCB.
22. The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.
23. Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
24. The transportation of minerals should be done in covered trucks to contain dust emissions.
25. The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
26. Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
27. Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
28. A minimum buffer distance of 100 m from the boundary of the quarry to the nearest dwelling unit or other structures, not being any facility for mining shall be provided.
29. 100 m buffer distance should be maintained from forest boundaries.

30. Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating mining activity.
31. All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
32. In the case of any change(s) in the scope of the project, extent quantity, process of mining technology involved or in any way affecting the environmental parameters/impacts as assessed, based on which only the E.C is issued, the project would require a fresh appraisal by this Authority, for which the proponent shall apply and get the approval of this Authority.
33. The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
34. The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
35. The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Environment Impact Assessment Authority (SEIAA) office and may also be seen on the website of the Authority at [www.seiaakerala.org](http://www.seiaakerala.org). The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.
36. A copy of the clearance letter shall be sent by the proponent to concerned Grama Panchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.
37. The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) and upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the respective Regional Office of MoEF, Govt. of India and also to the State Environment Impact Assessment Authority (SEIAA) office.
38. The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40. Sign board with extent of lease area and boundaries shall be depicted at the entrance of the quarry, visible to the public
39. The proponent should provide notarized affidavit (indicating the number and date of Environmental Clearance proceedings) that all the conditions stipulated in the EC shall be scrupulously followed.
40. No change in mining technology and scope of working should be made without prior approval of the SEIAA, No further expansion or modifications in the mine shall be carried out without prior approval of the SEIAA, as applicable.
41. The Project proponent shall ensure that no natural water course and/or water resources shall be obstructed due to any mining operations. Necessary safeguard measures to protect the first order streams, if any, originating from the mine lease shall be taken.
42. Monitoring of Ambient Air Quality to be carried out based on the Notification 2009, as amended from time to time by the Central Pollution Control Board. Water sprinkling should be increased at places loading and unloading points & transfer point to reduce fugitive emissions.
43. The top soil, if any, shall temporarily be stored at earmarked site(s) only for the topsoil shall be used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The maximum height of the dumps shall not exceed 8m and width 20m and overall slope of the dumps shall be maintained to 45°. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The entire excavated area shall be backfilled. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining.
44. Catch drains and siltation ponds of appropriate size shall be constructed around the mine

- working, mineral and OB dumps to prevent run off of water and flow of sediments directly into the river and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
45. Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of PM<sub>10</sub> and PM<sub>2.5</sub> such as haul Road, loading and unloading points and transfer points – it shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
  46. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
  47. Measures should be taken for control of noise levels below 85 dBA in the work environment.
  48. 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.
  49. The funds earmarked for environmental protection measures and CSR activate should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the State Environment Impact Assessment Authority (SEIAA) office.
  50. The Regional Office of MOEF & CC located at Bangalore shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (S) of the Regional Office by furnishing the requisite data/information/monitoring reports.
  51. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
  52. Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  53. The SEIAA may revoke or suspend the order, for non implementation of any of the specific or this implementation of any of the above conditions is not satisfactory. The SEIAA reserves the right to alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
  54. The above conditions shall prevail notwithstanding anything to the contrary, in consistent, or simplified, contained in any other permit, license on consent given by any other authority for the same project.
  55. This order is valid for a period of 5 years or the expiry date of mine lease period issued by the Government of Kerala, whichever is earlier.
  56. The Environmental Clearance will be subject to the final order of the courts in any pending litigation related to the land or project, in any court of law.
  57. The mining operation shall be restricted to above ground water table and it should not intersect ground water table.
  58. All vehicles used for transportation and within the mines shall have 'PUC' certificate from authorized pollution taking centre. Washing of all vehicles shall be inside the lease area'
  59. Project proponent should obtain necessary prior permission of the competent authorities for drawal of requisite quantity of surface water and ground water for the project.
  60. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the six monthly reports to SEIAA.
  61. Occupational health surveillance program of the workers should be under taken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.



For Member Secretary, SEIAA Kerala



