

# Proceedings of the State Environment Impact Assessment Authority Kerala

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

Sub: SEIAA- Environmental clearance for the proposed quarry project in Sy. Nos. 36/3 (pt), 37/1(pt), 37/2(pt), 37/3(pt) at Morayoor Village, Kondotty Taluk, Malappuram District, Kerala by Sri. E. A. Abdul Karim, Malabar Aggregates (p) Ltd.-Granted-Orders issued.

## STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY

No. 853/SEIAA/EC1/2977/2015

dated, Thiruvananthapuram 31-10-2016

- Read:- 1. Application dated 29-07-2015 submitted by Sri. E.A. Abdul Karim, M/s. Malabar Aggregates (p) Ltd., Director, S/o Alikunju, Edathuruthil House, Vadakkekara P.O., Paravoor, Ernakulam -683522
  - 2. Minutes of the 50th meeting of SEAC held on 30/31-12-2015.
  - 3. Minutes of the \$2<sup>nd</sup> meeting of SEAC held on 8/9-02-2016.
  - 4. Minutes of the 51st meeting of SEIAA held on 29-03-2016.
  - 5. Minutes of the 54 meeting of SEIAA held on 21-06-2016.

### Environmental Clearance No.164/2016.

Sri. E.A. Abdul Karim, M/s. Malabar Aggregates (p) Ltd., Director, S/o Alikunju, Edathuruthil House, Vadakkekara P.O., Paravoor, Ernakulam District-683522, vide his application received on 29-07-2015 has sought Environmental Clearance under EIA Notification, 2006 for the quarry project in Sy. No 36/3 (pt), 37/1(pt), 37/2(pt), 37/3(pt) at MorayoorVillage, KondottyTaluk, Malappuram District, Kerala for an area of 2.3732 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 18<sup>th</sup> 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) dated 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares. Other details of the project are as follows:

Basic Details				
Name of the Project	M/s. Malabar Aggregates(P) Ltd.			
Survey Numbers	Sy.No-36/3(pt),37/1(pt),37/2(pt),37/3(pt)			
Village	Morayoor			
Tehsil	Kondotty			
District	Malappuram			
Extent of land in hectors	2.3732 Ha			
Is the property forest land/Govt.	Own Land			
land/ own land	Own Lana			
Latitude	11°08'41.2" N to 11°08' 48.93"N			
Longitude	75° 59' 46.90" Eto75° 59' 52.32" E			
	2.3732 Ha			
Extent of area (in hectares)				
Minimum and maximum height of	40m MSL- Minimum and 130m MSL- Maximum			
excavation (MSL)				
Life of mine proposed	12 years			
Distance of mining area from	100m-SE			
nearest human settlement				
Ultimate depth of mining (in MSL)				
Distance from the adjacent quarry	370			
Cluster condition (if any)	Not Applicable			
Proposed production capacity	1,39,000 tomes per year			
Expected cost of the project	Total Project Cost-1.5 cores			
Interlinked project (if any)	Not Applicable			
Whether CRZ is applicable	Not Applicable			
Status of litigation/complaint/case				
Permanent or temporary change of	**. **********************************			
land use, land cover or topograph	physical change in the existing environment due to the change in the land use. At the end of life of mine, the excavated pit will be 1.8368 Ha, in which 1.5815 ha will be reclaimed with stacked dumping and overburden and rehabilitated by plantation and remaining part of 0.2553 Ha will be used as water pond.			
Topography of land and elevation	Topography of lease area is hilly.			
Vegetation	Part of the proposed area is an existing quarry and this			
regeration	area is devoid of any vegetation. The remaining land is			
	sparsely vegetated having topsoil with an average			
Nagrant water back	thickness of 0.5m.			
Nearest water body Charge in water bodies during	Chaliyar River-10.4 Km -N			
Change in water bodies due to	Nil			
mining activities				
Proneness to natural hazards	The material exposed in the quarry is Charnockite, which			
	is hard in nature and as per the seismic zone map, the			
<u> </u>	project site falls under zone III (moderate).			
Env.	ironmental parameters considered			
	WATER			
Water (expected use and	Domestic consumption –0.6 KLD,			
sources in KLD)	Dust suppression: 6 KLD			
	Watering the plantation: 2KLD			
	Source - Water pond & Open well			
Sources of approvation of limit				
Sources of generation of liquid waste	Liquid wastes from toilet and office			
Facilities for liquid waste treatment(In detail)	Liquid wastes from toilet and office will be treated in septic tank and soak pit			

Water quality	meeting	Water quality requirements to meet as per rules after the
requirements. Water Regime (In detail)		The ground water level measured from the nearest well is about 10m below the ground level. The ultimate depth of working of quarry is 40m MSL. Since working is above the ground water table, it does not affect the ground water.
		LAND
Access road to the site -Width & Condition		5m-tarred
Proximity to forest lands		No forest land within the 10 Km radius of the lease area.
Storage of explosives /hazardous substances		Explosives will be procured, stored, transported, handled and used in accordance with Indian Explosive Act 1884, MSIHC Rules 1989, Mines Act, 1952 and regulations there under
Hazardous waste management		Not Applicable
Facility for solid waste management		Solid waste will be stacked at designated places during the quarry operations and will be utilized for reclamation work during mine closure plan.
Top soil, overburden etc		Topsoil –11,933tonnes Overburden – 53,000 tonnes
EnvtMgmt		MANAGEMENT PLAN:
plan/Eco restoration plan	Air pollution	<ul> <li>Dust release to quarry activity will be suppressed periodically by sprinkling of water.</li> <li>To avoid the dust generation from the drilling operations, wet drilling method should be adopted.</li> </ul>
		<ul> <li>Drill machines should be equipped with dust collectors.</li> <li>Use appropriate explosives for blasting and avoid overcharging of blast holes.</li> <li>Controlled blasting techniques should be adopted.</li> <li>Watering of haul road and other road at regular intervals.</li> <li>Provide dust filters/ mask to workers working at highly dust prone and affected areas.</li> <li>Green belt should be practiced along the periphery of the lease</li> </ul>
		<ul> <li>area.</li> <li>Periodical monitoring of ambient air quality in and around the lease area.</li> <li>During the transportation of the extracted mineral to the end</li> </ul>
		<ul> <li>user the following measures should be adopted to minimize dust emissions.</li> <li>In case of long transportation the trucks after loading should be covered with tarpaulin sheets.</li> <li>Speed of the vehicles should be maintained within the prescribed limits.</li> <li>Trucks should not be over loaded and should be maintained to the body level</li> </ul>
	Water pollution	Garland drains and settling ponds are provided at the quarry to contain the quarry wash off and to avoid the same joining the adjoining surface water bodies
	Noise	Plantation will be carried out along the lease periphery, which acts as acoustic barrier for noise transmission
	Solid Waste Management	Solid waste will be stacked at designated places during the quarry operations and will be unitized for reclamation work during mine closure plan.
	Eco restoration	1500 saplings will be planted in an area of 1.5815 ha. The main aim of the green belt development is to restore the ecosystem to its
	1 com anon	Page 3 of

	original form to a maximum possible extent	by planting	native
	species.  NOISE		
C f ino		th moving ma	chinery
Sources of noise	Due to quarry activity and operation of heavy earth moving machinery generation of dust, noise is likely. However, mitigative measures are		
pollution control	proposed accordingly in the EMP. Plantation will be carried out along the		
measures	lease periphery, which acts as acoustic barrier for no	ise transmissi	กท
37 7 1 1	Noise level survey should be carried out at prop	nor intervals	in the
Noise level	corners of the project site both in day time as well	ne in niaht tir	ne and
monitoring	should be maintained the noise level with in prescribe	us in migni iin od limit	ac terres
<u> </u>	AIR	<u> </u>	
Likely emissions	Drilling, blasting and dislodging activities certainly	capable of gen	erating
affecting environment_	the respirable and non-respirable dust during operation.		
By deposition of	Not Applicable		
pollutants emitted to	·		
air into the land or			
into water			
Air quality	Periodical monitoring should be carried out and the	e ambient air	quality
monitoring	status should be maintained as per rules.		
	ENERGY		
Energy requirement	Electric power required for quarry and crusher op-	eration is abo	ut 225
	KW/day which is drawn from KSEB.		
	BIODIVERSITY	<u> </u>	<u> </u>
Presence of any	There are no endangered or rare species in the area.		
endangered species			
or red listed category			<u> </u>
Loss of native species	There will not be any loss of native species of genetic	diversity as ti	re
and genetic diversity	quarry already exists and continuation of the same w	ill not affect o	r loss of
	native species in general.	<u> </u>	
Eco restoration	Around 1500 saplings will be planted in an area of	1.5815 Ha. Th	e main
programmes	aim of the green belt development is to restore	the ecosystem	to its
	original form to a maximum possible extent.		
	SOCIAL ASPECTS		
Proximity to nearest	71. 1 TO 1 150		
densely populated or	Eliakottu Parambu Colony-150m towards SE.		
bui <u>ld-up area</u>		4	D
	Sr. Description	Approx.	Remark
	<b>No</b>   .	Amount	
4II)	Superior and last represents AMIR	1,00,000.00	Yearly
	Sponsoring one lack rupees to AMLP	1,00,000.00	1 cur iy
	School for their scholarship fund	1,00,000.00	Yearly
	2 Water supply to local people of in dry	1,00,000.00	164114
CSR related to the	month  2 Financial assistance for Heart surgery	2,00,000.00	Yearly
project	3 Financial assistance for Heart surgery Patients	2,00,000.00	1 curiy
	4 Renovation of road work from West Bazaar	1,00,000.00	Yearly
	to Colony Road	1,00,000.00	Lung
	5 Providing Health Insurance to people of	2,00,000.00	Yearly
	Mundi Angadi Colony, West Bazar	2,00,000.00	
	Total	7,00,000	0.00
<u> </u>	GENERAL		
	South to the state of the state		
Details of Authorised	Sri. E.A.Abdul Karim, Director,		
Signatory & Address	M/s. Malabar Aggregates (p) Ltd.,	·	

Edathuruthil House, Vadakkekara P.O,
Paravoor, Ernakulam -683522
M/s Overseas Min-Tech
Consultants.
501, 5th floor, Apex Tower,
Tonk Road, Jaipur (Raj.),
Pin-302015, Rajasthan, India
Email: info@overseasmintech.com
Mo: 08233335564
QCI/NABET Accreditation serial no. NABET/EIA/1417/1A003

3. The proposal was placed before the 50<sup>th</sup> meeting of SEAC held on 30-31/12/2015. The Committee deferred the proposal for production of revised mining plan as per KMMC rule 2015 and revised social responsibility proposal. On production of the same by the proponent the proposal was again considered by the 52<sup>nd</sup> meeting of SEAC held on 8/9-02-2016.

The Committee appraised the proposal based on the Form I, Prefeasibility Report, Mining Plan and other details provided by the proponent and recommended for issuance of EC subject to following specific condition in addition to the general conditions stipulated for mining projects.

- 1. To the extent possible local biodiversity management Committee shall be involved in the environmental management/restoration activities.
- 2. Reclamation and eco-restoration should be done by planting native species.
- 4. The proposal was placed in the 51st meeting of SEIAA held on 29-03-2016. As the recommendation is without site inspection, Authority decided to depute the Chairman and Member for site inspection and to ascertain whether it is a working or new quarry.
- 5. As per the decision of the Environment Impact Assessment Authority, held on 29/03/2016, Chairman and Member inspected the building stone quarry project in Sy.No. 36/3(pt), 37/1(Pt), 37/2 (pt), 37/3(pt) at Morayoor village, Kondotty Taluk, Malappuram District, Kerala, owned by Sri. E. A. Abdul Karim, to report to the Authority the factual situation and also to ascertain whether it is a working quarry or new quarry since SEAC did not conduct site inspection. Accordingly site visit was conducted by SEIAA team on 30/5/2016.

"This is a private land owned by Malabar aggregate Private Limited and the proposal is for the new quarry and mineral specific. It was a working quarry on permit for one year, but not working since one year. The topography of the lease area is hilly. The highest elevation of the lease area is 130 m MSL and lowest is 55 m MSL. Extent of area is 2.3732 Hectare Chimate depth of mining (in MSL) is 40 m above MSL. Distance from nearly quarry is beyond 500 meters. Cluster condition is not applicable. Proposed production capacity is 1, 39,000 tonnes per year. Chaliyar river is 10.4 km No There is no forest land within 10 km radius of the lease area. Details of the extrinoment indiagement plan have been given. The material exposed in the quarry is chargochite, which is hard in

nature and as per the seismic zone map, the project site falls under Zone III (moderate).

However, there is no demarcation of the area and no fencing with barbed wires. There is a dwelling unit near the quarry which the proponent has agreed to demolish. Coconut plantation is the major cultivation and teak and rubber plantation is also seen around the quarry. There are no sign boards or dust suppression mechanisms. Because of the sloppy nature possibility of landslides cannot be ruled out. Road leading to the quarry is not properly formed. Mining is not scientific with bench formation. The mining activity will have localised impact and create physical changes in the existing environment due to change in the land use. At the end of mine, the proponent has agreed to reclaim excavated pit with stacked dumping and over burden and the remaining pit will be used as water pond.

However, on an overall evaluation, particularly in view of the recommendation of SEAC, EC may be given subject to the following specific conditions in addition to the conditions suggested by SEAC.

- 1. Future quarrying must be done scientifically with benches in a planned manner.
- 2. Existing deep pits seen as a result of unscientific mining should be filled with overburden and displaced top soil.
- 3. Approach road to the quarry and the main hadlage road new to be developed with a minimum width of 6 m.
- 4. Fencing should be provided all around the lease area with sign board.
- 5. Storm water drainage from the quarry must be let out only after clarification.
- 6. The nearby dwelling units of the proponent should be demolished.
- 7. Mining should be cautiously done without the possibility of landslides.
- 8. The remaining deep pit must be maintained as RWH structure.
- 9. Dust suppression mechanism should be provided.
- 10. Eco-restoration must be done with native species.
- 11. The proponent should submit an affidavit to ensure that the specific and general condition shall be strictly implemented."
- 6. On receipt of the inspection report, the proposal was again considered by SEIAA in its 54th meeting held on 21-06-2016. The Authority accepted the recommendations of SEAC and the additional conditions suggested by the SEIAA team and to issue E.C accordingly.
- 7. The Village Officer, Morayur, vide 'sakshyapathram' No. 1081/16 dated 26-08-2016 and the Geologist, Malappuram, vide letter No. D.O.M/M-2772/2016 dated 24-09-2016, has certified that, so far no land slide has occurred in this place. The quarry owner has represented vide letter dated 25-08-2016 that the dwelling unit near the quarry has been demolished.
- 8. Environmental Clearance under the EIA notification 2006 is therefore granted to the quarry project of M/s. Malabar Aggregates (p) Ltd., in 2.3732 ha comprised in Sy. Nos. 36/3 (pt), 37/1(pt), 37/2(pt), 37/3(pt) at Morayoor Village, Kondotty Taluk, Malappuram District, subject to the specific conditions in paras 3 and 5 above and the general conditions for mining projects as appended. Grant of E.C is also subject to production of non-cluster certificate, affidavit, general conditions stipulated for

mining projects and the mitigation measures undertaken in the EMP in the PFR. However if any genuine complaints about the quarry is received, E. C issued shall be reviewed.

- 9. Validity shall 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. E.A. Abdul Karim, Director, M/s. Malabar Aggregates (P) Ltd., Vadakkekara P.O, Paravoor, Ernakulam District-683522, subject to the general conditions annexed hereto.
- 10. 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 5 (Blasting), Chapter 6 (Mine drainage), Chapter 11 (EMP), 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.
- 11. 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) Instances of violation, if any, shall be reported to the District Collector, Malappuram to take legal action under the Environment (Protection) Act 1986.
- 12. The given address for correspondence with the authorised signatory of the project is Sri. E. A. Abdul Karim, S/o Alikunju, Director, M/s. Malabar Aggregates (P) Ltd., Edathuruthil House, Vadakkekara P.O, Paravoor, Ernakulam District-683522.

Sd/ V. S. Senthil, I.A.S Member Secretary (SEIAA)

To,

Sri. E. A. Abdul Karim, S/o Alikunju, Director, M/s. Malabar Aggregates (P) Ltd., Edathuruthil House, Vadakkekara P.O, Paravoor, Ernakulam -683522.



#### Copy to:

- 1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4<sup>th</sup> Floor, E& F Wing, II block, Koramangala, Bangalore-560034.
- 2. Additional Chief Secretary to Government, Environment Department.
- 3. The District Collector, Malappuram.
- 4. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
- 5. The Secretary, Marayoor Grama Panchayath Office, Ozhukur P.O., Malappuram-673642
- 6. Chairman, SEIAA
- 7. E.C File
- 8. Stock File

19 Website

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.
- 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.
- 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.
- 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.

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.

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.

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. 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.

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.

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.

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

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.

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 not withstanding 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.
- 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.
- 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.

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For Member Secretary, SEIAA Kerala C. RAJENDRAN CHETTIAR

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