



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

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

Sub: - SEIAA- Environmental clearance for the quarry project in Survey No 179 & 1293 at Ayyankunnu Village, Iritty Taluk, Kannur District, Kerala by M/s Reena Metals – E.C. Granted- Orders issued.

**STATE ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY**

**No. 210/EC4/221/2014/SEIAA**

**Dated, Thiruvananthapuram 17/01/2017**

- Read:-
1. Application dated 08/11/2013 submitted by Sri.K.C.James authorized signatory of M/s.Reena Metals.
  2. Minutes of the meeting of 25<sup>th</sup> SEAC held on 14/15-02/2014
  3. Minutes of the meeting of 26<sup>th</sup> SEAC held on 20/21-03/2014.
  4. Minutes of the meeting of 35<sup>th</sup> SEIAA held on 09/04/2015
  5. Minutes of the meeting of 57<sup>th</sup> SEAC held on 16/17-6-2016.
  6. Minutes of the meeting of 58<sup>th</sup> of SEAC, held on 28/29-06/ 2016
  7. Minutes of the meeting of 60<sup>th</sup> SEAC held on 28/29-07/2016
  8. Minutes of the meeting of 61<sup>st</sup> SEAC held on 11/08/2016
  9. Minutes of the meeting of 60<sup>th</sup> meeting SEIAA held on 27/10/2016

**Environmental Clearance No. 11 /2017**

Sri.K.C.James, authorized signatory of M/s.Reena Metals submitted an application dated 8/11/2013, for Environmental Clearance for quarry project for an area of 4.9215 ha at Sy.Nos. 179, 180 & 1293 at Ayyankunnu Village, Iritty Block, Kannur Kerala for the purpose of extraction of minor minerals. The proposal was considered in the 25<sup>th</sup> SEAC meeting held on 14<sup>th</sup> and 15<sup>th</sup> February 2014 as agenda item no. 25.13. Despite intimation from the Secretariat of SEAC/SEIAA, the proponent failed to circulate the proposal to the members of SEAC without which the evaluation of the same was not possible. Further it was found that the environmental consultant has not produced valid authorization from the EIA co-ordinator to make a presentation before the Committee on his behalf. Hence the item was deferred to be considered in the next meeting and the proponent was intimated the same. In the meantime, the proponent has informed that he will not be present during appraisal of the

project scheduled for 26<sup>th</sup> Meeting held on 21<sup>st</sup> March 2014 as they are planning to submit the revised proposal shortly as per the latest requirements and guidelines of SEIAA. Other details as follows:

<b>I. Project details</b>		
1.	File No.	210/EC4/221/2014/SEIAA
2.	Name /Title of the project	Reena Metals – 2.9350 Ha
3.	Name and address of project proponent.	Reena Metals, MT-89-S, Highway Arcade, Kannur, Kerala 670002 Telephone : 0497-2701728 Email : <a href="mailto:reenairitty@rediffmail.com">reenairitty@rediffmail.com</a>
4.	Owner of the land	Reena Metals & Baby Balakrishnan
5.	Survey No. District/Taluk/ and Village etc.	S. NO: 179, 1293 Village : Ayyankunnu Taluk : Thalassery District : Iritty STATE: KERALA
6.	Nature of the proposal – lease or permit with evidence.	Own land for Lease Already Quarry Permit for 50 cents – Building stone issued : No.167/2011-12/MM/GS/DCC/M- 3187/2011 , Dated 1/08/2011 and renewed time to time.
7.	Date of submission of Application	8/11/2013 file no (210/SEIAA/KL/221/2014)
8.	Brief description of the project.	Mine Plan approval for sy.nos. 179, 1293, for building stone quarry in 2.9350 Ha of land owned by Mr. K.C. James, submitted with EMP.
9.	Details of Authorized Signatory and address for correspondence	Mr. K.C. James Managing partner
<b>II. Land Details</b>		
10.	a) Extent of area in hectares	2.9350 Ha in Iritty, Kannur.
11.	b) Is the property forest land/Govt. land/own land/patta land	Private Patta Land , Land use – Dry Rocky area.
12.	c) Quantity of top soil/over burden produced and managed	No substantial quantity of top soil generated though it will be re-used in slopes
13.	d) Latitude and Longitude	12°03'14.97"N to 12°03'12.28"N 75°45'13.32"E to 75°45'09.61"E
14.	e) Topography of land and elevation	The area is roughly square in shape with major dimension along the north south direction. Major dimension of

III. Mining details			
19.	a) Minimum and Maximum height of excavation.	RQP – Geological plan (Working pit sections 4 – 4a)	
20.	b) Life of mine proposed.	12 years (Conceptual Plan and Progressive mine closure plan 6,7)	
21.	c) Underground mining if any proposed	No	
22.	d) Method of Mining	Semi-Mechanized open-cast mining	
23.	e) Distance from the adjacent quarry	Quarry within 500m	
24.	f) Cluster condition if any	Our own quarry within 500m	
25.	g) Has “No cluster certificate” submitted?	Not applicable	
26.	h) Distance from nearby habitation	More than 2 km “ Ayankkunu Village”	
27.	i) Distance from nearby forest, if applicable	More than 1 Km	
28.	j) Distance from protected area, Wildlife Sanctuary, National Park etc.	Aralam Wild life Sanctuary” more than 10 Km	
29.	k) Distance from nearby streams/rivers/National Highway and Roads	“Valapatnam River “ 10 km.	
30.	l) Is ESA applicable? If so distance from ESA limit	“10 Km” ESA	
31.	m) Has approved mining plan, prepared by RQP submitted?	Yes, Submitted with Certificate	
32.	n) Capacity of production in TPA	1,14,372 TPA	
33.	o) Details of mining process	Semi-Mechanized open cast mining	
IV. Details of Project cost			
34.	a) Land cost	40 Lakh	
35.	b) Plant and Machinery	158 Lakh	
36.	c) Total Cost	198 Lakh	
37.	V. Financial Statement including funding source and details of insurance etc.	Bank Loan and capital investment of partners. All equipment are insured	
38.	Management Plan	Air Pollution	1.5 Lakh
		Water Pollution	0.75 Lakh
		Green belt development	2 Lakh
		Pollution Monitoring	3.45 Lakh/Annum
		Fire fighting	1.5 Lakh
		Occupational Health and safety	0.75 Lakh
		Reclamation of mined area	0.75 Lakh
39.	VI. Whether Environment Management Plan or Eco restoration Plan satisfactory?	An EMP budget of 7.5 lakhs of Capital cost and 4.5 lakhs of Operation and Maintenance cost is	

		<p>the area is about 270 and with minor dimension about 260m. Bench Mark of the area is at Boundary pillar number 02 and is 122MSL. Overall slope of the area is from north west to south with lowest point near the southern boundary (120MSL) while highest level is towards north western boundary. The lowest contour in the area is 120 MSL while highest contour in the area is 152 MSL. Contour lines are drawn at an interval of 02m. There is slope in the southern side of the area and specific drainage pattern is observed in the north west to south. However normal flow of surface water during monsoon is from north west to south.</p> <p>Eastern part is easily accessible area and will be worked for exploitation of stones during the plan period. The southern portion does have basalt rock beneath and that can be exploited in later stage. There is network of road in the area to connect these various features and the main road outside the lease</p>
15.	f) Slope analysis	The granite rock occurs in a sloping terrain with the RL in the range of +120m AMSL to +150m AMSL sloping from North West to South East (Surface and contour Maps)
16.	g) Will there be any significant land disturbance resulting in soil erosion, subsidence & natural drainage.	The site is stable and no erosions seen. Monsoon could create temporary erosion. Green belt suggested. – Plate No. 8 and 9 of Mine plan
17.	h) Access road to the site width and condition	Existing 7m road at a distance of 100m
18.	i) Will there be any adverse impact on the aesthetics of the proposal site	The mining plan is prepared in such a way that there is no adverse effect due to proposed project. Overburden relay and green belt at end of mine or please refer EMP and Conceptual plan – Plate No. 6 ( RQP Plates)

		allocated in PFR.
40.	<b>VII.</b> Does it suggest mitigation measures for each activity	Yes
41.	<b>VIII.</b> If Pre-Feasibility Report (PFR) satisfactory	Yes with Mine Plan
42.	<b>IX.</b> Does it need public hearing	Not applicable as the area 2.9350 Ha which is < 5 Ha. (B2)
43.	<b>X.</b> Details of litigation and Court verdict if any	Not Applicable
44.	<b>XI.</b> Details of public complaint, if any	No petitions
45.	<b>XII.</b> Details of statutory sanction required	Approved mine plan for 2.9 Ha
46.	<b>XIII.</b> If CRZ recommendation applicable?	Not Applicable
<b>PART B</b>		
<b>Environment Impact Assessment and Mitigation Measures</b>		
<b>Impact on water</b>		
47.	a) Details of water requirement per day in KLD	11 KLD
48.	b) Water source/sources.	Bore wells or tankers
49.	c) Expected water use per day in KLD.	11 KLD
50.	d) Details of water requirements met from water harvesting.	Water Recharge Pits
51.	e) What are the impact of the proposal on the ground water?	No effect
52.	f) How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	Water Recharge Pits could enhance site use.
53.	g) What is the incremental pollution load from waste water generated from the proposed activities?	No waste water generated but Air and Noise pollution only which can be suppressed by water sprinkling and use of sophisticated mechinaries.
54.	h) How is the storm water from within the site managed?	Rain water Pits
<b>Impact on Biodiversity and Eco restoration Programmes</b>		
55.	a) Will the project involve extensive clearing or modification of vegetation (Provide details)	No, project proposed on dry and exposed rocky land
56.	b) What ate the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	Afforestations (EMP – RQP)
57.	c) Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ? d) Presence of any endangered species or red listed category (in detail)	There is no displacement of fauna from site. Also there are no rare/ endangered species at site.  Green belt and Afforestation ( EMP- RQP)

Impact on Air Environment		
58.	a) What are the mitigation measures on generation of dust, smoke and air quality	<ul style="list-style-type: none"> <li>• Sprinkling of water – Dust Control</li> <li>• Green belt</li> <li>• Pollution Control equipment</li> <li>• Personal Protective Equipment for labor – EHS / OHS</li> </ul>
59.	b) Details of internal traffic management of the site.	Site Manager is trained
60.	c) Details of noise from traffic, machines and vibrator and mitigation measures	<ul style="list-style-type: none"> <li>• Sophisticated Machinery</li> <li>• Clean development mechanism</li> <li>• Dust control</li> <li>• PPE</li> </ul>
61.	d) Impact of DG sets and other equipments on noise and vibration and ambient air quality around the project site and mitigation measures	<ul style="list-style-type: none"> <li>• Acoustic enclosures to control noise</li> <li>• CDM</li> </ul>
62.	e) Air quality monitoring in detail	Monitoring Budget presented in PFR.
Energy Conservation		
63.	a) Details of power requirement and source of supply.	No power supply
64.	b) Details of renewable energy (non – conventional) used	Non conventional source of energy not used.
Risk Management		
65.	a) Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site?	<ul style="list-style-type: none"> <li>• Access to hospitals provided</li> <li>• Accident escalation to management available at site.</li> <li>• Vehicles for labor pick up and drop available.</li> </ul>
66.	b) Are proposals for fencing around the quarry satisfactory? c) Storage of explosives/hazardous substance in detail d) Facility for solid waste management	<ul style="list-style-type: none"> <li>• Safety at site maintained for access control area cordoned and fancily proposed .</li> <li>• Magazine area has danger marking.</li> <li>• Annexure No. ( Magazine area</li> <li>• Blasters license :Licence No: /E/SC/KL/22/1549 (E63962), Dated 09.09.201 (Annexure — 8).</li> <li>• Incinerator and Safety tank available at residence area of workers.</li> </ul>

Socio Economic Impacts											
67.	a) Will the project cause adverse effects on local communities disturbance to sacred sites or other cultural values. What are the safe guards proposed?	No Adverse effects foreseen. The company has a CSR Policy. 2 % of Profit contribution towards CSR.									
68.	b) Will the proposal result in any changes to the demographic structure of local population. If so, provide details.	<ul style="list-style-type: none"> <li>Local labour will be hired and local purchase will be made thus economical status of local populace upgraded.</li> <li>Schools can receive CSR contribution.</li> <li>CSR contribution to PHC will help sanitation.</li> <li>CSR contribution to Panchayat and professional taxes will be used as overall development of local area.</li> </ul>									
69.	c) Are the CSR proposals satisfactory. Give details	<table border="1"> <tr> <th colspan="3">Common CSR Activities already carried out</th></tr> <tr> <th>Sl.No</th><th>Particulars</th><th>Amount in Rs.in lakhs</th></tr> <tr> <td>1</td><td>CSR</td><td>2.5 Lakhs</td></tr> </table>	Common CSR Activities already carried out			Sl.No	Particulars	Amount in Rs.in lakhs	1	CSR	2.5 Lakhs
Common CSR Activities already carried out											
Sl.No	Particulars	Amount in Rs.in lakhs									
1	CSR	2.5 Lakhs									
70.	d) What are the projects benefits in terms of employment potential?	10 local labor Indirect : Drivers and supported activities : 20 staff									

2. Despite intimation from the Secretariat of SEAC/SEIAA, the project proponent was absent for presentation in the 26<sup>th</sup> meeting SEAC for the second chance also held on 20<sup>th</sup> and 21<sup>st</sup> March 2014 as agenda item no. 26.37, and hence the proposal was *delisted* by the Committee.

On 4.11.2014 the proponent submitted a letter saying that they have changed their consultant from Vishonteck Consultancy Services, Bhuvanewar to Hubert Enviro Care Systems Pvt.Ltd., Chennai and also submitted the proof of documents of NABET accreditation.

3. The proposal was placed in the 35<sup>th</sup> meeting of SEIAA held on 9-4-2015. SEIAA decided that engaging consultant is not the concern of the Authority. If the revised proposal as per rules with mining plan as approved by the competent authority is not produced within two months, the application may be rejected. SEIAA has intimated to the applicant vide letter no 210/EC2/221/2014 dated 13-4-2015 to submit the clarifications sought by 35<sup>th</sup> SEIAA.

4. The proponent has submitted letter of intent and Approved Mining Plan as per KMMCR-2015. While scrutinizing the Mining Plan and letter of intent, it was found that the total area of quarry project, Sy.Nos and Taluk are changed to 2.9350 ha falling in Sy Nos.179 and 1293 at Ayyankunnu Village, Iritty Taluk, Kannur District. According to the Mining Plan, the proponent has submitted revised Form1, PFR and EMP. The proposal was placed in the 57<sup>th</sup> meeting of SEAC held on 16/17-6-2016. The Committee deferred the item for presentation in the next meeting.
5. The proposal was again considered in the 58<sup>th</sup> Meeting of SEAC, held on 28-29<sup>th</sup> June, 2016. The proponent admitted that the quarry is in operational phase based on quarry permit. There could be a possible violation. The Committee decided to defer the item for field visit. The proponent agreed to spend Rs 6 lakhs per year towards community welfare activities for a period of next 5 years and also agreed to implement schemes in consultation with the local body.

Field visit to the Quarry project site of M/s **Reena Metals** in Ayyankunnu Village, Iritty Taluk, Kannur District, Kerala was carried out on 17.07.2016 by the sub-committee of SEAC, Kerala, comprising Dr. P S Harikumar, Dr. K M Khaleel and Sri. John Mathai. The Proponent along with his team was present at the site at the time of site visit.

*"The project is located at about 5 km east of Kuttupuzha with approach from Anapanthi on the Iritty- Virappet road. The interstate boundary is located about 2.5 km to the north. Since the project falls under B2 category general conditions are not applicable and hence the condition of interstate boundary is not considered. The area falls on the western sloping segment of Ayyankunnu. The present application is for an area of 2.9 ha out of a total area of about 16 ha. The exact shape and boundary of the proposed area to be quarried was not clear to the sub-committee as it was not clearly demarcated with boundary pillars and fenced. Part of the area has been exploited though not working at the time of inspection. Top soil/OB is seen stored in different places. The rock type is massive charnockite with a thin mafic dyke. The storm water from the entire area is presently not channelized. Floral and faunal biodiversity is not observed as the area is mostly cleared. Few buildings seen in the boundary are no longer dwelling units."*

Based on an overall evaluation of the site, following aspects may be considered before it is recommended for EC

- Map showing all lands in possession and the proposed quarry lease area within this land. Boundary pillars to be erected in the proposed quarry area, fenced and reported. The GPS coordinates of the boundary pillars also to be given.
- The certificate that the proposed quarry area is not assigned for any special purposes.
- Top soil and Over burden should be stored in the designated place only and provided with protective support walls. The OB stored adjacent to a seasonal stream on the southern side need proper management without entering into the stream.
- A catch water drain to be provided all along the lowest part and



- channelized into a RWH structure to be created on the lower slope.*
- Assurance that green belt will be provided around the periphery. A separate plot should be set apart for preserving rare plants in the vicinity.*
- The CSR activity needs revision as suggested in the meeting.*

The proponent submitted the clarifications on 05.08.2016.

- The proposal was considered in the 61<sup>st</sup> Meeting of SEAC held on 11<sup>th</sup> August 2016. The Committee after examining the mining plan, prefeasibility report, Field Inspection Report and the other documents and details provided by the proponent decided to recommended for issuance of EC subject to the general conditions in addition to the following specific conditions that:
  - The approach road should be widened to satisfy local body rules
  - Top soil and Over burden should be stored in the designated place only and provided with protective support walls. The OB stored adjacent to a seasonal stream on the southern side need proper management without it entering into the stream.
  - A catch water drain to be provided all along the lowest part and channelized into a RWH structure to be created on the lower slope.
  - Assurance that green belt will be provided around the periphery.
  - A separate plot should be set apart for preserving rare plants in the vicinity.

The proponent agreed to spend 6 lakhs/ annum towards community welfare activities for a period of next 5 years and also agreed to implement schemes in consultation with the local body.

- SEIAA in its 60<sup>th</sup> meeting held on 27<sup>th</sup> October 2016 accepted the above recommendation and to issue Environmental Clearance on condition that the quarrying shall be started only after fulfilment of the specific condition No 1 and 5 as pre mining conditions, and compliance of this should be certified by a competent body.
- Environmental clearance as per the EIA notification 2006 is hereby accorded for the proposed Quarry project in survey No. Survey Nos 179 & 1293 of Reena Metals, Ayyankunnu Village, Iritty Taluk, Kannur District - subject to the specific conditions stipulated in para 6&7, all the environmental impact mitigation and management measures undertaken by the project proponent in the Form I and other documents submitted to SEIAA, the mitigation measures proposed in the table in para 1 above. The assurances and clarifications given by the proponent will be deemed to be a part of these proceedings as if incorporated herein. Also the general conditions for projects stipulated for mining, appended hereto will be applicable and have to be strictly adhered to.
- 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 and Chapter 5 of Mining plan (Blasting) 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.

10. 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 Mr.K.C.James Managing Partner of Reena Metals, Iritty Block, Angadikadavu,P.O., Ayyankunnu Village, Iritty Tehsil , Kannur District, Sy.No.179 & 1293 of 2.9350 hectares subject to specific condition in para 6 & 7 above and addition the general conditions annexed hereto.
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, Kannur to take legal action under the Environment (Protection) Act 1986.
  - iii. The given address for correspondence with the authorised signatory of the project is Mr.K.C.James Managing Partner of M/s Reena Metals, MT-89-S, Highway Arcade, Thana, Kannur, Kerala – 670 002.
  - iv. Clearance is therefore granted to the quarry project of Sy. No. 179 & 1293 of Mr.K.C.James, Managing Partner, Reena Metals, MT-89-S Highway Arcade, Kannur -2 subject to specific condition in para 6&7 above in addition to the general conditions annexed hereto.

Sd/-

V.S. SENTHIL, I.A.S.,  
Member Secretary (SEIAA)

To

Mr.K.C.James,  
M/s Reena Metals,  
MT-89-S,  
Highway Arcade, Thana, Kannur,  
Kerala – 670 002.

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, Kannur
4. The Director, Mining and Geology Department, Kesavadasapuram, Thiruvananthapuram-4
5. The Secretary, Ayyankunnu Panchayat, Iritty, Angadikadavu.P.O, Kannur- 670 706
6. Chairman, SEIAA
7. E.C File
8. Stock File
- ✓ 9. Website
10. O/C.



*Forwarded/By Order*

*Rajeshan*

*Administrator (SEIAA)*



# STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

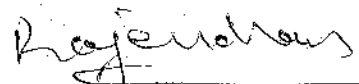
## GENERAL CONDITIONS (for mining projects)

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 100m 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 proponents 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