

Proceedings of the Joint Environmental Impact Assessment Authority (Kerala)

Present Prof. (Dr) K.P. Joy, Chairman, Dr. Subhashini, Member, Dr. Nivedita, P. Haran (Asst. Member Secretary/Additional Chief Secretary to Government/Environment Department)

Sub: Southern Rock & Aggregate Mining Company, Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala - Environmental Clearance - Accorded

Environmental Clearance

No. 295/SEIAA/KL/1362/2014

dated, Thiruvananthapuram 05.12.2014

- Ref: 1. Application dated 25.03.2014 submitted by the Proprietor of M/s Southern Rock & Aggregate Mining Company, at Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala
2. Minutes of the 29th meeting of SEAC held on 2nd & 3rd May 2014
3. Minutes of the 32nd meeting of SEAC held on 12th & 13th August 2014
4. Minutes of the 34th meeting of SEIAA held on 31.10.2014

ORDER

Sri. T. Mathew Abraham, Proprietor, M/s Southern Rock & Aggregate Mining Company, Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala, vide his application received on 25.03.2014, has sought Environmental Clearance under EIA Notification, 2006 for the building stone quarry project in Sy. Nos. 1019/3, 1019/4, 1019/5, 1019/6, 1019/7, 1021/6, 1021/8, 1021/9, 1027P, 1028P, 1029P and 1030P at Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala for an area of 7.8000 hectares. The project comes under Category B, Activity 1(a), (i) as per the Schedule of EIA Notification 2006 (since it is below 50 hectares) 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. -13012/12/2013-IA-II (I) dt. 24.12.2013 of Ministry of Environment and Forests, since the area of the project is below 25 hectares.

Name of project	Building Stone Quarry of M/S Southern Rock & Aggregate Mining Company
Description of the project	Open cast mining
Category/Subcategory & Schedule	"B" Category, 1(a)
Location Sy. no./ district/ Taluk/ village	Sy. Nos. 1019/3, 1019/4, 1019/5, 1019/6, 1019/7, 1021/6, 1021/8, 1021/9, 1027P, 1028P, 1029P and 1030P at Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala
Geo-coordinates	N: 10° 44' 02.9" to N: 10° 44' 10.8" and E: 76° 17' 38.2" to E: 76° 34' 53.4"
Extent of area (in hectares)	7.800 Ha
Minimum and maximum height of excavation (MSL)	Highest 120 MSL and Lowest 60 MSL
Life of mine proposed	20 years
Ultimate depth of mining (in MSL)	30 MSL
Distance from the adjacent quarry	1. 0.400 kms from quarry towards SW 2. 0.450 kms from quarry towards NW
Capacity of production	Building Stone 3,00,000 tones/annum.

<i>Details of Project Cost</i>	Total Project: Rs. 6.50 Crores Land Cost: Rs. 2.50 Crores Plant & Machinery: Rs. 3.50 Crores Construction : Rs. 0.5 Crores
<i>CRZ recommendations</i>	Nil
<i>Forest clearances</i>	Nil

ABOUT THE PROJECT

<i>Environmental parameters</i>	<i>Mitigation Measures</i>
WATER	
<i>Water requirement & sources</i>	Domestic consumption – 2.00 KLD met from Borewell within the quarry site. Dust suppression: 16.0 KLD met from Borewell within the quarry site. Plantation: 2.0 KLD met from Borewell within the quarry site.
<i>RWH units proposed</i>	One Rain water harvesting ponds will be created which will act as tool for ground water recharge and rain water harvesting pond.
<i>Facilities for liquid waste treatment</i>	Liquid waste will be treated in CPCB approved Septic Tank & soak pit.
<i>Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?</i>	Nil
<i>Does it have provisions for use of recycled water</i>	Water used for cutting of rock mass will be recycled for cutting purpose.
LAND	
<i>Proximity to forest lands</i>	Painkulam reserve forest is at a distance of 2.25 kms towards E of quarry
<i>Access road to the site –Width & Condition</i>	7 m width of road and good condition to haul the material
<i>Storage of explosives, hazardous substances</i>	Explosives will be stored, transported, handled and used in accordance with India Explosive Act 1884, MSHCRules-1989, Mines act 1952 and regulation thereunder. Hazardous materials like spent oil being disposed off as per the existing Rules & Guidelines of Hazardous Waste (Management & Handling) Rules, 1989 and 2003 and are being sent to stores for disposal through authorized agents.
<i>Facility for solid waste mgmt</i>	About 2,92,000 tonnes is likely to generate till life of the quarry. About 13,800 tonnes (average for the plan period) of waste is likely to generate every year. This will be dumped in the area earmarked for the purpose. During the post mining stage entire dump material will be backfilled in the pit. About 21.60 KLD of domestic effluents is likely to generate,

	the same will be taxed and disposed through septic tank and soak pit as per the approved KSPCB norms.
Topographic features/slopes	The quarry area is situated in the NW-SE trending chain of hillocks south of Chanthuruthy & North of Panjal. The highest elevation is about 20 m above MSL towards north of the proposed lease area and the lowest elevation is 60 m above MSL towards southern part. The lease area is generally sloppy NE to SW. The slope is moderate. Part of the lease area is more or less broken up where there is no vegetation and the balance area is covered with rubber & other plantation. There are no perennial water course / water bodies / streams / nallahs within the leasehold area. The storm water passes through the minor water courses and gets confluence with the adjacent nallah.

Top soil, overburden etc.	Topsoil 67,500 tonnes (till life of the mine) Waste Rock : 2,92,000 tonnes (till life of the mine).
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AIR

Air quality meeting requirements	Monitoring of air quality monitored and analysed both in core & buffer zone and results found within the limits of NAAQ standards.
Noise level meeting requirements	Noise level survey carried out both during the activity in the quarry area and nearby villages.
Likely emissions affecting environment	Due to quarry activity and operation of heavy earth moving machinery generation of dust, noise is likely. However, mitigative measures are proposed accordingly in the EMP.

ENERGY

Energy requirement	Power requirement for office and other buildings is 400KVA
Energy Sources	Power for office and other buildings will be met through KSEB.

BIODIVERSITY

Presence of any endangered species or red listed category	Nil
Loss of native species and genetic diversity	There will not be any loss of native species or genetic diversity as the quarry already exists and continuation of the same will not affect or loss of native species in general.

SOCIAL ASPECTS

Proximity to nearest habitation	108 m from the boundary of mining lease area. Towards north west
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GENERAL

Does it propose environment management plan	Yes, The Environmental Management Plan submitted.
Does it have eco restoration programmes	Post mining closure plan is prepared and the same will be implemented.
Litigation/court cases, if any,	Nil

from the area. There is a need to preserve OB for restoration of the quarry during the closure. Care must be taken when the OB is removed from the steep slopes. Dark humus rich top soil must be preserved.

3. Mechanism to channelize the water, arrest soil movement, desiltation and clarification of water do exist. The old pit in the centre of the active quarry is used as a settling tank as well as RWH pond. The entire flow from the quarry face is directed to this pit. The water exiting from these areas is not provided with silt traps and lined channels, though planned. A proper silt trap mechanism and clarification mechanism must be provided.
4. There is no separate stockyard for the finished product from their crushed unit. Presently it is being stored in open space on the southern side.
5. Vegetative covering must be provided in the debris mantle slopes where quarry operation is not planned.
6. 100m buffer distance must be provided from the dwelling units.
7. Validity of the EC will be 5 years.

The Authority approved the proposal for issue of environmental clearance subject to the general and special conditions as per the recommendations of SEAC.

Environmental Clearance under EIA notification 2006 is accorded for the proposed quarry project of M/S Southern Rock & Aggregate Mining Company, in Sy. Nos. 1019/3, 1019/4, 1019/5, 1019/6, 1019/7, 1021/6, 1021/8, 1021/9, 1027P, 1028P, 1029P and 1030P at Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala subject to all the mining features, Environmental Management Plans as undertaken in the EMP submitted to SEIAA (pages 42-66 of report) which will form part of this proceedings on if incorporated herein, and the following additional specific conditions, and the general conditions on mining of miner minerals as modified, appended hereto.

1. Steep cutting with more than 50m height are seen in the active and old quarried faces. Bench formation is being introduced in the presently active working area on the top but need planning with a main haulage leading to the top. Hence the steeply cut faces on the lower/bottom region must be fenced and provided with danger signs. It must be worked only after benches are made on the top.
2. Pockets of over burden are seen in the elevated crustal parts and in the eastern flanks. This is now stored in the low lying area but not in the designated places. Sheet flow of rain water carry away soil from this area. There is a need to preserve OB for restoration of the quarry during the closure. Care must be taken when the OB is removed from the steep slopes. Dark humus rich top soil must be preserved.
3. Mechanism to channelize the water, arrest soil movement, desiltation and clarification of water do exist. The old pit in the centre of the active quarry is used as a settling tank as well as RWH pond. The entire flow from the quarry face is directed to this pit. The water exiting from these areas is not provided with silt traps and lined channels, though planned. A proper silt trap mechanism and clarification mechanism must be provided.
4. There is no separate stockyard for the finished product from their crushed unit. Presently it is being stored in open space on the southern side.
5. Vegetative covering must be provided in the debris mantle slopes where quarry operation is not planned.
6. 100m buffer distance must be provided from the dwelling units.

of steep cutting faces, debris mounds are eliminated. Either the eastern conveyor streamer motor in the premises of Panapachet about 2 kms to the east. Main haulage are all lined and not had topped. The crusher unit is encased with minimum dust emission. Settlement and buildings are situated on the southwest but beyond 100 m. HT lines on the west and east are also beyond 100 m. Steep faces of old quarry workings are noted in the lower part of the hill ridge. Based on these observations, following points may be taken into consideration:-

1. Steep cuttings with more than 15m height are seen in the active and old quarried faces. Bench formation is being introduced in the presently active working area on the top but need planning with a main haulage leading to the top. Hence the steeply cut faces on the lower/bottom region must be fenced and provided with danger signs. It must be worked only after benches are made on the top.
2. Pockets of OB are seen in the elevated crestal part and in the eastern flanks. This is now stored in the low lying area but not in designated places.
3. Sheet flow of rainwater can carry soil from this area. There is a need to preserve OB for restoration of the quarry during the closure. Care must be taken when the OB is removed from the steep slopes. Dark humus rich top soil must also be preserved.
4. Mechanism provided to channelise the water, arrest soil movement, desiltation and clarification of water do exist. The old pit in the centre of the active quarry is used as a settling tank as well as RWH pond. The entire flow from the quarry face is directed to this pit. The water exiting from this area is not provided with silt traps and lined channels though planned. A proper silt trap mechanism and clarification mechanism must be provided.
5. There is no separate stock yard for the finished products from their crusher unit. Presently it is being stored in open space on the southern side.
6. Vegetative covering must be provided in the debris mantle slopes where quarry operation is not planned.
7. 100 m buffer distance must be provided from the dwelling units.

Subsequently, the proposal was placed in the 32nd SEAC meeting held on 12th & 13th August 2014 as item no. 32.32. The project has been recommended as per the following specific condition in addition to the general conditions stipulated for mining projects:

1. Steep cutting with more than 15 m seen in the lower / bottom region must be fenced and provided with danger sign boards.

The proposal was placed in the 34th SEIAA meeting held on 31st October 2014 as item no. KLA/34.56 and decided to grant E.C subject to the new 5 additional general conditions on mining adapted in the joint meeting of SEAC/SEIAA held on 31.10.2014 and the following 6 special conditions recommended for by SEAC:

1. Steep cutting with more than 50m height are seen in the active and old quarried faces. Bench formation is being introduced in the presently active working area on the top but need planning with a main haulage leading to the top. Hence the steeply cut faces on the lower/bottom region must be fenced and provided with danger signs. It must be worked only after benches are made on the top.
2. Pockets of over burden are seen in the elevated crestal parts and in the eastern flanks. This is now stored in the low lying area but not in the designated places. Sheet flow of rain water can carry soil

over the area. Dark humus rich top soil must be preserved for restoration of the quarry during closure. Care must be taken when the OB is removed from the steep slopes. Dark humus rich top soil must be preserved.

3. Mechanism to channelize the water, arrest soil movement, desiltation and clarification of water do exist. The old pit in the centre of the active quarry is used as a settling tank as well as RWH pond. The entire flow from the quarry face is directed to this pit. The water exiting from these areas is not provided with silt traps and lined channels, though planned. A proper silt trap mechanism and clarification mechanism must be provided.
4. There is no separate stockyard for the finished product from their crushed unit. Presently it is being stored in open space on the southern side.
5. Vegetative covering must be provided in the debris mantle slopes where quarry operation is not planned.
6. 100m buffer distance must be provided from the dwelling units.
7. Validity of the E.C will be 5 years.

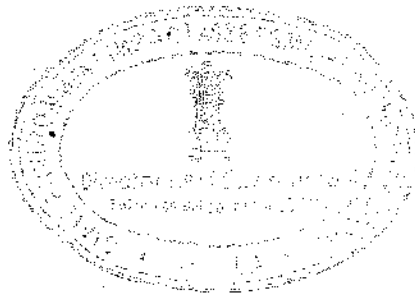
The Authority approved the proposal for issue of environmental clearance subject to the general and special conditions as per the recommendations of SEAC.

Environmental Clearance under EIA notification 2006 is accorded for the proposed quarry project of M/S Southern Rock & Aggregate Mining Company, in Sy. Nos. 1019/3, 1019/4, 1019/5, 1019/6, 1019/7, 1021/6, 1021/8, 1021/9, 1027P, 1028P, 1029P and 1030P at Painkulam Village, Thalappilly Taluk, Thrissur District, Kerala subject to all the mining features, Environmental Management Plans as undertaken in the EMP submitted to SEIAA (pages 42-66 of report) which will form part of this proceedings on if incorporated herein, and the following additional specific conditions, and the general conditions on mining of minor minerals as modified, appended hereto.

1. Steep cutting with more than 50m height are seen in the active and old quarried faces. Bench formation is being introduced in the presently active working area on the top but need planning with a main haulage leading to the top. Hence the steeply cut faces on the lower/bottom region must be fenced and provided with danger signs. It must be worked only after benches are made on the top.
2. Pockets of over burden are seen in the elevated crustal parts and in the eastern flanks. This is now stored in the low lying area but not in the designated places. Sheet flow of rain water can carry soil from this area. There is a need to preserve OB for restoration of the quarry during the closure. Care must be taken when the OB is removed from the steep slopes. Dark humus rich top soil must be preserved.
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6. 100m buffer distance must be provided from the dwelling units.

of this Environmental clearance will be 5 years from 1-10-2014 provided that it will be
reviewed at any stage earlier if any of the conditions the EC is violated, or not duly complied

- I. Compliance of the conditions herein will be monitored by the Directorate of Environment and Climate Change or its agencies and also by the regional office of the Ministry of Environment and Forest, Govt of India, Bangalore.
- 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, Thrissur to take legal action under the Environment (Protection) Act 1986.



For Member Secretary (SEIAA)

Sri. T. Mathew Abraham
Proprietor
M/s Southern Rock & Aggregate Mining Company
Painkulam P.O.,
Cheruthuruthy,
Thrissur, Kerala - 679531.

Copy to:

~~From: Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, East Wing, II Block~~
~~Koramangala, Bangalore-560034~~

The Addl. Chief Secretary to Government, Environment Dept., Government of Kerala

The District Collector, Thrissur

The Director, Dept. of Environment and Climate Change, Govt. of Kerala, Tvm - 24.

The Director, Mining and Geology Department, Government of Kerala

The Secretary, Painkulam Grama Panchayath, Thalappilly Taluk, Thrissur District

Chairman SEIAA, Kerala

Website

Stock file

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STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY KERALA

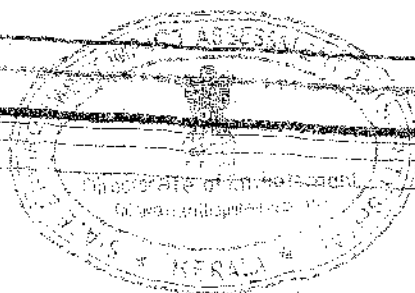
GENERAL CONDITIONS (for mining projects)

- (i) Rain Water Harvesting facility should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified.
- (ii) Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
- (iii) 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.
- (iv) Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
- (v) Sprinklers shall be installed and used in the project site to contain dust emissions.
- (vi) Eco-restoration including the mine closure plan shall be done at the own cost of the project proponent.
- (vii) 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 dumpings and overburden and planted with indigenous plant species that are eco-friendly.
- (viii) Corporate Social Responsibility (CSR) agreed upon by the proponent should be implemented
- (ix) *The lease area shall be fenced off with barbed wires to a minimum height of 4ft around, before starting of mine.*
- (x) Warning alarms indicating the time of blasting (to be done at specific timings) has to be arranged as per stipulations of Explosive Department.
- (xi) Control measures on noise and vibration prescribed by KSPCB should be implemented.
- (xii) Quarrying activities should be limited to day time as per KSPCB guidelines.
- (xiii) Blasting should be done in a controlled manner as specified by the regulations of Explosives Department or any other concerned agency.
- (xiv) A licensed person should supervise/ control the blasting operations.
- (xv) Access roads to the quarry shall be tarred to contain dust emissions that may arise during transportation of materials.
- (xvi) Overburden materials should be managed within the site and the old quarries, if any, should be reclaimed and restored.
- (xvii) Height of benches should not exceed 5 m and width should not be less than 5 m.
- (xviii) Mats to reduce fly rock blast to a maximum of 10 PPV should be provided.
- (xix) *Maximum depth of mining from general ground level at site shall not exceed 10m*
- (xx) *No mining operations should be carried out at places having a slope greater than 45°*
- ~~(xxi) Acoustic enclosures should have been provided to reduce sound amplifications in addition to the provisions of green belt and hollow brick cover for crushers so that the noise level is kept within prescribed standard given by CPCB/KSPCB.~~
- ~~(xxii) The workers on the site should be provided with the required protective equipment such as ear muffs, helmet, etc.~~
- (xxiii) Garland drains with clarifiers to be provided in the lower slopes around the core area to channelize storm water.
- (xxiv) The transportation of minerals should be done in covered trucks to contain dust emissions.
- (xxv) The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
- (xxvi) Disposal of spent oil from diesel engines should be as specified under relevant Rules/ Regulations.
- (xxvii) Explosives should be stored in magazines in isolated place specified and approved by the Explosives Department.
- (xxviii) *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*
- ~~(xxix) 200 m buffer distance should be maintained from forest boundaries.~~
- (xxx) Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity.
- (xxxi) All other statutory clearances should be obtained, as applicable, by project proponents from the respective

State authorities including those for electricity and storage of explosives.

In the case of any change(s) in the scope of the project, the project would require a fresh approval by the authority.

- xi) 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 provision of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- xxxiv) 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.
- (xxxv) 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 Department of Environment and Climate Change, Govt. of Kerala and may also be seen on the website of the Authority at www.seiazkerala.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.
- (xxxvi) 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.
- xxxvii) 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 Directorate of Environment and Climate Change, Govt. of Kerala.
- (xxxviii) 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.
- (xxxix) 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.
- (xl) The above conditions shall prevail notwithstanding anything to the contrary, in consistent, or simplified, contained in any other permit, license or consent given by any other authority for the same project



Member Secretary, SEIAA Kerala

DIRECTOR
Department of Environment and Climate Change
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