

MINUTES

594th MEETING

**STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY-TAMIL NADU**

Date: 18.02.2023



**MINUTES OF THE 594th MEETING OF THE STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY HELD ON 18.02.2023.**

Agenda No	Description	File No.	Minutes
a)	Confirmation of the minutes of the 593 rd meeting of the Authority held on 17.02.2023.		The minutes of the 593 rd meeting of the Authority held on 17.02.2023 was confirmed.
b)	The Action taken on the decisions of the 593 rd meeting of the Authority held on 17.02.2023.		The Member Secretary informed that 593 rd Minutes uploaded in Parivesh wesbsite and action taken report will be putup ensuing meeting.
1.	Existing Limestone Quarry over an extent of 7.330 Ha at S.F.No. 382/1 & 3, 387/1 & 3, 512/1 & 3 in Ramayanpatti Village, Manur Taluk, Tirunelveli District, Tamil Nadu by M/s. India Cements Limited - For Environmental Clearance under Violation	6688	The Authority noted that the proposal was placed in the 349 th Meeting of SEAC held on 20.01.2023. The SEAC decided that a sub-committee will be formed to carry out on the spot -inspection of the project site to assess the anticipated impacts of mining activity on the surrounding environmental settings and to submit report. The sub-committee may discuss with the DFO concerned on the mitigation measures to be included in EMP as Ganigaikondan Deer sanctuary is located within 10km. On receipt of the same, SEAC would further deliberate on this project. The Authority decided to request the Member Secretary, SEIAA TN to communicate the aforesaid SEAC minutes to the Proponent.
2.	Existing Limestone Quarry over an extent of 28.430 Ha. S.F.No.380, 381, 383-386, 388/1 & 3, 389-392, 510, 511, 513 & 514 in Ramayanpatti Village, Manur Taluk, Tirunelveli District, Tamil Nadu by M/s. The India Cements	6689	The proposal is placed in this 349 th SEAC Meeting held on 20.01.2023. Based on the presentation and details furnished by the project proponent, the SEAC decided constitute a sub-committee to make on-site inspection to assess the present status of the proposed project, environmental settings and to assess ecological damage assessment,


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	Limited – For Environmental Clearance under Violation		remediation plan, natural resource augmentation and community resource augmentation. The sub-committee may discuss with the DFO concerned on the mitigation measures to be included in EMP as Ganigaikondan Deer sanctuary is located within 10km. After the receipt of the additional details from the proponent and the evaluation report by the Sub-committee, the SEAC will deliberate on the issue of Environmental Clearance under violation category. In the view of the above, SEIAA accepts the decision of SEAC and decided to request Member Secretary to communicate the minutes of 349 th SEAC held on 20.01.2023 to the project proponent.
3.	Existing Limestone quarry over an extent of 29.895 Ha at S.F.No.110, 172/1 & 174 of Sethurayanpudur Village, Manur Taluk, Tirunelveli District, Tamil Nadu by M/s. The India Cements Limited – For Environmental Clearance Under Violation	6690	The authority noted that the subject was appraised in 349 th SEAC meeting held on 20.01.2023. Based on the presentation and details furnished by the project proponent, the SEAC decided to constitute a sub-committee to make on-site inspection to assess the present status of the proposed project, environmental settings and to assess ecological damage assessment, remediation plan, natural resource augmentation and community resource augmentation. The sub-committee may discuss with the DFO concerned on the mitigation measures to be included in EMP as Ganigaikondan Deer sanctuary is located within 10km. In view of this, the authority after discussions decided to request Member Secretary, SEIAA to communicate the minutes of the 349 th SEAC meeting to the proponent.
4.	Proposed Gravel quarry lease over an extent of 4.44.5 Ha in S.F.No 500/1, 500/2 and 316/7,	7196	The Authority noted that vide minutes dated 20.01.2023 of 349 th meeting of SEAC, the Committee has furnished its recommendation for the


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	<p>Peruvalapur Village, Lalgudi Taluk, Tiruchirappalli District, Tamil Nadu by Thiru.M.Ramachandran- For Environmental Clearance</p>	<p>grant of Environmental Clearance to the project subject to the conditions stated therein.</p> <p>The Authority, after detailed discussions decided to call for the following additional particulars from the Project Proponent:</p> <ol style="list-style-type: none"> 1. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area from a reputed research institutions on the following: <ol style="list-style-type: none"> a. Soil health & bio-diversity. b. Climate change leading to Droughts, Floods etc. c. Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people. d. Possibilities of water contamination and impact on aquatic ecosystem health. e. Agriculture, Forestry & Traditional practices. f. Hydrothermal/Geothermal effect due to distraction in the Environment. g. Bio-geochemical processes and its foot prints including environmental stress. h. Sediment geochemistry in the surface streams. 2. Impact of mining on the agriculture/ agricultural fields, horticulture, humus, water body, surface/underground drainage, biodiversity in the vicinity of the proposed
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			<p>site shall be studied from a reputed Institute other than the NABET consultant. Health hazards anticipated due to the mining activity shall also be studied.</p> <p>3. The impact of mining on biodiversity, agriculture and horticulture around the mining area, adjacent lands and land use.</p> <p>4. Whether the sulphides/sulphates released during mining activity will mix with water forming acids change the PH and hamper the health of human beings/wildlife in the area.</p> <p>5. A letter from the concerned DFO stating the proximity distance of RF, WLS etc., located within 25 Km from the project site.</p>
5.	Proposed Multi Coloured Granite quarry over an extent of 1.28.5 ha in S.F.Nos. 152/1B, 152/3, 152/4B & 534/2 at Karandapalli Village, Denkanikottai Taluk, Krishnagiri District, Tamil Nadu by Thiru. P. Loganathan – For Environmental Clearance	7508	<p>The proposal is placed in this 349th SEAC Meeting held on 20.01.2023.</p> <p>During the meeting the Committee noted that the project proponent has not attended the meeting. Hence the subject was not taken up for discussion.</p> <p>In the view of the above, SEIAA accepts the decision of SEAC and decided to request Member Secretary to communicate the minutes of 349th SEAC held on 20.01.2023 to the project proponent.</p>
6.	Proposed Rough Stone & Jelly Quarry lease over an extent of 2.53.5 Ha at S.F.Nos. 304/1, 304/2, 304/3, 304/4, 304/5, 304/6, 304/7, 304/8, 304/9, 304/10, 304/11, 304/12, 304/13, 304/14, 304/15, 304/16, 304/17, 304/25, 304/26, 304/27, 304/28, 304/29, 304/30 of Kothapulli Village, Dindigul West	7611	<p>The Authority noted that the subject was appraised in the 349th SEAC meeting held on 19.01.2023 and SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority decided to grant Environmental Clearance for the restricted quantity of 3,03,717 cu.m of Rough stone by restricting the depth of mining upto 36m BGL (1m</p>


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<p>Taluk, Dindigul District, Tamil Nadu by Thiru. R.S. Palanisamy- For Environmental Clearance</p>	<p>Topsoil + 35m Rough Stone) considering the safety aspects with the annual peak production shall not exceed 78417 cu.m of Rough stone as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The PP shall utilize Topsoil/Weathered Rock for restoring site/mine closure as per mine closure plan. 3. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 4. The project proponent shall furnish a Certified Compliance Report obtained from MoEF & CC while seeking a renewal of the mining plan to cover the project life. 5. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
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7.	Proposed Rough Stone and Gravel Quarry Project over an extent of 1.03.5 Ha at S.F.No. 648 in Edirkottai Village, Vembakottai Taluk, Virudhunagar District, Tamil Nadu by Thiru.S.Jacob Rajamani - for Environmental Clearance	7724	<p>The Authority noted that the subject was appraised in 349th meeting of SEAC held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>The Authority further noted that public complaints have been received against the proposed project. Hence SEIAA, after detailed discussions decided to call for the following particulars/clarifications:</p> <ol style="list-style-type: none"> 1. In the KML file, two roads are seen running across and through the mine lease area. Hence the Member Secretary, SEIAA may obtain and furnish remarks on the public complaint from the District Collector, Virudhunagar. 2. The proponent shall furnish details of the roads mentioned in the public complaint and impact of mining on people and gazing animals.
8.	Proposed Rough Stone and Gravel Quarry Project over an extent of 1.50.0 Ha at S.F.No. 197(p) Kolumanguzhi Village, Darapuram Taluk, Tiruppur District, Tamil Nadu by Thiru T Jagatheeswaran - for Environmental Clearance	7735	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 188045Cu.m. of Rough stone & 10584cu.m of Gravel by restricting the ultimate depth of mining upto 36m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by</p>

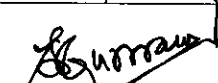

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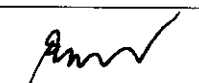

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		<p>MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF & CC while seeking a renewal of the mining plan to cover the project life. 4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP. 5. The project proponent shall store/dump Top soil, Weathered Rock & Granite Waste generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan. 6. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 as accepted by the Project proponent the revised CER cost is Rs. 5 Lakhs and the amount shall be spent towards the
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			Panchayat Union Primary School, Thammureddipalayam Village, Tiruppur District for the activities as committed, before obtaining CTO from TNPCB.
9.	Proposed Rough Stone and Gravel quarry project over an extent of 2.63.0 Ha in S.F.No. 383/2A1(PART) & 382/2B at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.P.Thangamuthusamy- For Environmental Clearance	7762	<p>The Authority noted that the subject was appraised in the 349th SEAC meeting held on 20.01.2023 and SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 186290 m³ of Rough Stone and the 2352 cu.m of Gravel with the depth of mining upto 37m BGL with the annual peak production shall not exceed 47,530cu.m of Rough stone and 2352 cu.m of Gravel as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life.


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			<p>They should also review the EC conditions to ensure that they have all been adhered to and implemented.</p> <p>3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life.</p> <p>4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.</p> <p>5. The project proponent shall store/dump generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan.</p> <p>6. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent, the revised CER cost is Rs. 5.0 lakhs and the amount shall be spent for the activities detailed in the SEAC minutes before obtaining CTO from TNPCB.</p>
10.	Proposed Rough stone & Gravel quarry lease over an extent of 1.54.5Ha in S.F.Nos.425/2, 425/3, 425/4, 425/5, 425/6A and 425/6B of Kothapuli Village, Dindugal West Taluk, Dindigul District, Tamil Nadu by Tmt.A.Safana Parveen, - for Environmental Clearance.	7834	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 1,52,687 m³of Rough stone and the</p>


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annual peak production shall not exceed 40,657 m³ of Rough stone by restricting the depth of mining upto 37m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.

1. Keeping in view of MoEF&CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period.
2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.
3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life.
4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
5. The project proponent shall spend EMP cost of **Rs. 1.17 Crores** as committed for the period of 5 Years.


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			<p>6. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent, the revised CER cost is Rs. 5 Lakhs and the amount shall be spent for the committed activities before SEAC such as 1. Renovation of Existing Toilet, 2. Providing Smart class equipment, 3. Overhead projector, White Board etc., & iv) Carrying out plantation in around school to the Panchayat Union Primary School, Kothapulli, Reddiyarchatram Union, Dindigul West Taluk, Dindigul District before obtaining CTO from TNPCB.</p> <p>7. The project proponent shall obtain prior permission from Regional Inspector of Directorate General of Mines Safety, Chennai before obtaining CTO from TNPCB.</p>
11.	Proposed Rough Stone quarry lease area over an extent of Extent 2.00.0 Ha at SF.No. 416/35(Part-4), Vinnamangalam Village, Vellore Taluk, Vellore District, Tamil Nadu by Thiru K. Dineshkumar - For Environmental Clearance	7984	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 3,53,347 m³ of Rough Stone and depth restricted up to 46m (31m AGL + 15m BGL) as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other</p>


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		<p>specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Considering the distance of Reserved Forest and movement of animals and biodiversity, depth has been restricted to 46m (31m – AGL & 15m – BGL) and 3,53,347 m³ of Rough Stone. 2. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 3. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 4. The project proponent shall furnish a Certified Compliance Report obtained from MoEF & CC while seeking a renewal of the mining plan to cover the project life. 5. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP. 6. The project proponent shall store/dump Top soil, Weathered Rock & Granite Waste generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan.
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12.	<p>Proposed Multicolour Granite quarry lease over an extent of 3.21.5Ha at S.F.No. 1158/8, 1158/9, 1160/3A, 1160/4, 1161/2(P), 1161/3(P), 1161/4A (P), 1161/5(Part), 1166/5(P) at Irudhukottai Village, Denkanikottai Taluk, Krishnagiri District, Tamil Nadu by Thiru.V.Jayaprakash – For Environmental Clearance.</p>	8082	<p>The proposal is placed in this 349th SEAC Meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 57,960 m³ of Multi-Coloured Granite and depth up to 17.5 m as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Considering the environmental setting, no quarrying activity shall be carried out in Pit – I (Section XY) & Pit – II (Section X1Y1) and the quarrying shall be restricted to Section X2Y2, X3Y3 & X4Y4 and quantity of Multi – Coloured Granite is 57,960 m³ and ultimate depth is up to 17.5 m. 2. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 3. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to
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			<p>ensure that they have all been adhered to and implemented.</p> <p>4. The project proponent shall furnish a Certified Compliance Report obtained from MoEF & CC while seeking a renewal of the mining plan to cover the project life.</p> <p>5. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.</p> <p>6. The project proponent shall store/dump Top soil, Weathered Rock & Granite Waste generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan</p>
13.	Proposed Rough Stone & Gravel quarry over an extent of 2.51.0 ha in S.F.Nos. 881/1, 882 (P) & 893/4 at Pavithram Village, Pugalur Taluk, Karur District, Tamil Nadu by Tvl.Sri Ganesh Murugan Blue Metals – For Environmental Clearance	8110	<p>The proposal is placed in this 349th SEAC Meeting held on 20.01.2023.</p> <p>SEAC noted that there is a shed within 200m, and directed the EIA consultant shall examine the impact of the proposed activity and include appropriate mitigation measures in EMP. On receipt of the details, further deliberations will be done.</p> <p>In addition to the above queries, proponent shall submit the following details</p> <ol style="list-style-type: none"> 1. From the KML file, it is ascertained that a small piece of odai with its riverine biodiversity marked by trees. The species to be impacted because of the proposed quarrying activity shall be studied. <p>In the view of the above, SEAC shall examine the above-mentioned points in addition to the queries raised by SEAC and decided to request Member</p>


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			Secretary to communicate the minutes of 349 th SEAC held on 20.01.2023 to the project proponent.
14.	Proposed Rough Stone & Gravel quarry over an extent of 1.01.0 ha in S.F.Nos. 79/2A (P) at Myleripalayam Village, Madukkarai Taluk, Coimbatore District, Tamil Nadu by Thiru. K. Shanmugam – For Environmental Clearance	8117	<p>The proposal is placed in this 349th SEAC Meeting held on 20.01.2023.</p> <p>During the presentation, SEAC noted that from the KML, it is construed that southern portion of the applied lease area has been quarried after 2018 without valid Environmental Clearance. Further, the precise area communication letter and mine plan approval letter have not mentioned about the quarrying activity carried out after the expiry of the mine lease period, i.e., 2018. Hence, AD/Mines shall inspect the quarry site and give his comments on the existing site condition along with last Bulk transport permit issued by Department of Geology and Mining to the lessee.</p> <p>In the view of the above, SEIAA accepts the decision of SEAC and decided to request Member Secretary to communicate the minutes of 349th SEAC held on 20.01.2023 to the project proponent.</p>
15.	Proposed Earth Quarry lease over an extent of 1.11.5 Ha in S.F.Nos. 136/1C of Elamanam Village, Manapparai Taluk, Tiruchirappalli District, Tamil Nadu by Tmt. V.Kohila – For Environmental Clearance	8116	<p>The authority noted that the subject was appraised in 349th meeting of SEAC held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 15,132 m³ of Earth by restricting the depth of mining up to 2mBGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per</p>


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			<p>SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Keeping in view of MoEF&CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 2 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life. 4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
16.	Proposed Rough Stone & Gravel Quarry lease over an extent of 0.89.5Ha in S.F.Nos.17/1A1B of Velampalayam Village, Palladam Taluk, Tiruppur District, Tamil Nadu by Tmt.B.Radhika – For Environmental Clearance	8130	<p>The authority noted that the subject was appraised in 349th meeting of SEAC held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining,</p>


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		<p>decided to grant Environmental Clearance for the quantity of 76,420 m³ of rough stone & 6,096 m³ of Gravel by restricting the depth of mining up to 21m BGL by maintaining the bench height of 5m as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none">1. Keeping in view of MoEF&CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period.2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life.4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
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17.	Proposed Earth Quarry Project over an extent of 3.33.0 Ha at S.F.No. 243/1(p) PWD Tank at Vidayur Village, Tiruvallur Taluk Tiruvallur District, Tamil Nadu by Tmt. Shakila, - for Environmental Clearance	8253	<p>The Authority noted that vide minutes dated 20.01.2023 of 349th meeting of SEAC, the Committee has furnished its recommendation for the grant of Environmental Clearance to the project subject to the conditions stated therein.</p> <p>The Authority, after detailed discussions decided to call for the following additional particulars from the Project Proponent:</p> <ol style="list-style-type: none"> 1. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area from a reputed research institutions on the following: <ol style="list-style-type: none"> i. Soil health & bio-diversity. j. Climate change leading to Droughts, Floods etc. k. Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people. l. Possibilities of water contamination and impact on aquatic ecosystem health. m. Agriculture, Forestry & Traditional practices. n. Hydrothermal/Geothermal effect due to distraction in the Environment. o. Bio-geochemical processes and its foot prints including environmental stress. p. Sediment geochemistry in the surface streams.
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			<p>2. Impact of mining on the agriculture/ agricultural fields, horticulture, humus, water body, surface/underground drainage, biodiversity in the vicinity of the proposed site shall be studied from a reputed Institute other than the NABET consultant. Health hazards anticipated due to the mining activity shall also be studied.</p> <p>3. The impact of mining on biodiversity, agriculture and horticulture around the mining area, adjacent lands and land use.</p> <p>4. Whether the sulphides/sulphates released during mining activity will mix with water forming acids change the PH and hamper the health of human beings/wildlife in the area.</p> <p>5. A letter from the concerned DFO stating the proximity distance of RF, WLS etc., located within 25 Km from the project site.</p>
18.	Proposed Rough Stone & Gravel quarry Lease over an extent of 14.85.5 Ha at S.F.No.718 (Part), 719/1A (Part), 722/1, 722/2 & 730/3 in Padmanabamangalam Village, Srivaikundam Taluk, Thoothukudi District, Tamil Nadu by M/s. Shri Venkateshwara Construction Materials & Industries – For Environmental Clearance	8272	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. Based on the presentation and documents furnished by the project proponent, SEAC decided to call for the following details from the project proponent:</p> <p>i) A revised approved mining plan after leaving a minimum distance of 2.1 km from the Vallanadu Black Buck Sanctuary located in the vicinity of the project site.</p> <p>ii) The mitigation measures for the Vallanadu Black Buck Sanctuary as suggested by District Forest Officer.</p> <p>iii) Revised CER cost and activity towards 4 Government & Panchayat Union schools in</p>


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			<p>the locality.</p> <p>In view of this, the authority after discussions decided to request Member Secretary, SEIAA to communicate the minutes of the 349th SEAC meeting to the proponent.</p>
19.	Proposed Rough Stone, Jelly and Soil quarry lease area over an extent of 2.89.0 Ha at SF.No. 183 of Ramapuram Village, Agastheeswaram Taluk, Kanniyakumari District, Tamil Nadu by Tmt.S.Jeganakumari - For Environmental Clearance	8273	<p>The authority noted that this proposal was placed for appraisal in 349th meeting of SEAC held on 20.01.2023 and the committee noted that the PP has not furnished proper reply to the queries raised in 313th Meeting of SEAC held on 22.09.2022. Hence SEAC decided to defer the proposal.</p> <p>In view of the above, the authority decided to request the Member Secretary, SEIAA to communicate the SEAC minutes to the project proponent held on 20.01.2023.</p>
20.	Proposed Rough Stone Quarry lease over an extent of 0.82.0Ha in S.F.Nos.80/20, 80/21, 80/22 of Melur Village, Kulathur Taluk, Pudukottai District, Tamil Nadu by R.Muthusamy -Environmental Clearance	8285	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 64,578 m³ of Rough Stone and depth up to 27m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p>


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			<ol style="list-style-type: none"> 1. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF & CC while seeking a renewal of the mining plan to cover the project life. 4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP. 5. The project proponent shall store/dump Top soil, Weathered Rock & Granite Waste generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan
21.	Proposed Rough Stone and Gravel Quarry over an extent of 1.98.5Ha at SF.No.148/1, 148/3A1B & 148/4A of Kottaiyur Village, Kallakurichi Taluk, Kallakurichi District, Tamilnadu by M/s.Oriental Structural Engineers	9564	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant</p>


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	Pvt Ltd - for Environmental Clearance	<p>Environmental Clearance for the quantity 1,79,564 m³ of Rough Stone & 21296 m³ of Gravel excluding X1Y1- CD section (30732 m³ of Rough Stone & 7448 m³ of Gravel) and the annual peak production shall not exceed 71,270 m³ of Rough stone by restricting the depth of mining upto 40m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Keeping in view of MoEF&CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life. 4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
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			<p>5. The project proponent shall spend EMP cost of Rs. 1.15 Crores as committed for the period of 5 Years.</p> <p>6. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent, the revised CER cost is Rs. 8 Lakhs and the amount shall be spent for the committed activities before SEAC to the Government Schools before obtaining CTO from TNPCB.</p> <p>7. The project proponent shall obtain prior permission from Regional Inspector of <i>Directorate General of Mines Safety, Chennai</i> before obtaining CTO from TNPCB.</p>
22.	Proposed Rough stone and Gravel quarry project over an extent of 4.52.0 Ha in S.F.Nos. 3/1, 3/2 & 4/1 of Viralipatti Village, Nilakkottai Taluk, Dindigul District, Tamil Nadu by Thiru Adyar Granites - For Environmental Clearance	9017	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 3,51,260 m³ of Rough Stone & 50763 m³ of Gravel and the annual peak production shall not exceed 86,610 m³ of Rough stone & 17851.5 m³ of Gravel by restricting the depth of mining upto 37.5m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific</p>


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conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.

1. Keeping in view of MoEF&CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period.
2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.
3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life.
4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
5. The project proponent shall store/dump 31,995 cu.m. of Weathered Rock generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan.
6. The project proponent shall spend EMP cost of Rs. 5.47 Crores as committed for the period of 10 Years.
7. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent,


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			<p>the revised CER cost is Rs. 5 Lakhs and the amount shall be spent for the committed activities before SEAC such as Renovation of Toilets for Boys & Girls, Providing benches, Chairs, and other required materials, Providing painting and water facilities for school, & Environment related cartoon books to the Adhidhiravidar Primary School, Viralipatti Village, Nilakottai Taluk, Dindigul before obtaining CTO from TNPCB.</p> <p>8. The project proponent shall obtain prior permission from Regional Inspector of <i>Directorate General of Mines Safety, Chennai</i> before obtaining CTO from TNPCB.</p>
23.	Proposed Rough Stone quarry Lease over an extent of 2.00.0 Ha at S.F.No. 306 (Part-II) in Pannapalli Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu by Thiru.P.Madhu Premanathan- for Environmental Clearance	7992	<p>The authority noted that the subject was appraised in 349th SEAC meeting held on 20.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.</p> <p>After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 4,98,710m³ of rough stone by restricting the depth of mining to 51m (22m above ground level + 29m below ground level) (i.e, upto 11 benches) as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following</p>


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		<p>conditions and the conditions in Annexure 'A' of this minutes.</p> <ol style="list-style-type: none"> 1. Keeping in view of MoEF&CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period. 2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented. 3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life. 4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
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Annexure-'A'

EC Compliance

1. The Environmental Clearance is accorded based on the assurance from the project proponent that there will be full and effective implementation of all the undertakings given in the Application Form, Pre-feasibility Report, mitigation measures as assured in the Environmental Impact Assessment/ Environment Management Plan and the mining features including Progressive Mine Closure Plan as submitted with the application.
2. All the conditions as presented by the proponent in the PPT during SEAC appraisal should be addressed in Full.
3. The proponent shall submit Compliance Reports on the status of compliance of the stipulated EC conditions including results of monitored data. It shall be sent to the


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respective Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India and also to the Office of State Environment Impact Assessment Authority (SEIAA).

4. 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.

Applicable Regulatory Frameworks

5. The project proponent shall strictly adhere to the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter

Safe mining Practices

6. The AD/DD, Dept. of Geology & Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
7. The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.
8. A minimum buffer distance specified as per existing rules and statutory orders shall be maintained from the boundary of the quarry to the nearest dwelling unit or other structures, and from forest boundaries or any other ecologically sensitive and archeologically important areas or the specific distance specified by SEIAA in EC as per the recommendations of SEAC depending on specific local conditions.

Water Environment – Protection and mitigation measures


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9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and groundwater, nor cause any pollution, to water sources in the area.
10. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
11. Water level in the nearest dug well in the downstream side of the quarry should be monitored regularly and included in the Compliance Report.
12. Quality of water discharged from the quarry should be monitored regularly as per the norms of State Pollution Control Board and included in the Compliance Report.
13. Rain Water Harvesting facility should be installed as per the prevailing provisions of TNMBR/TNCDBR, unless otherwise specified. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
14. 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 compliance reports to SEIAA.
15. Regular monitoring of ground water level and water quality shall be carried out around the mine area during mining operation. At any stage, if it is observed that ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.
16. Garland drains and silt traps are to be provided in the slopes around the core area to channelize storm water. De-silting of Garland canal and silt traps have to be attended on a daily basis. A labour has to be specifically assigned for the purpose. The proponent shall ensure the quality of the discharging storm water as per the General Effluent Discharge Standards of CPCB.

Air Environment – Protection and mitigation measures

17. The activity should not result in CO₂ release and temperature rise and add to micro climate alternations.
18. The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.


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19. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

Soil Environment – Protection and mitigation measures

20. The proponent shall ensure that the operations do not result in loss of soil biological properties and nutrients.
21. The proponent shall ensure that activity does not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
22. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health.
23. Bio remediation using microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
24. The proponent shall ensure that the mine restoration is done using mycorrhizal VAM, vermin-composting, Biofertilizers to ensure soil health and biodiversity conservation.
25. The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
26. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.
27. The top soil shall be temporarily stored at earmarked place (s) and 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 OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. At critical points, use of geotextile shall be undertaken for stabilization of the dump. Protective wall or gabions should be made around the dump to prevent erosion / flow of sediments during rains. The entire excavated area shall be backfilled.

Noise Environment – Protection and mitigation measures

28. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
29. The sound at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Hence, the PP shall ensure that the biological clock of the villages are not disturbed because of the mining activity.


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Biodiversity - Protection and mitigation measures

30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
31. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoining reserve forests and areas around.
32. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agroforestry, mixed plants to support biodiversity conservation in the mine restoration effort.
33. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
34. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.

Climate Change

35. The project activity should not in any way impact the climate and lead to a rise in temperature.
36. There should be least disturbance to landscape resulting in land use change, contamination and alteration of soil profiles leading to Climate Change.
37. Intensive mining activity should not add to temperature rise and global warming.
38. Operations should not result in GHG releases and extra power consumption leading to Climate Change.
39. Mining through operational efficiency, better electrification, energy use, solar usage, use of renewable energy should try to decarbonize the operations.
40. Mining Operation should not result in droughts, floods and water stress, and shortages, affecting water security both on site and in the vicinity.


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41. Mining should not result in water loss from evaporation, leaks and wastage and should support to improve the ground water.
42. Mining activity should be flood proof with designs and the drainage, pumping techniques shall ensure climate-proofing and socio-economic wellbeing in the area and vicinity.

Green Belt Development

43. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) are planted.
44. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).

Workers and their protection

45. The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time to quarrying /Mining operations. The workers on the site should be provided with on-site accommodation or facilities at a suitable boarding place, protective equipment such as ear muffs, helmet, etc.
46. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
47. The workers shall be employed for working in the mines and the working hours and the wages shall be implemented/enforced as per the Mines Act, 1952.

Transportation

48. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a bypass road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.


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49. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

Storage of wastes

50. The project proponent shall store/dump the granite waste generated within the earmarked area of the project site for mine closure as per the approved mining plan.

CER/EMP

51. The CER Should be fully Implemented and fact reflected in the Half-yearly compliance report.

52. The EMP Shall also be implemented in consultation with local self-government institutions.

53. The follow-up action on the implementation of CER Shall be included in the compliance report.

Directions for Reclamation of mine sites

54. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.

55. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.

56. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un palatable for cattle's/ goats and should have proven capacity to add leaf-litter to soil and decompose. The species planted should be


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adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pit and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.

57. For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
58. Top soil with a mix of beneficial microbes (Bacteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
59. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
60. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
61. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering spices should be collected, preserved and used in restoring the site.
62. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self- sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
63. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemicals, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broad casted after topsoil and treated overburden are spread.
64. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic carbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for re-establishing the site to pre-mining conditions. Effective steps

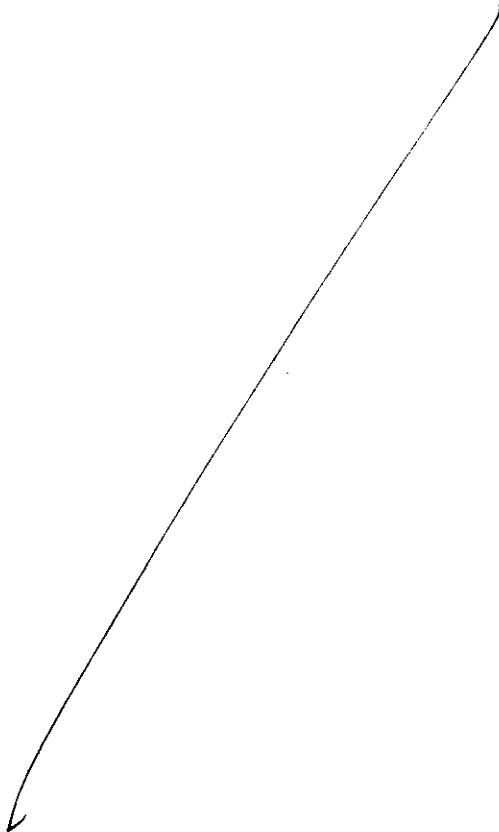

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should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly. Integration of rehabilitation strategies with mining plan will enable speedy restoration.

65. Efforts should to taken to aesthetically improve the mine site. Generally, there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following the succession process allowing pioneer species to establish. The other approach i.e plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humas and mycorrhiza.
66. Action taken for restoration of the site should be specifically mentioned in the EC compliances.




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