



Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), TAMIL NADU)

To,

The Managing Director
M/S. TAMIL NADU MINERALS LIMITED
M/s. Tamil Nadu Minerals Limited (Government of Tamil Nadu
undertaking) 31 Kamarajar Salai, Chepauk,
Chennai, Tamil Nadu - 600005 -600005

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity
under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC)
in respect of project submitted to the SEIAA vide proposal number
SIA/TN/MIN/444029/2023 dated 02 Nov 2023. The particulars of the environmental
clearance granted to the project are as below.

1. EC Identification No.	EC24B001TN159604
2. File No.	845
3. Project Type	Expansion
4. Category	B
5. Project/Activity including Schedule No.	1(a) Mining of minerals
6. Name of Project	POTHUVAI & PAZHAVALAM BLACK GRANITE & QUARTZO -FELDSPATHIC GNEISS QUARRY
7. Name of Company/Organization	M/S. TAMIL NADU MINERALS LIMITED
8. Location of Project	TAMIL NADU
9. TOR Date	N/A

The project details along with terms and conditions are appended herewith from page
no 2 onwards.

Date: 21/09/2024

(e-signed)
A R Rahul Nadh IAS
Member Secretary
SEIAA - (TAMIL NADU)

*Note: A valid environmental clearance shall be one that has EC identification
number & E-Sign generated from PARIVESH. Please quote identification
number in all future correspondence.*

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THIRU. A.R. RAHUL NADH, I.A.S.
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY-TAMILNADU

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No.1, Jeenis Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
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ENVIRONMENTAL CLEARANCE

Lr.No. SEIAA-TN/F.No.845/1(a)/EC. No:6401/2024, dated: 03.09.2024


Sir/Madam,

Sub: SEIAA-TN – Proposed Black Granite & Quartzo-Feldspathic Gneiss quarry over an extent of 40.13.05 Ha (Government Poramboke land) at S.F.Nos. 58/1 (Pothuvai Village 10.44.0 Ha) & 135/1 (Pazhavalam Village 29.69.05 Ha) of Gingee Taluk, Villupuram District, Tamil Nadu by M/s. Tamil Nadu Minerals Limited under project category - “B” and Schedule S.No. 1(a) – Issue of Environmental Clearance – Regarding.

- Ref:**
1. Earlier EC issued by SEIAA-TN vide Lr.No.SEIAA-TN/F.No.845/EC/1(a)/1970/2014, dated:30.03.2015
 2. ToR issued by SEIAA-TN vide Lr No.SEIAA-TN/F.No.845/SEAC/ToR-1328/2023 Dated:09.02.2023
 3. Public Hearing conducted on 13.07.2023
 4. Online Proposal No. SIA/TN/MIN/444029/2023, Dated: 21.09.2023
 5. Project proponent submitted EIA Report to SEIAA-TN on 21.09.2023
 6. Minutes of the 420th SEAC meeting held on 02.11.2023
 7. Minutes of the 674th SEIAA meeting held on 20.11.2023
 8. Proponent reply dated: 30.08.2024
 9. Minutes of the 752nd SEIAA meeting held on 03.09.2024

Details of Minor Mineral Activity:-

This has reference to your application 4th & 5th cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.


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Sl. No	Salient Features of the Proposal	
1.	Name of the Owner/Firm	M/s. Tamil Nadu Minerals Limited, No.31, Kamarajar Salai, TWAD House, Chepauk, Post Box No.2961, Chennai - 600 005.
2.	Type of quarrying	Black Granite & Quartzo-Feldspathic Gneiss
3.	S.F Nos. of the quarry site	58/1 (Pothuvai Village 10.44.0 Ha) & 135/1 (Pazhavalam Village 29.69.05 Ha)
4.	Village in which situated	Pothuvai & Pazhavalam
5.	Taluk in which situated	Gingee
6.	District in which situated	Villupuram
7.	Extent of quarry (in ha.)	40.13.05 Ha
8.	Latitude & Longitude of all corners of the quarry site	12°08'15.47"N to 12°08'45.41"N 79°15'39.40"E to 79°16'08.11"E
9.	Topo Sheet No.	57-P/4 & 8
10.	Type of mining	Opencast Semi-Mechanized Mining
11.	Period of Current Mine Plan	5 years
12.	Production (Quantity in m ³)	90,298 m ³ ROM which includes 9030 m ³ of Black Granite Recovery (@10%) & 81,268 m ³ of Granite Rejects (@90%) and 35,96,021 m ³ of Quartzo-Feldspathic Gneiss
13.	Depth of Quarrying	30m
14.	Depth of water table	15-13m BGL
15.	Man Power requirement per day:	30 Nos.
16.	Water requirement:	1.5 KLD
	i) Drinking water	0.5 KLD
	ii) Wire saw cutting	0.3 KLD
	iii) Dust suppression	0.3 KLD
	iv) Green belt	0.4 KLD
17.	Power requirement	TNEB 200 Liters of HSD / day


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18.	Precise area communication approved by the Principal Secretary to Government, Industries (MME.1) Department with date	Letter No.21835/MME1/2007-7, Dated:2.11.2011
19.	Modified Mining Plan approved by the Commissioner, Dept. of Geology and Mining with date	Re.No.2823/MM4/2022, dated: 14.09.2022
20.	500m cluster letter issued by the Dept. of Geology and Mining with date	Nil
21.	VAO certificate regarding structures within 300m radius	Nil
22.	ToR details	Lr No.SEIAA-TN/F.No.845/SEAC/ToR-1328/2023 Dated: 09.02.2023
23.	Public hearing details	13.07.2023
24.	EIA report submitted on	21.09.2023
25.	Project Cost (excluding EMP cost)	Rs. 97,92,000/-
26.	EMP cost (in Rs. Lakh)	Capital Cost – Rs. 49,37,610/- Recurring Cost – Rs. 21,63,987/-
27.	CER cost (in Rs. Lakh)	Rs. 10,00,000/-

Validity:

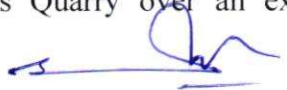
This Environmental Clearance is accorded for the quantity of 90,298 m³ ROM which includes 9030 m³ of Black Granite Recovery (@10%) & 81,268 m³ of Granite Rejects (@90%) and 35,96,021 m³ of Quartzo-Feldspathic Gneiss up to the ultimate depth of 30m and the annual peak production should not exceed 1811 m³ of Black Granite Recovery and 7,52,124 m³ of Quartzo-Feldspathic Gneiss.

The Environmental Clearance issued is valid as per the approved mine plan period and as per MoEF&CC's notification S.O.1533(E) dated 14.09.2006 and S.O. 1807(E) dated 12.04.2022.

AFFIDAVIT FURNISHED BY THE PROPONENT

The Proponent has furnished affidavit in stamp paper attested by the Notary stating that I, Dr.E.Ganesan, represents M/s. Tamil Nadu Minerals Limited, as Deputy Manager(ML) and authorized signatory of the project solemnly declare and sincerely affirm that:.

We have applied for getting Environment Clearance to SEIAA, Tamil Nadu for Pothvai & Pazhavalam Black Granite & Quartzo-Feldspathic Gneiss Quarry over an extent of


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40.13.5Ha of Govt. poramboke land in SF No.58/1 & 135/1 of Pothvai & Pazhavalam Village, Gingee Taluk, Viluppuram District, Tamil Nadu. I swear to state and confirm that within 10Km area of the mine site. We have applied for environmental clearance none of the following is situated.

- a. Protected areas notified under the Wildlife (Protection) Act,1972
 - b. Critically polluted areas as identified by CPCB constituted under Water (Prevention and Control of Pollution) Act, 1974.
 - c. Eco Sensitive areas as notified
 - d. Interstate boundaries and international boundaries within 5Km radius from the boundary of the proposed site.
1. As directed by the SEAC, during the 420th Meeting the CER has been revised as mentioned below.

Sl. No	Name of the beneficiary	Particulars	Amount in Lakh
1.	Govt. School , Pothuvai Village	1. Science lab.	Rs. 3.0 Lakh
		2. Smart class room with Granite tiles.	Rs. 1.0 Lakh
		3.Toilet and Green belt	Rs. 1.0 Lakh
		Total	Rs. 5.0 Lakh
2.	Govt. School , Pazhavalm Village	1. Science lab.	Rs. 3.0 Lakh
		2. Smart class room with Granite tiles.	Rs. 1.0 Lakh
		3.Toilet and Green belt	Rs. 1.0 Lakh
		Total	Rs. 5.0 Lakh
		Grand Total	Rs.10.0 lakh

2. There will not be any hindrance or disturbance to the people living on enroute / nearby my mine site while transporting the mined out material and due to mining / mining activities.
3. No approved habitations as per Rule 36(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 located within 500 meters radius from the periphery of my mine.
4. We swear that afforestation will be carried out during the course of mining operation and maintained.
5. The required insurance will be taken in the name of the labourers working in my mine site.
6. We will not engage any child labour in my mine site.
7. All type of Safety / protective equipments will be provided to all the labourers working in my mine.



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8. No approved permanent structures, temples etc are located within 500m radius from the periphery of my mine.
9. The mining activity will be carried out only after obtaining environmental clearance.
We ensure to do all the Social and Environmental commitment as mentioned in the Mining Plan to the best of my knowledge.

DISCUSSION BY SEIAA AND THE REMARKS:-

The subject was placed in the 752nd Authority meeting held on 03.09.2024. After detailed discussions, the authority noted as follows:

1. Earlier, the subject was placed in the 674th authority meeting held on 20.11.2023. The authority noted that the subject was appraised in the 420th SEAC meeting held on 02.11.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.

After detailed discussions and based on the details provided by the proponent and on review of the KML file uploaded in the Parivesh portal, the Authority has decided to sought the following additional details from the Project Proponent:

- 1) It is mentioned that the depth of Water table is at 15m-13m BGL and the depth of Quarrying is 30m. As mining at 30mtrs will intersect the water table at 13m – 15m BGL what will be the impact on the water table due to the said quarrying activity? what are the innovative, sustainable and precautionary principles additionally adopted to prevent disturbance to ground water table and to support effective ground water management.
- 2) The PP shall conduct Hydrogeological study by using Govt. authorized expert/reputed institution in the said quarry and furnish the report.
- 3) It is mentioned that the nearest habitations such as Pattuvoy, Ramarajapettai, Palavalam, Tadakam, Anukkamalai are located at a distance of 0.36Km, 0.51Km, 0.52Km, 0.55Km & 1.48Km respectively. What will be the impact on the nearest habitations due to the said quarrying activity?
- 4) It is mentioned that the Reserved/Protected forests such as Pakkammalai Reserve Forest, Pulanji Malai Reserve Forest are located at a distance of 0.80Km, 2.88Km respectively. What will be the impact on the nearest Reserved/Protected forests due to the said quarrying activity?



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- 5) It is mentioned that the Water Bodies such as Pattuvoy Lake located adjacent to the quarry site, Palavalam Lake & Vettavalam Lake are located at a distance of 0.06Km & 1.94Km respectively. What will be the impact on the nearest water bodies and also mention the impact on the Livelihood & Ground water due to the said quarrying activity?
2. The proponent vide letter dated 30.08.2024 has replied to the above details sought by SEIAA. The PP furnished the following reply:

Sl. No.	SEIAA query	PP's Reply
1.	It is mentioned that the depth of Water table is at 15m-13m BGL and the depth of Quarrying is 30m. As mining at 30mtrs will intersect the water table at 13m – 15m BGL what will be the impact on the water table due to the said quarrying activity? what are the innovative, sustainable and precautionary principles additionally adopted to prevent disturbance to ground water table and to support effective ground water management.	<p>The quarry is hilly terrain and the height of the hill is 100 m from the ground level. Whereas TAMIN has proposed to mine up to a depth of 30 m from the top of the hill. As there is no proposal to go beyond the depth of 30 mt from top of the hill, there will be no chance to intersect the ground water as well as there will be no impact on groundwater table due to the mining operations.</p> <p>In this connection, TAMIN has engaged PWD, Ground Water Division to study the comprehensive hydrogeological study of the area and they have informed in their study report that the water table conditions will not be affected due to the mining activities.</p>
2.	The PP shall conduct Hydrogeological study by using Govt. authorized expert/reputed institution in the said quarry and furnish the report.	<p>As directed TAMIN has engaged PWD, Ground Water Division to study the hydrogeological study of the area.</p> <p>The Executive Engineer, Ground Water Division, Cuddalore has carried out the hydrogeological study in the said area and submitted report vide their Letter. No.42M/F-TAMIN/DB/JDO/2024, dated 21.08.2024.</p> <p>Copy of the report is enclosed.</p>


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3.	<p>It is mentioned that the nearest habitations such as Pattuvoy, Ramarajapettai, Palavalam, Tadakam, Anukkamalai are located at a distance of 0.36Km, 0.51Km, 0.52Km, 0.55Km & 1.48Km respectively. What will be the impact on the nearest habitations due to the said quarrying activity?</p>	<p>There may be the following impact on nearest habitation during the course of Granite quarrying operation due to drilling, blasting, loading and transportation.</p> <p>Impact: -</p> <ol style="list-style-type: none"> 1. Noise & Vibration 2. Air <p>Mitigation measures: -</p> <p>Noise & Vibration: -</p> <p>TAMIN will engage diamond wire-saw cutting for primary cutting and will use the Ca (OH)2 for Secondary splitting.</p> <p>Granite mining is concerned less blasting will give more production so as to get good quality of undamaged (avoiding blasting crack) dimension stones and these dimensional blocks can only be sold. Hence, in order to minimize the blasting, TAMIN will follow the above method and which will avoid noise, dust and vibration.</p> <p>Whenever, the blasting is required, TAMIN will use the NONEL or Electronic Detonator and this kind of explosive will minimize vibration.</p> <p>Air: -</p> <p>TAMIN will engage wet drilling method while drilling. Water sprinkling on haul roads and excavated minerals, green belt development, periodic maintenance of vehicles will be done properly.</p> <p>The above mitigation measures will reduce the impacts to the nearest habitations.</p>
4.	<p>It is mentioned that the Reserved/Protected</p>	<p>Impact: -</p>


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<p>forests such as Pakkammalai Reserve Forest, Pulanji Malai Reserve Forest are located at a distance of 0.80Km, 2.88Km respectively. What will be the impact on the nearest Reserved/Protected forests due to the said quarrying activity?</p>	<p>There may be a chance that the waste and dust that comes out from mining pollutes the environment and affects the nearby species.</p> <p>Mitigation measures: -</p> <p>TAMIN will engage diamond wire-saw cutting for primary cutting and will use the Ca(OH)₂ for Secondary splitting.</p> <p>Further, TAMIN will engage wet drilling Tamrac Drilling machine for drilling purpose. The above method of mining will minimize the dust during the course of mining.</p> <p>However, TAMIN will generate more plantation and fencing all along the boundary of the lease hold area so as to prevent the flying dust from the lease boundary to nearby forest.</p> <p>The Pakkammalai RF is 800mt away from the periphery of the lease area. The mining operation will be carried out during the general shift only.</p> <p>Considering the above, there will be no chance on impact on RF.</p>
<p>5. It is mentioned that the Water Bodies such as Pattuvoy Lake located adjacent to the quarry site, Palavalam Lake & Vettavalam Lake are located at a distance of 0.06Km & 1.94Km respectively. What will be the impact on the nearest water bodies and also mention the impact on the Livelihood & Ground water due to the said quarrying activity?</p>	<p>Impact: -</p> <p>During the course of mining, there may be chance to roll down the granite waste from the mine pit.</p> <p>During the course of mining, there may be chance to roll down the granite waste from the mine pit to lake.</p> <p>During the raining season water may leaching soil and entered to Lake with soil.</p> <p>Mitigation measures: -</p> <p>TAMIN will fence all along the boundary of</p>


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lease hold area and inside to of the fencing a parapet wall / bund will be formed to prevent the roll down granite waste if any.

Further, 50mt safety distance will be provided adjacent to the lake area and before 50 mt safety distance within the lease area, TAMIN will make trenches to prevent the erosion of water along with soil so as to avoid the accumulation of soil in the lake.

TAMIN will undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydrogeological regime of the surrounding area shall not be affected.

Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation.


In view of the above, the Authority after examining the reply/details furnished by the proponent and also taking into account the recommendations of SEAC and also the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance **for the quantity of 90,298 m³ ROM which includes 9030 m³ of Black Granite Recovery (@10%) & 81,268 m³ of Granite Rejects (@90%) and 35,96,021 m³ of Quartzo-Feldspathic Gneiss up to the ultimate depth of 30m and the annual peak production should not exceed 1811 m³ of Black Granite Recovery and 7,52,124 m³ of Quartzo-Feldspathic Gneiss.** This is also subject to the conditions imposed by SEAC, normal conditions stipulated by MOEF&CC 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 valid only for Black Granite 9030 m³ @ 10% recovery.**



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3. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years and also during the mine plan period, till the project life so as to review the EC conditions and to ensure that they have all been adhered to and implemented.
4. The project proponent shall submit a Certified Compliance Report obtained from IRO of MoEF&CC to the monitoring, regulatory and other concerned authorities including SEIAA, while seeking a renewal of the mining plan to cover the project life.
5. There should be regular monitoring of air quality, water quality, ground water level and noise quality and reports regarding the same should be submitted to TNPCB, SEIAA & IRO of MoEF&CC once in every 6 months.
6. The proponent shall strictly adhere to the mining plan and half yearly and annual returns shall be submitted to the Director of Geology and Mining Department with copy marked to TNPCB, SEIAA & IRO of MoEF&CC.
7. Biodiversity in and around the project area should be monitored frequently and detailed biodiversity report should be submitted every year to SEIAA & IRO of MoEF&CC.
8. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP and as per the amount committed and approved in EC for EMP. Status of progressive mine closure and green belt implementation should be included in the half yearly compliance report submitted to TNPCB, SEIAA & IRO of MoEF&CC.
9. As per the OM vide F. No. IA3-22/1/2022-IA-III [E- 172624] Dated: 14.06.2022, the Project Proponents are directed to submit the six-monthly compliance on the environmental conditions prescribed in the prior environmental clearance letter(s) through newly developed compliance module in the PARIVESH Portal from the respective login.
10. The amount allocated for EMP should be kept in a separate account and both the capital and recurring expenditures should be done year wise for the works identified, approved and as committed. The work & expenditure made under EMP should be elaborated in the bi-annual compliance report submitted and also should be brought to the notice of concerned authorities during inspections.



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

Annexure 'A'

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 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.

b) 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, Biological diversity Rules, 2004 & TN Forest Act, 1882 and Rules made there under



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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

c) 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.

d) Water Environment – Protection and mitigation measures

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.



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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.

e) 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.
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.

f) 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 mycorrizal 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.



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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.
28. Activities should not result in invasion of site by exotic and alien plant and animal species and disturb the native biodiversity and soil micro flora and fauna.

g) Noise Environment – Protection and mitigation measures

29. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
30. 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.

h) Biodiversity - Protection and mitigation measures

31. 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.
32. 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


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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.

33. 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.
34. 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.
35. 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.

i) Climate Change

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



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43. 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.

j) Reserve Forests & Protected Areas

44. The activities should provide nature based support and solutions for forest protection and wildlife conservation.

45. The project activities should not result in forest fires, encroachments or create forest fragmentation and disruption of forest corridors.

46. There should be no disturbance to the freshwater flow from the forest impacting the water table and wetlands.

47. The project proponent should support all activities of the forest department in creating awareness to local communities on forest conservation.

48. The project activities should not alter the geodiversity and geological heritage of the area.

49. The activities should not result in temperature rise due to increased fossil fuels usage disrupting the behaviour of wildlife and flora.

50. The activities should support and recognise the rights and roles of indigenous people and local communities and also support sustainable development.

51. The project activities should support the use of renewables for carbon capture and carbon storage in the project site and forest surrounds.

52. The project activities should not result in changes in forest structure, habitats and genetic diversity within forests.

k) Green Belt Development

53. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) are planted.

54. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).

l) Workers and their protection

55. 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.



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56. 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.
57. 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.

m) Transportation

58. 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.
59. 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.



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n) Storage of wastes

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

o) CER/EMP

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

62. The EMP shall also be implemented in consultation with local self-government institutions & Govt. departments.

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

p) Directions for Reclamation of mine sites

64. 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.

65. 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.

66. 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 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.



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67. For mining area reclamation plot culture experiments to be done to identify/determine suitable species for the site.
68. 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.
69. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
70. 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.
71. 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.
72. 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.
73. 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.
74. 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 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.



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Mining should be as far as possible be eco-friendly. Integration of rehabilitation strategies with mining plan will enable speedy restoration.

75. Efforts should be 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 used to restore the site by adding soil humus and mycorrhiza.
76. Action taken for restoration of the site should be specifically mentioned in the EC compliances.


CONDITIONS IMPOSED BY SEAC:

1. The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier, vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.
2. The PP shall ensure the safety provisions as stipulated in the DGMS Circular No:02, dated. 29.11.2019 while using the Diamond Wire Saw machines in the proposed quarry operation.
3. To ensure the conditions of occupational safety, health & welfare status of persons working in the mine, the PP shall annually conduct occupational health survey to determine prevalence of Noise Induced Hearing Loss (NIHL) due to the operation of Diamond Wire Saw cutting & other HEMMs deployed in the mine and to prepare a plan for hearing conservation programme by involving anyone of the reputed institutes - Regional Occupational Health Centre (Southern) of ICMR-National Institute of Occupational Health, Bengaluru, National Institute of Miners' Health, Nagpur and Anna University, Chennai.
4. The PP shall properly provide all the required welfare amenities near quarry such as Drinking water, Rest Shelter, Canteen, Toilets, etc for the persons to be employed in the proposed quarry before the execution of lease, in accordance with the provisions of the Mines Rules, 1955.



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5. For the safety of the persons employed in the quarry, the PP shall carry out the scientific studies to assess the slope stability of the working benches and existing quarry wall during the 4th year or when the depth exceeds 30m whichever is earlier, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance without any deviation.
6. The PP shall not dump any waste from the mining operation outside the Mine Lease Area.
7. As accepted by the Project Proponent the CER cost of Rs. **10 lakhs** and the amount shall be spent for the activities as committed towards the Government Schools, Pothuvai & Pazhavalam Villages, Gingee Taluk, Villupuram District, before obtaining CTO from TNPCB.
8. The PP shall inform send the 'Notice of Opening' of the quarry to the Director of Mines Safety, Chennai Region before obtaining the CTO from the TNPCB.
9. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
10. The proponent shall appoint the statutory competent persons relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferous Mines Regulations, 1961, as amended from time to time.
11. Within a period one month from the execution of lease deed, the PP shall ensure that the persons deployed in the quarry including all the contractual employees/truck drivers shall undergo initial/periodical training in the DGMS approved GVTC situated in Trichy / Salem / Hosur.
12. The PP shall construct a garland drain of size, gradient and length around the proposed quarry incorporating garland canal, silt traps, siltation pond and outflow channel connecting to a natural drain should be provided prior to the commencement of mining. Garland drain, silt-traps, siltation ponds and outflow


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channel should be de-silted periodically and geo-tagged photographs of the process should be included in the HYCR.

13. Monitoring of drainage water should be carried out at different seasons by an NABL accredited lab and clear water should only be discharged into the natural stream. Geo-tagged photographs of the drainage and sampling site should be submitted along with HYCR.
14. The proponent shall install the 'S3 (or) G2' type of fencing all around the boundary of the proposed working quarry with gates for entry/exit before the commencement of the operation as recommended in the DGMS Circular, 11/1959 and shall furnish the photographs showing the same before obtaining the CTO from TNPCB.
15. The Proponent shall submit a conceptual 'Slope Stability Action Plan' incorporating the benches & accessible haul road approved by the concerned AD (Mines) for the proposed quarry to the DEE/TNPCB at the time of obtaining the CTO.
16. The PP shall ensure that the persons employed in the quarry whether permanent, temporary or contractual are undergoing the initial/periodical medical examination in the DGMS approved OHS Clinics/Hospitals as per the DGMS Circular No. 01 of 2011 before they are engaged in mining activities.
17. The PP shall ensure that the persons employed in the quarry whether permanent, temporary or contractual are provided with adequate PPEs before engaged in mining operations.
18. The PP shall meticulously carry out the mitigation measures as spelt out in the approved EMP.
19. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology should be adopted by considering the wind direction.
20. The Project Proponent shall ensure that the funds earmarked for environmental protection measures are kept in a separate bank account and should not be diverted for other purposes. Year-wise expenditure should be included in the HYCR.
21. The Project Proponent shall send a copy of the EC to the concerned Panchayat/local body.



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22. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required, in coordination with the concerned Govt. Authority.
23. Perennial sprinkling arrangements shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
24. The Proponent shall ensure that the noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures are undertaken accordingly. The report on the periodic monitoring shall be included in the HYCR.
25. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
26. The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
27. Taller/one year old saplings raised in appropriate size of bags (preferably eco-friendly bags) should be planted in proper spacing as per the advice of local forest authorities/botanist/horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.
28. **Noise and Vibration Related:** (i) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (ii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.



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29. The PP shall carry out maximum of only one round of controlled blast per day, restricted to the maximum of 30 to 40 number of holes per round with maintaining maximum charge per delay in such a manner that the blast-induced ground vibration level (Peak Particle Velocity) measured in the houses/structures located at a distance of 500 m shall not exceed 2.0 mm/s and no fly rock shall travel beyond 20 m from the site of blasting.
30. The PP shall also ensure that the blasting operations are not carried out on a 'day after day' basis and a minimum 24 hours break should be observed between blasting days to reduce the environmental impacts effectively.
31. If 'Deep-hole large diameter drilling and blasting' is required, then the PP shall obtain special permission from DGMS.
32. The PP shall ensure that the blasting operations shall be carried out during a prescribed time interval with a prior notice to the habitations situated around the proposed quarry after having posted the sentries/guards adequately to confirm the non-exposure of public within the danger zone of 500 m from the boundary of the quarry. The PP shall use the jack hammer drill machine fitted with the dust extractor for the drilling operations such that the fugitive dust is controlled effectively at the source.
33. The PP shall ensure that the blasting operations are carried out by the blaster/Mine Mate/Mine Foreman employed by him in accordance with the provisions of MMR 1961 and it shall not be carried out by the persons other than the above statutory personnel.
34. The proponent shall undertake in a phased manner restoration, reclamation and rehabilitation of lands affected by the quarrying operations and shall complete this work before the conclusion of such operations as per the Environmental Management Plan & the approved Mine Closure Plan.
35. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
36. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation



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indicating the possible silt content and size in case of any agricultural land exists around the quarry.

37. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
38. The proponent shall ensure that the transportation of the quarried granite stones shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried granite stones; and transport of granite stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
39. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
40. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
41. The project proponent shall ensure that the provisions of the MMDR Act, 1957 & the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
42. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
43. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
44. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area



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communication letter issued by concerned District Collector should be strictly followed.

45. That the grant of this E.C. is issued from the environmental angle only, and does not absolve the project proponent from the other statutory obligations prescribed under any other law or any other instrument in force. The sole and complete responsibility, to comply with the conditions laid down in all other laws for the time-being in force, rests with the project proponent.
46. As per the directions contained in the OM F.No.22-34/2018-IA.III dated 16th January 2020 issued by MoEFCC, the Project Proponent shall, undertake re-grassing the mining area and any other area which may have been disturbed due to his mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. The compliance of this direction shall be included in the Half Yearly Compliance Report which will be monitored by SEAC at regular intervals.
47. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
48. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere to the EMP as committed.

Appendix -I


List of Native Trees Suggested for Planting

1. *Aeglemarmelos*–Vilvam
2. *Adenaantherapavonina*-Manjadi
3. *Albizialebeck*–Vaagai
4. *Albiziaamara*-Usil
5. *Bauhinia purpurea* - Mantharai
6. *Bauhinia racemosa* - Aathi
7. *Bauhinia tomentosa*–Iruvathi
8. *Buchananiaaillaris*-Kattuma
9. *Borassusflabellifer*- Panai
10. *Buteamonosperma* - Murukkamaram
11. *Bobaxceiba*– Ilavu, Sevvilavu
12. *Calophylluminophyllum* - Punnai



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13. *Cassia fistula*- Sarakondrai
14. *Cassia roxburghii*- Sengondrai
15. *Chloroxylonsweitenia* - Purasamaram
16. *Cochlospermumreligiosum*– Kongu, Manjalllavu
17. *Cordiadichotoma*– Mookuchalimaram
18. *Cretevaadansonii*–Mavalingum
19. *Dilleniaindica*– Uva, Uzha
20. *Dilleniapentagyna*– SiruUva, Sitruzha
21. *Diospyrosebenum*- Karungali
22. *Diospyroschloroxylon*– Vaganai
23. *Ficusamplissima*– Kalltchi
24. *Hibiscus tiliaceous*–Aatrupoovarasu
25. *Hardwickiabinata*– Aacha
26. *Holopteliaintegrifolia*-Aayili
27. *Lanneacoromandelica* - Odhiam
28. *Lagerstroemia speciosa* - Poo Marudhu
29. *Lepisanthustetraphylla*- Neikottaimaram
30. *Limoniaacidissima* - Vila maram
31. *Litseaglutinosa*–Pisinpattai
32. *Madhucalongifolia* - Illuppai
33. *Manilkarahexandra*–UlakkaiPaalai
34. *Mimusopselengi* - Magizhamaram
35. *Mitragynaparvifolia* - Kadambu
36. *Morindapubescens*–Nuna
37. *Morindacitrifolia*– VellaiNuna
38. *Phoenix sylvestre*-Eachai
39. *Pongamiapinnata*–Pungam
40. *Premnamollissima*– Munnai
41. *Premnaserratifolia*– Narumunnai
42. *Premnatomentosa*-PurangaiNaari, PudangaNaari
43. *Prosopiscinerea* - Vannimaram
44. *Pterocarpusmarsupium* - Vengai
45. *Pterospermumcanescens*–Vennangu, Tada
46. *Pterospermumxylocarpum* - Polavu
47. *Puthranjivaroxburghii*–Puthranjivi
48. *Salvadorapersica*– UgaaMaram
49. *Sapindusemarginatus*- Manipungan, Soapukai
50. *Saracaasoca* - Asoca


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51. Streblusasper- Pirayamaram
52. Strychnosnuxvomica–Yetti
53. Strychnosptatorum - Therthang Kottai
54. Syzygiumcumini - Naval
55. Terminaliabellerica- Thandri
56. Terminalia arjuna- Venmarudhu
57. Toona ciliate – Sandhanavembu
58. Thespesiapopulnea- Puvarasu
59. Walsuratrifoliata–valsura
60. Wrightiatinctoria- Veppalai
61. Pithecellobium dulce – Kodukkapuli

**Appendix-II
Display Board**

(Size 6' x 5' with Blue Background and White Letters)

-----கரங்கம்

கரங்கத்தில் குவாரி செயல்பாடுகளுக்கான சுற்றுச்சூழல் அனுமதி கீழ்க்கண்ட நுபந்தனைகளுக்கு உட்பட்டு வழங்கப்பட்டுள்ளது SEIAA/-----, தேதியிடப்பட்டு, சுற்றுச்சூழல் அனுமதி ----- தேதி வரை செல்லத்தக்கதாக உள்ளது.

புகளம் பகுதி வளர்ச்சி மேம்பாட்டுக்கான கரங்கத் திட்டம்	குவாரியின் எல்லைவயச் சுற்றி வேலி அமைக்க வேண்டும் கரங்கப்பாளையின் ஆழம் தளமட்டத்திலிருந்து மீட்டர்க்கு மிகாமல் இருக்க வேண்டும். காற்றில் மாசு ஏற்படாதவாறு கரங்க பணிகளை மேற்கொள்ள வேண்டும்.
நடப்பட்டு பராமரிக்கப்படவேண்டிய மரங்கள் எண்ணிக்கை:	வாகனங்கள் செல்லும் பாதையில் மாசு ஏற்படாத அளவிற்கு தண்ணீரை முறையாக தண்ணீர் வாரிகளின் மூலமாக அவ்வப்போது தெளிக்க வேண்டும். இரைச்சல் அளவையும் தூசி மாகபட்டையும் குறைப்பதற்காக குவாரியின் எல்லைவயை சுற்றி அடர்த்தியான புகளம் பகுதியை ஏற்படுத்த வேண்டும்.
கரங்கத்தில் வெடி வைக்கும்பொழுது நிலஅதிர்வுகள் ஏற்படாதவாறும் மற்றும் கற்கள் பறக்காதவாறும் பாதுகாப்பு நடவடிக்கைகளை உன்னிப்பாக செயல்படுத்தப்பட வேண்டும்	
கரங்கத்தில் இருந்து ஏற்படும் இரைச்சல் அளவு 85 டி.சி.பெல்ஸ் (dBA) அளவிற்கு மேல் ஏற்படாதவாறு தகுந்த கட்டுப்பாடுகளை மேற்கொள்ள வேண்டும்.	
கரங்க சட்ட விதிகள் 1955ன் கீழ் கரங்கத்தில் உள்ள பணியாளர்களுக்கு தகுந்த பாதுகாப்பு கருவிகள் வழங்குவதோடு சுகாதாரமுள்ள கழிப்பறை வசதிகளை செய்து தர வேண்டும்.	
கிராமம் அல்லது பஞ்சாயத்து வட்டியாக வாகனங்கள் செல்லும் சாலைவயை தொடர்ந்து நன்கு பராமரிக்க வேண்டும்.	
கரங்கப்பணிகளால் அருகில் உள்ள விவசாயப் பணிகள் மற்றும் தீர்நிலைகள் பாதிக்கப்படக் கூடாது.	
நீர்நிலைகள் பாதிக்கப்படாமல் இருப்பதை உறுதி செய்யும் வகையில் நிலத்தடி நீரின் தரத்தினை தொடர்ந்து கண்காணிக்க வேண்டும்.	
கரங்கத்திலிருந்து கனிம பொருட்களை எடுத்துச் செல்வது கிராம மக்களுக்கு எந்தத் சிரமத்தினையும் ஏற்படுத்தாதவாறு பாதுகாப்போடும் மற்றும் சுற்றுச்சூழல் பாதிக்கவாத வண்ணம் வாகனங்களை இயக்க வேண்டும்.	
கரங்கப்பணிகள் முடிக்கப்பட்டவுடன் கரங்க மூடல் திட்டத்தில் உள்ளவாறு கரங்கத்தினை மூட வேண்டும்.	
கரங்க நடவடிக்கைகளை முடித்தபின்னர் கரங்கப் பகுதி மற்றும் கரங்க நடவடிக்கைகளால் இடையூறு ஏற்படக்கூடிய வேறு எந்தப் பகுதியையும் மறுகட்டுமாணம் செய்து தாவரங்கள் விவங்குகள் ஆகியவற்றின் வளர்ச்சிக்கு ஏற்ற வகையில் புகளம்பகுதியை உருவாக்க வேண்டும்.	
முழுமையான நுபந்தனைகளை அரிய பாரிவேஷ் (http://parivesh.nic.in) என்கிற இணையதளத்தைப் பார்வையிடவும். மேலும் எந்தவித சுற்றுச்சூழல் சார்ந்த புகர்களுக்கு சென்னைவில் உள்ள சுற்றுச்சூழல் மற்றும் வன அமைச்சகத்தின் ஒருங்கிணைந்த வட்டார அலுவலகம்: 044 - 28222325 (அல்லது) தமிழ்நாடு மாசு கட்டுப்பாடு வாரியத்தின் மாவட்ட சுற்றுச்சூழல் பொறியாளரை அணுகவும்.	

STANDARD CONDITIONS

Part-A: Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
 - I. The project has been accorded Environmental Clearance.
 - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.


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III. Environmental Clearance may also be seen on the website of the SEIAA.

IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.

2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. **A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.**
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.



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14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF&CC, GoI on 16.11.2009.
20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
 - i. Roads shall be graded to mitigate the dust emission.
 - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
 - i. Proper and regular maintenance of vehicles and other equipment
 - ii. Limiting time exposure of workers to excessive noise.
 - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
 - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
 - v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.



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22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF&CC, GoI to control noise to the prescribed levels.
23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps:-
 - i. Retention/ toe walls shall be provided at the foot of the dumps.
 - ii. Worked out slopes are to be stabilized by planting appropriate shrub / grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous & other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
28. Concealing the factual data or 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.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the



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surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.

32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF&CC, GOI.
37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF&CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
42. The Project Proponent shall provide solar lighting system to the nearby villages.



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43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai.
46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. 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.
50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.


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56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
58. The company shall stress upon the preventive aspects of occupational health.
59. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
60. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
61. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
62. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
63. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
64. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
65. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
66. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.


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67. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
68. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
69. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
70. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
71. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
72. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
73. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
74. Green belt shall be provided as per norms of MoEF&CC, GOI, in consultation with local DFO.
75. All the recommendations made in the EIA report of the project shall be effectively implemented.
76. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
77. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
78. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
79. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.



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80. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO₂, NO_x or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

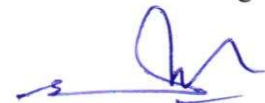
Part B: General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.



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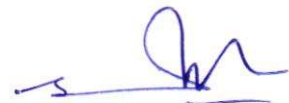
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers / labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
18. The SEIAA, Tamil Nadu may alter / modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this



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SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.

20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the 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.
22. Any other conditions stipulated by other Statutory / Government authorities shall be complied.
23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect / not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked / cancelled.



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Copy to:

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment, Climate Change and Forests Department, Tamil Nadu.

3. The Additional Chief Secretary to Government, Natural Resources Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairperson, TNPC Board, 76, Mount Salai, Guindy, Chennai-32.
7. The District Collector, Villupuram District.
8. The Commissioner of Geology and Mines, Guindy, Chennai-32.
9. Assistant Director, Department of Geology & Mining, Villupuram District.
10. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
11. File Copy.



Signature Not Verified

Digitally signed by: A F Rahul Nadh
IAS
Designation: Member Secretary
Date and Time: 9/21/2024 3:24:56 PM