

ENVIRONMENTAL
CLEARANCE



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/78698/2018 dated 22 Jun 2022. The particulars of the environmental
clearance granted to the project are as below.

1. EC Identification No.	EC23B001TN195805
2. File No.	1260
3. Project Type	New
4. Category	B1
5. Project/Activity including Schedule No.	1(a) Mining of minerals
6. Name of Project	Perumbakkam Black Granite
7. Name of Company/Organization	M/S. TAMIL NADU MINERALS LIMITED
8. Location of Project	Tamil Nadu
9. TOR Date	18 Feb 2021

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

Date: 06/04/2023

(e-signed)
Thiru.Deepak S.Bilgi
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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PARIVESH

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and Virtuous Environmental Single-Window Hub)





**THIRU. DEEPAK S. BILGI, I.F.S.
MEMBER SECRETARY**

**STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY-TAMILNADU**

3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
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ENVIRONMENTAL CLEARANCE

Lr.No.SEIAA-TN/F.No.1260/1(a)/EC.No:5620/2023, dated: 21.03.2023

To,

M/s. Tamil Nadu Minerals Limited,
No. 31, Kamarajar Salai,
"TWAD House" Chepauk,
Post Box No. 2961,
Chennai - 600 005.

Sir,

Sub: SEIAA, TN – Environmental Clearance under violation for the existing Black Granite quarry lease over an extent of 6.09.0 Ha by M/s. Tamil Nadu Minerals Limited at S.F.No. 11 (P) in Perumbakkam Village, Vanur Taluk, Villupuram District, Tamil Nadu – Issued – Regarding.

- Ref:**
1. MoEF & CC Notification S.O.804(E) dated 14.03.2017
 2. MoEF & CC Notification S.O.1030(E) dated 08.03.2018
 3. Proponent hardcopy application submitted for Violation ToR to SEIAA-TN on 12.04.2018 & online proposal SIA/TN/MIN/24539/2018 Dated: 12.04.2018
 4. ToR under violation issued by SEIAA-TN vide Lr No.SEIAA-TN/F.No.1260/SEAC/TOR-853/2020 Dated: 18.02.2021
 5. Public Hearing conducted by TNPCB on 12.04.2022
 6. Online Application for EC vide SIA/TN/MIN/78698/2018 dated: 22.06.2022
 7. Proponent submitted EIA report to SEIAA-TN on 24.06.2022

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8. Minutes of 313th SEAC meeting held on 30.09.2022
9. Site inspection by the sub-committee on 20.11.2022
10. Minutes of 332nd SEAC meeting held on 25.11.2022
11. Minutes of 577th SEIAA meeting held on 14.12.2022 & 15.12.2022
12. Proponent reply dated: 14.03.2023
13. Minutes of 603rd SEIAA meeting held on 20.03.2023 & 21.03.2023

- I. This has reference to your application for Environmental Clearance to SEIAA-TN under violation category dated 22.06.2022 & 24.06.2022 and along with subsequent documents & EIA report submitted for the aforesaid project to the State Level Environment Impact Assessment Authority, Tamil Nadu seeking Environmental Clearance under the Environment Impact Assessment Notification, 2006.
- II. It is noted, that the existing Black Granite quarry lease over an extent of 6.09.0Ha by M/s. Tamil Nadu Minerals Limited at S.F.No. 11 (P) in Perumbakkam Village, Vanur Taluk, Villupuram District, under violation notification dated 14.03.2017 & 08.03.2018.
- III. The project proponent application submitted for ToR to SEIAA-TN online proposal SIA/TN/MIN/24539/2018 Dated: 12.04.2018. Proponent hardcopy application submitted for ToR to SEIAA on 12.04.2018.
- IV. The subject was placed in the 125th SEAC meeting held on 02.02.2019 and the 339th SEIAA meeting held on 27.02.2019. The authority recommended to Terms of Reference with public Hearing. The ToR under violation issued by SEIAA-TN vide Lr No.SEIAA-TN/F.No.1260/SEAC/TOR-853/2020 Dated: 18.02.2021.
- V. The public hearing was conducted by Tamil Nadu Pollution Control Board on 12.04.2022 at 10:30AM at Villupuram District.
- VI. The public hearing minutes received by SEIAA-TN from TNPCB.
- VII. The project proponent submitted final Environment Impact Assessment and Environment Management plan to SEIAA-TN on 24.06.2022.

Sl.no	Details of the proposal	:	Data furnished
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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 (Savudu/Rough Stone/Sand/Granite)	:	Black Granite
3.	S.F No. of the quarry site with area break-up	:	11 (P)
4.	Village in which situated	:	Perumbakkam
5.	Taluk in which situated	:	Vanur
6.	District in which situated	:	Villupuram
7.	Land Use pattern (in ha.)	:	6.09.0 Ha
8.	Period of quarrying proposed	:	2023-2024
9.	Type of mining	:	Opencast Semi Mechanized Mining
10.	Production (Quantity in m ³)	:	ROM - 14,784 m ³ Black Granite (10% Recovery) - 1,478 m ³ Granite waste - 13,306 m ³
11.	Depth of Mining	:	30m AGL
12.	Latitude & Longitude of all corners of the quarry site	:	12°05'53.67"N to 12°06'04.52"N 79°39'12.36"E to 79°39'22.44"E
13.	Topo Sheet No.	:	57-P/12
14.	Man Power requirement per day:	:	35 Nos.
15.	Precise area communication approved by the Principal Secretary to Government, Industries (MME1) Department with date	:	G.O. 3(D) No.2, Industries (MME1) Department, dated: 12.01.2009
16.	Mining Plan / Scheme of Mining approved by Director, Directorate of Geology and Mining with date	:	Re.No.5847/MM4/2020 dt: 07.12.2020

17.	Water requirement:	:	1.5 KLD
	1. Drinking water & domestic purpose (in KLD)		0.5 KLD
	2. Dust suppression & Greenbelt development (in KLD)		0.7 KLD
	3. Wire saw cutting purpose (in KLD)		0.3 KLD
18.	Power requirement:	:	
	a. Domestic Purpose		TNEB
	b. Industrial Purpose		200 Litres of HSD/day
19.	Depth of water table	:	14m
20.	Project Cost (excluding EMP cost)	:	Rs. 97,92,000/-
21.	EMP cost	:	Rs. 2,05,000/-
22.	CER cost	:	Rs. 2,00,000/-

Validity:

This Environmental Clearance is accorded for the quantity of ROM - 14,784 m³, Black Granite (10% Recovery) - 1,478 m³ and Granite waste - 13,306 m³ up to depth of 30m AGL as per the approved mining plan and is valid for the approved mine plan period.

Affidavit

The Proponent has furnished affidavit in One Hundred Rupees stamp paper attested by the Notary stating that

I, Thiru. 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:.

TAMIN has applied for getting Environment Clearance to SEIAA, Tamil Nadu for Perumbakkam Black Granite Quarry over an extent of 6.09.0ha in S.F. No. 11(Part) of Perumbakkam Village, Vanur Taluk, Villupuram District, Tamil Nadu.


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We swear to state and confirm that within 10Km area of the mine site. TAMIN has 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. TAMIN will complete the following Corporate Environment Responsibility (CER) activities as per MOEF & CC OM dated 30.09.2020 and 20.10.2020 after commencement of the mining activities for the amount of Rs. 2 Lakh (Rupees Two Lakh only).
 2. There is one mine located within 500 m radius from periphery of my mine.
 3. 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.
 4. No approved habitations as per Rules 36(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 located within 500 meters radius from the periphery of my mine.
 5. TAMIN swear that afforestation will be carried out during the course of mining operation and maintained.
 6. The required insurance will be taken in the name of the labourers working in my mine site.
 7. TAMIN will not engage any child labour in my mine site.
 8. All type of Safety / protective equipments will be provided to all the labourers working in my mine.
 9. No approved permanent structures, temples etc are located within 500m radius from the periphery of my mine.
 10. 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.


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Appraisal by SEAC:-

Earlier, this proposal was placed in this 313th Meeting of SEAC held on 30.09.2022. The details of the project furnished by the proponent are available in the website (parivesh.nic.in).

The SEAC noted the following

1. The Project Proponent, M/s. Tamil Nadu Minerals Limited has applied for Environmental Clearance for the proposed Black Granite quarry lease over an extent of 6.09.0 Ha at S.F.No. 11(P), Perumbakkam Village, Vanur Taluk, Villupuram District, Tamil Nadu.
2. The proposed quarry/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.

Based on the presentation made and documents furnished by the project proponent, the SEAC decided to **make site inspection by the sub-committee** to be constituted by the SEAC to assess the present status of the project and environmental settings as the proposal falls under violation category. Further the subcommittee will assess the ecological damage and to check the Remedial Plan & Community Augmentation Plan submitted by the PP during the inspection. On the receipt of the sub committee report, further deliberation will be carried out.

Based on that the Sub Committee has inspected the site on 23.9.2022 furnished the following.

M/s Tamil Nadu Minerals Limited (An Undertaking of Government of Tamil Nadu hereinafter referred as TAMIN) was established in the year 1978 to carryout systematic mining and development of different minerals all over the State.

About the Mine:

District	:	Villupuram
Taluk	:	Vanur
Village	:	Perumbakkam
SF No.	:	11(Part)
Extent	:	6.09.0 Ha
Land Classification	:	Govt.Poramboke
Mineral	:	Black Granite
Lease period	:	20 Years. 19.06.2019 to 18.06.2029.

Basic need for going for EC under Violation Category

TAMIN has obtained EC from SEIAA vide Letter No. SEIAA-TN/F-1260/EC/1(a)/1834/2014, dt. 27.03.2015. The EC period is valid up to 26.03.2020. Approved EC production quantity is 523.800 cu.m for period of five years. At the time of


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getting EC the quarry was treated as B2 category as per MoEF&CC, Office Memorandum dated 24.12.2013.

During the EC period TAMIN has exceeded the production quantity against the quantity permitted in the EC. The production quantity of 523.800 cu.m was allowed as per EC, but the actually the quantity of 632.211 cu.m has been produced as per the Assistant Director's (Mines) measurement. [532.800 cu.m -632.211 cu.m = (-) 108.411 cu.m]

The excess production against the EC comes under violation category as per Hon'ble Supreme Court Judgment dated 02.08.2017 in WP. No.114/2014 in the matter of Common Cause Vs UIO.

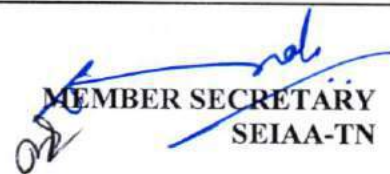
Hence, TAMIN has uploaded the application for obtaining EC under violation category as per MoEF&CC Notification S.O No. 804(E), dated 14.03.2017.

2. Chronology

Sl. No	Sequence of Events	Date
1.	ToR applied under violation category Online Proposal No. SIA/TN/MIN/24539/2018. SEIAA File No. 1260/2020	12.04.2018
2.	ToR granted under violation category vide SEIAA-TN/F.No.1260/ToR-853/2020	18.02.2021
3.	Public Hearing Conducted	12.04.2022
4.	EC Application applied vide Online Proposal No. SIA/TN/MIN/78698/2018	22.06.2022
5.	SEAC meeting held on	22.09.2022
6.	SEAC sub-committee visited the area vide SEAC -TN/1260 Site Inspection/2022, dt.23.09.2022	20.11.2022

3. Salient Features of the Project

S. No	Particulars	Details
1.	Latitude & Longitude	12°05'53.67"N to 12°06'04.52"N 79°39'12.36"E to 79°39'22.44"E
2.	Site Elevation above MSL	80 m AMSL
3.	Topography	Hilly terrain
4.	Lease area Topo Sheet details	57P/12
5.	Land use of the site	Government Poramboke land
6.	Lease Period	12.01.2009 to 18.06.2029 (20 years)
7.	Depth of Mining	30m (from top of the hill)
8.	Method of mining	Semi- mechanized opencast system
9.	Water Requirement (KLD)	1.5 KLD
10.	Source of water	Private Tankers
11.	Power Requirement	60 kVA
12.	DG set capacity	1 * 125 kVA (will be used during power failure)


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13.	Fuel Requirements (Diesel)	200L/Day
14.	Manpower	35 Nos
15.	Municipal Solid waste Generation	16.0 kg/day
16.	Waste Oil Generation	3.0 Liters/Annum
17.	Seismicity	Seismic zone-II (Low risk)
18.	Project Cost	Rs. 99.97 Lakhs (Say 1.0 Crore)

Other Salient Features of the Project

S. No	Description	Details, Direction & Distance from lease boundary (~km)			
1	Nearest Highway	SH136(Mailam-Karasanur-Puducherry) ~ 1.49km (WSW) NH32 (Chennai-Puducherry-Tuticorin) ~ 7.60km (NE)			
2	Nearest Airport	Chennai International Airport ~ 110.94 km (NNE)			
3	Archaeologically places	S.No	Monuments	Distance (km)	Direction
		1	Urn burial site Kadagambattu	8.38	S
		2	Megalithic cairns and stone circles Sengamedu	8.82	SSE
		3	Megalithic stone circles Tiruvakkarai	6.82	S
		4	Chandra Mouleeswarar Temple	7.74	S
		5	Arasaleeswarar Temple	13.73	ESE
4	Nearest Town	Tindivanam ~ 11.98 km (N)			
5	Nearest City	Puducherry ~ 21.06 km (SE)			
6	State & National Boundaries	TN-PY State Boundary(As per SOI Toposheet)≈ 7.83km, SSW TN-PY State Boundary(As per Google)≈ 7.85km, SSE			
S.No	Name of Villages	Distance (≈km)	Direction from project site	Population (Census 2011)	
1	Parikkalpattu	0.02	E	900	
2	Perumbakkam	0.34	SSE	1000	
3	Taludali	0.98	W	1500	
4	Parikkalpattu	1.00	NE	2257	
5	Kurukkanpatti	2.08	N	1267	

4. Mining Lease Details

Sl. No.	ML Grant	ML Grant Reference	Validity	
			From	To
1	Initial Grant	G.O Ms No.773, Industries (H2) Dept. dt. 17.11.1987.	11.04.1988	10.04.2008

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2	Renewal lease	G.O 3(D) No.2 Industries (MME1) Dept. dt. 12.01.2009	19.06.2009	18.06.2029
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5. Mining Plan Details

Sl. No.	Mining Plan/Scheme	Plan Period	Approval by CGM Reference
1	Mining Plan	2004-2009	Lr.No.4524/MM9/2004,dt. 27.12.2004.
2	1 st Scheme of Mining	2009-2014	Deemed approval under Rule 18(5) of GCDR 199
3.	2 nd Scheme of Mining	2014-2019	
4.	3 rd Scheme of Mining	2019-2024	Lr.No.5847/MM4/2020,dt. 07.12.2020.

6. Details of Mining

Sl. No.	Particulars	Details
1	Method of mining	Open cast semi mechanized
2	Updated Geological reserves as on 31.03.2019	4,57,342 cu.m
3	Updated Mineable reserves as on 31.03.2019	1,47,530 cu.m
4	Proposed production per Annum	1531 cu.m
5	Elevation range of the mine site	Top RL 120
6	Bench height	6 m
7	Bench width	Not exceeding 6 m
8	Bench slope	60° to vertical
9	Proposed Depth of mining	30 m Top of the hillock (Bottom RL 90 m)
10	Life of mine	10 years

7. Past Production Details

S No	Year	ROM Proposed in the SOM – II (m ³)	Saleable Quantity Proposed @ 5 % (m ³)	Actual ROM production achieved (m ³)	Actual saleable production achieved @5 % (m ³)	Permit obtained quantity(m ³)
1	2014-2015	13,065	653	13,368	668	713.676
2	2015-2016	15,093	755	2,920	146	418.628
3	2016-2017	15,057	753	1,952	98	63.832
4	2017-2018	15,313	766	2,690	134	149.761
5	2018-2019	15,231	762	Nil	Nil	--
Total		73,759	3,689	20,930	1,046	1345.897


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8. Proposed Production Details

S.No	Year	Production of ROM (m ³)	Recovery @10%(m ³)	Granite rejects (m ³)
1	2019-2020	13,065	1,307	11,758
2	2020-2021	13,970	1,397	12,573
3	2021-2022	14,502	1,450	13,052
4	2022-2023	15,313	1,531	13,782
5	2023-2024	14,784	1,478	13,306
Total		71,634	7,163	64,471

10. Status on Compliance of TOR

Complied as Reported and given in the EIA Report.

11. Violation Category

During the EC period TAMIN has exceeded the production quantity against the quantity permitted in the EC. The production quantity of 523.800 cu.m was allowed as per EC, but the quantity of 632.211 cu.m has been produced actually as per the Assistant Director's (Mines) measurement. [523.800 cu.m -632.211 cu.m = (-)108.411 cu.m]

The excess production against the EC comes under violation category as per Hon'ble Supreme Court Judgment dated 02.08.2017 in WP. No.114/2014 in the matter of Common Cause Vs UIO.

Sl. No.	Statute Requirement	Yes / No	Violation Status	Remarks
1	Valid EC	X	EC obtained. But exceeded the EC approved quantity	EC quantity violation
2	Valid CTO	√	CTOs were obtained vide Orders 1805112332150 (Water Act) and 805112332150 (Air Act) dated 19.03.2018 which was valid upto 31.03.2018	There is No violation in this regard.
3	Valid Mining Plans/Schemes	√	Lr.No.5847/MM4/2020,dt. 07.12.2020. Valid up to 31.03.2024	There is No violation in this regard.
4	Forest Clearance	-	Not applicable.	Revenue Poramboke
5	Transport Permits	√	TAMIN has obtained the required Transport Permits.	There is No violation in this regard.
6	Any other violation	-	Nil	Nil

12. Land Use Pattern

S. No.	Description	Present Area (Ha.)	Area to be required at the present Scheme Period (Ha.)	Area at the end of life of Quarry (Ha.)
1	Area under Quarrying	0.91.0	0.58.0	1.61.0


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2	Waste Dump	0.95.0	0.65.5	2.26.0
3	Infrastructure	0.00.5	Nil	0.00.5
4	Roads	0.26.0	--	0.20.0
5	Green Belt	0.09.0	0.07.0	0.25.0
6	Unutilized	3.87.5	2.57.0	1.76.5
Total		6.09.0	3.87.5	6.09.0

13. Ecological Damage Assessment:-

TAMIN has remitted the amount Rs.43,20,143/- to the Department of Geology and Mining towards 100% cost value of the mined mineral against the permitted EC quantity.

Accordingly, the Director of Geology and Mining has issued No Objection Certificate to TAMIN for getting EC vide Letter Rc. No. 17/MM4/2020, dt. 03.07.2020.

Tamil Nadu Pollution Control Board has filed the case under Section 19 of Environment (Protection) Act, 1986 in Hon'ble Judicial Magistrate No.1 Tindivanam vide Calendar Case No.184/2022.

Damage Assessment report has been prepared in accordance with MoEF & CC Notification dated 14.03.2017 and it is given as follows:

Damage Assessment: Quantification of Damage Cost

S. No	Description	Details	Unit	Mining Plan period SOM-II (2014-2015 to 2018-2019)				
				2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
1	Mine Lease Area		Ha	6.09.0	6.09.0	6.09.0	6.09.0	6.09.0
2		Qty/ Mining plan	m ³ /year	653	755	753	766	762
		Actual production	m ³ /year	668	146	98	134	Nil
		Total Water Consumption	KL/year	480	480	480	480	Nil
3	Source of water	--	KL/Y	Road Tankers supply				
4	Hazardous waste	--	Lits/A	0	0	0	0	-
	Waste oil	--	Tonne/Year	3.0	3.0	3.0	3.0	-
5	Municipal Solid Waste	--	Tonne/Year	5.12	5.12	5.12	5.12	-
6	Mode of Disposal of Sewage	--	-	Septic tanks	Septic tanks	Septic tanks	Septic tanks	Nil
7	Deforestation /No of plants	--	Nos	Nil	Nil	Nil	Nil	Nil
8	Domestic Sewage Quantity(KLD)			0.45	0.45	0.45	0.45	-
9	Manpower	--	Nos	35	35	35	35	-


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Quantification of Damage Cost

Assessment of the damages caused during quarry operations are given below:

1. Air Environment

The major source of air pollution due to emission generation by is quarry machineries & transportation of granite. Drilling, Haul roads, Waste dump & Open pit activities are considered for air emission generation.

Emission calculation References:

- The drilling emission is calculated with the equation of Chakraborty, et al. (2002),
- The emission factors for the haul roads the equation from the literature Chauha, (2006).
- Haul Roads & Waste dump emission calculated based on the literature Chakraborty, et al., (2002).
- Open pit Emission calculation as per the open pit estimation is another tool than the area source in AERMOD. (Neshuku, 2012).

Quantification of Emissions due to quarry activities

S. No	Emission details	Emissions quantity Tonne /Year	Total Emissions quantity (Tonne) for 4 years (Violation period)
1	PM	0.33	1.34
2	SO ₂	0.26	1.03
3	NO _x	5.04	20.17
Total		5.63	22.54

2. Water Environment

Water is being sourced from nearby road tankers for mining operations purpose is about 1.5m³/day of water is required for the project.

2.1 Water pollution

There is no wastewater generation in the quarry. The sewage generated is being collected in Septic tank followed by soak pit. Assuming 100% of the sewage is collected in soak pit contaminating.

Year wise Sewage generation in Violation period

S. No	Description	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
1	Domestic Sewage Quantity(KLD)	0.45	0.45	0.45	0.45	Nil
2	Sewage collected in soak pit(KLD)	0.45	0.45	0.45	0.45	Nil

2.2 Solid Waste

Municipal solid waste will be generated. If not managed properly, waste will affect the health of staff and employees as well as locals in the surrounding areas and will also be esthetically unpleasant.

Year wise Solid Waste generation in Violation period (4 years)

S. No	Description	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
1	MSW (Tonne/Year)	5.84	5.84	5.84	5.84	-

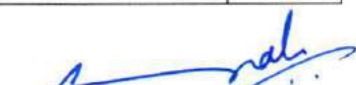

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Ecological Damage due to mining Activities & Remediation Plan and Cost

S. No	Parameter	Activity / Source	Impact	Cause	Remediation Plan	Cost/year in INR
1	Air Environment	i) Drilling ii) Blasting iii) Movement of Machineries iv) Transportation	<ul style="list-style-type: none"> Dust generation 	<ul style="list-style-type: none"> Particulate matter smaller than 10 microns, can settle in the bronchi and lungs and cause health problems like Bronchitis, Emphysema, Bronchial Asthma, Irritation of mucus Membranes of eyes, etc. Particles smaller than 2.5 micrometers (PM2.5), tend to penetrate into the lungs and very Small particles (<100 nanometers) may pass through the lungs to affect other organs. Vehicle emission can also create various health problems on human being. 	<ul style="list-style-type: none"> Using inbuilt dust collector system Usage of sharp drill bits for drilling of holes. Provision of dust filters / mask to workers working at highly dust prone and affected areas. Proper maintenance of machineries which avoids excessive noise and vibration. Sufficient training to operators on safety and environmental parameters. Regular wetting of transport road using water tanker. Avoiding overloading of tippers Covering of loaded tippers with tarpaulins during transportation. Development of green belt / barriers wherever possible. 	7,498


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2	Water Environment	<p>a) Water usage</p> <p>b) Quarry working faces and dumps</p>	<ul style="list-style-type: none"> • Generation domestic Effluents. • Soil erosion, siltation due to runoff / Storm Water. • Reduction in ground Water • Siltation on rainwater drainage channel near the mine lease 	<ul style="list-style-type: none"> • The direct impact on human beings due to poor water quality can lead to various water borne diseases like diarrhoea, jaundice, dysentery etc. • Polluted water may not be useful for human or animal consumption etc., if not treated to standards. 	<ul style="list-style-type: none"> • Rain water harvesting ponds will develop. • Clear supernatant water after settling can be let out of this pond after passing through settling traps. • Most of the mine water will be used for green belt, dust suppression, etc. • Plantation will be carried out in the safety zone area, all possible area within the lease area • Mine sump water can also be utilized. 	7,498
3	Soil Environment	Quarrying and dumping of waste	<ul style="list-style-type: none"> • Loss of top soil • Loss of soil fertility & soil quality 	<ul style="list-style-type: none"> • Affecting biotic environment 	<ul style="list-style-type: none"> • The top soil will be used for afforestation & Reclamation purpose. • Application of manure to retain its fertility. • Spreading over reclaimed areas for plantation. 	6498


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4	Noise Environment	a)Drilling b)Movement of vehicles	<ul style="list-style-type: none"> • Prolonged exposure to high noise level is harmful to human auditory system 	<ul style="list-style-type: none"> • Mental fatigue • Rebellious attitude • Annoyance • Carelessness • Hearing impairment 	<ul style="list-style-type: none"> • Providing in-built mechanism for reducing sound emissions • Providing earplugs/earmuffs to workers exposed to high noisy areas. • Proper and regular maintenance of equipment. • Planting of trees where ever possible to act as acoustic barriers. • Conducting regular health checkup of workers • Including audiometric test for the workers engaged in noise prone area. 	7,498
5	Vibration	Drilling in Quarry	<ul style="list-style-type: none"> • Creation of Vibration effect 	<ul style="list-style-type: none"> • Accident and injury • damage to the nearby structures if appropriate technology and control measures are not adopted 	<ul style="list-style-type: none"> • Controlling Blasting methods 	6498
6	Biological Environment	Quarrying and allied operation	<ul style="list-style-type: none"> • Clearance of vegetation • Dust generation 	<ul style="list-style-type: none"> • Loss of vegetative cover • Retardation of tree growth, Tip burning 	<ul style="list-style-type: none"> • Water sprinkling to arrest dust generation • Creation of green belt in all possible vacant places within the lease area. • Local species in consultation with the state forest department can be chosen for this purpose. 	6998

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7	Occupational health	Quarrying and allied operation	<ul style="list-style-type: none"> • Dust generation. • Noise and vibration effect 	<ul style="list-style-type: none"> • Dust related pneumonia • Tuberculosis • Rheumatic arthritis • Segmental vibration • Miners • Nystagamus • Loss of life /machinery 	<ul style="list-style-type: none"> • Water sprinkling on haul roads. • Green belt creation wherever possible to arrest dust and reduce noise propagation. • Good control measures for reducing air pollution & Control of noise levels. • Conducting Initial Medical examination (IME) at pre-entry level stage of workers by qualified doctors, as per DGMS circulars. • Providing Health report to employees regularly after health checkups. • Provided Personnel Protective Equipments (PPE) to all staff and workers to guard against excess noise levels, dust generation and inhalation, etc., as per standards prescribed by DGMS. • Imparting Vocational training to all workers/ staff. 	7,498
Total cost proposed under Ecological Remediation plan is Rs. 49986/- ~ Rs. 50,000/=						


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Environment Remediation Plan, Cost and Time Schedule (as Proposed)
Environment Remediation_measures for quarry operations for the damages caused are as below:

Mitigation measures

S. No	Environmental Component	Remediation Plan / Activity Description	Budgetary Provision, Rs. Lakhs		Total, Rs.
			I Year	II Year	
1	Air Management	<ol style="list-style-type: none"> 1. Plantation along the haul roadside to reduce effects of air/ noise pollution as part of landscape development. 2. A row of trees to be planted along the Quarry boundary periphery to screen the site from air/ noise pollution. 3. Regular maintenance and upkeep of the internal roads within project site will help to reduce air pollution. 4. The entry/ exit to the site to be with adequate curvature so that vehicles coming out/ entering the quarry do not impinge on road traffic directly. 	7,498		7,498
2	Water Management	<ol style="list-style-type: none"> 1. There is no effluent generation in existing quarry. 2. Storm water drainage system laid considering natural gradient of the site and sufficient number of recharge pits will be provided at 	7,498		7,498


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		<p>appropriate locations to recharge ground water table.</p> <p>3. Existing sewage disposed in to Septic tank followed by Soak pit.</p> <p>4. Proper provision for maintenance of sewage disposal.</p>			
3	Noise & Vibration Management	<p>1. During quarry operations important to maintain the noise levels within the site for the safety and better health of residents in the nearby area.</p> <p>2. The various precautions to be taken to maintain acceptable noise level within the project area are as under smooth flow of traffic to be ensured on the internal roads to avoid idling of vehicles while transportation.</p>	7,498	6,498	13,996
4	Solid Waste Management	<p>1. Collection of waste, segregation, and disposal in a manner so as to cause minimal environment impact.</p> <p>2. Non-degradable waste will be disposed to municipal garbage collection site.</p>	6498		6498


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5	Green Area Development Management	<ol style="list-style-type: none"> 1. In order to keep a check on noise levels, particulate matter dispersion and concentration of polluting agents, a green belt is provided as part of the landscaping and it shall be maintained. 2. There shall be monitory provision made for development of green belt. 3. A horticulture officer and gardener shall be appointed for the same. 4. Maintenance shall include watering and manuring plants at appropriate time, weeding out unwanted plants, cleaning, replacing wilted/died plants etc. 	6998	6998
6	Fire & Safety Management	<ol style="list-style-type: none"> 1. For safety purpose of the occupants a well designed disaster management plan is prepared. 2. Emergency Assembly points will be marked. Regular mock drill to be undertaken. 3. Guidance over public address systems. 4. Sprinklers in quarry area and common areas. 	7,498	7,498


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Grand Total		49,986	49,986 ≈ Rs. 50,000/=
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Natural & Community Augmentation Plan breakup

Project Proponent Proposed Rs.49985/- for Natural & Community Augmentation Plan as below:

S. No	Activity	Year wise Implementation and Budgetary provision (Rs.)		
		Year 1 (2022-2023)	Year 2 (2023-2024)	Year 3 (2024-2025)
1	Development of Greenery in the surrounding area and maintaining them	5332	5332	5330
2	Rain water harvesting and water shed programmes in the nearby village	1333	1333	1334
Sub Total		6665	6665	6664
Grand Total		19994		

S. No.	Description	Year wise Implementation and Budgetary provision (Rs.)		
		Year 1 (2022-2023)	Year 2 (2023-2024)	Year 3 (2024-2025)
1.	Providing Masks & Sanitizers to the nearby Perumbakkam government school	3000	3000	3000
2.	Providing Note books & Stationary for the Perumbakkam government school.	6997	6997	6997
Sub Total		9997	9997	9997
Total		29991		

CER Budget-Proposed:-

Name of the Village	Particulars	CER Amount
Perumbakkam Govt School. Perumbakkam village	Education & Repairs and Maintenance of School buildings, Upliftment of Toilet facilities for Girls Students, etc.	Rs.5.00 Lakhs
Total		Rs.5.00 Lakhs

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17. Summary of Budget Allocation proposed for Remediation, Natural Resource Augmentation and Community Resource Augmentation plan based on EIA Model

Sl. No.	Activity Proposed	Budgetary Provision, Rs. Lakhs			Total, Rs. Lakhs
		I Year	II Year	III Year	
1	Cost of Ecological Damage Remediation Plan	0.50			0.50
2	Natural Resource Augmentation Plan	0.07	0.07	0.07	0.21
3	Community Resource Augmentation Plan	0.10	0.10	0.10	0.30
Grand Total					1.01

14. OBSERVATIONS OF THE SEAC SUB-COMMITTEE DURING THE PROJECT SITE INSPECTION

1. The Sub Committee has visited Perumbakkam Granite Quarry during the Inspection to observe over all mining scenario in the Region.
2. The Lease over an extent of 6.09.0 Ha is being operated in the Perumbakkam. It is wire fenced in all sides.
3. As per Rule 2 of Rule 8C of Tamil Nadu Minor Mineral Concession Rules 1959, validity of the Lease is upto 10.04.2028.
4. The settlements/habitations are observed in 200 m from Lease boundary in eastern sides.
5. There was no mining activities in the quarry.
6. Rain water accumulated in the Quarry and atleast 2 bottom most benches are covered in water, as noticed.
7. The Lease is having valid EC, approved Mining Plan and Consent to Operate, as reported. Thus, the mining operations in the Quarry are subjected to compliance of existing EC conditions and CTO conditions. As reports produced to the Sub Committee, the EC conditions were reportedly complied except the increase of production quantity as per AD(Mines) measurement .
8. During Violation Period, Environmental friendly Mining activities, involving the Small diameter Drilling with mild & controlled Blasting operations has been practised but however the Diamond Wire Saw cutting, the primary cutting machinery, was used as a 'Non-Explosive component' for the quarrying operations.
9. There were no Top Soil and Over Burden generation during the Period and thus only the Granite Rejects produced from the quarry are formed as waste dump within the Lease area but in the non-mineralised zone.
10. No Ground Water-table intersection as noticed in the existing benches of the quarry.
11. Dedicated Haul Roads from Quarry to Panchayat/village road and from Panchayat Road to the SH exists and very minimal transportation through village road (during the Violation Period) was carried out (maximum of 2 load trucks).
12. The Green Belt has been developed along the periphery of quarry pit including in Safety Barriers.
13. The Water tanker trucks possessing the water sprinklers were deployed along the Haul Road during the violation period and is in the working condition.
14. Garland Drains are partially provided along the periphery but its maintenance has to be improved.
15. Green belt developed along the eastern side boundaries are infested with Procopius juliflora which are to be eradicated and additional green belt shall be developed.


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16. M/s. TAMIN is carrying out various CSR activities in the Region as per CSR Policy of the Company, as reported.
17. Further, the Sub-Committee has significantly observed that a distance of 50 m earlier provided for the safety of pilgrims and temple henceforth need not be left unutilised. It has been noted that the deity in the temple was vacated and relocated to some other distant temple. Hence, this area, in future, may be utilised for mining activities by the company.

STATUS OF MINING OPERATION

The mining activities were stopped on 30.11.2017 and there was no production from this Mine since then.

MINING PLAN APPROVALS

The Director, DMG, Chennai has accorded the latest Scheme of mining for the period from 2019-2024 Lr.No.5847/MM4/2020,dt. 07.12.2020

PRESENT CONDITION OF THE MINES PIT AND DUMP (Incorporate your data)

➤ The physical nature of the Black Granite deposit:

- Strike length (m) : 370 m
- Width (m) : 68m
- Strike direction : NW-SE
- Dip : Almost vertical
- Depth proved (m) : More than 30 m as it Dolerite rock Formation

➤ Pit Dimension

Description	Length (m)	Width (m)	Depth (m)
Present pit size	86	56	15

➤ Waste Dump details : The dumps have been maintained at an average height of 5m and the angle of slope of dumps at 45° from horizontal. The waste dump has been earmarked in the Schem of Mining plate Nos 4 & 5.

STATUTORY MANPOWER (during the violation period)

Sl. No.	Name of the Post Occupied	Statutory Requirement as per MMR 1961	Manpower available during the Mining Operations
1.	Manager (Second Class Competency Certificate)	1	1
2.	Mines Foreman	1	1
3.	Mine Mate (Will act as Blaster)	1	1

GREEN BELT DEVELOPMENT AND PLANTATION

Since the lease area is Granite terrain TAMIN has proposed to carry out the plantations, predomenetly, 100 native species during the IIIrd Scheme of mining period .


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VIOLATION

PENALTY FOR VIOLATION

TAMIN has remitted the amount Rs.43,20,143/- to the Department of Geology and Mining towards 100% cost value of the mined mineral against the permitted EC quantity.

Accordingly, the Director of Geology and Mining has issued No Objection Certificate to TAMIN for getting EC vide Letter Rc. No. 17/MM4/2020, dt. 03.07.2020.

Tamil Nadu Pollution Control Board has filed the case under Section 19 of Environment (Protection) Act, 1986 in Hon'ble Judicial Magistrate No.1 Tindivanam vide Calendar Case No.184/2022.

Based on the inspection of the project site and other documents furnished by project proponent, M/s. TAMIN, SEAC Sub-Committee recommends the following Estimation made towards the Ecological remediation cost, Natural resources augmentation cost and Community resources augmentation cost under violation category for the concerned lease of Perumbakkam Black Granite Mine of TAMIN, Perumbakkam, Vanur Taluk, Vippupuram District following the SEAC Guidelines after discussing the following related legal provisions made from time to time by various agencies/courts.

1. Extracts of the Supreme Court of India Common Cause vs Union Of India . on 2 August, 2017 WRIT PETITION (CIVIL) NO. 114 of 2014

“.....In our opinion, as far as the first question is concerned, a reading of EIA 1994 read with the 1st Note implies that the base year would need to be the immediately preceding year that is 1993-94. This is obvious from the opening sentence of the 1st Note, that is, “A project proponent is required to seek environmental clearance for a proposed expansion/modernization activity if the resultant pollution load is to exceed the existing levels.” (Emphasis supplied). In its report, the CEC has taken 1993-94 as the base year and we see no error in this. Even the MoEF in its circular dated 28th October, 2004 stated with regard to the expansion in production: “If the annual production of any year from 1994-95 onwards exceeds the annual production of 1993-94 or its preceding years (even if approved by IBM), it would constitute expansion.” If that expansion results in an increase in the pollution load over the existing levels, then an EC is mandated....”

“....The contention of learned counsel for the mining lease holders that EIA 1994 was rather vague, uncertain and ambiguous cannot be accepted. In our opinion, on a composite reading of EIA 1994, it is clear that: (i) A no objection certificate from the SPCB was necessary for continuing mining operations; (ii) An expansion or modernization activity required an EC unless the pollution load was not exceeded beyond the existing levels; (iii) The base year for determining the pollution load and therefore the proposed expansion would be with reference to 1993-94; (iv) Whether an expansion or modernization would lead to exceeding the existing pollution load or not would require a certificate from the SPCB which could be reviewed by the IAA; (v) New projects require an EC; and (vi) Existing projects do not require an EC unless there is an expansion or modernization for the duration (if any) of the validity of the certificate from the SPCB. We need not say anything more on this subject since the CEC has proceeded to discuss the issue of mining in excess of the EC or in excess of the mining plan only W.P. (C) Nos. 114/2014 etc. from the year 2000-01 onwards. The prior period may, therefore, be ignored and it is the period from 2000-01 onwards which is actually relevant for the present discussion....”

“....All that we need to say on this subject is that there is no confusion, vagueness or uncertainty in the application of EIA 1994 and EIA 2006 insofar as mining operations were commenced on mining leases before 27th January, 1994 (or even thereafter). Post EIA 2006,


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every mining lease holder having a lease area of 5 hectares or more and undertaking mining operations in respect of major minerals (with which we are concerned) was obliged to get an EC in terms of EIA 2006....”

“.....In a subsequent letter dated 12th December, 2011 addressed to the Chief Secretary in the Government of Orissa the said Ministry of Mines noted that there were violations of the actual production limit laid down in the mining plan and that the State Government had finally taken steps to curb illegal mining in respect of over-production of minerals. There was a reference to suggest (and we take it to be so) that **20% deviation from the mining plan** (in terms of over-production) would be reasonable and permissible. However, it appears from a reading of the communication that illegal mining was going on beyond the 20% deviation limit and that appropriate steps were needed to curb these violations. Learned counsel for the petitioners submitted that such egregious violations must be firmly dealt with by cancellation or termination of the mining lease and a soft approach is not called for....”

“.....In this context, it is worth noting that a High Level Committee (called the Hoda Committee) on the National Mineral Policy noted in its Report dated 22nd December, 2006 in paragraph 3.47 as follows :

“3.47 An EMP [Environment Management Plan] has to be prepared under the MCDR and got approved by IBM. However, this EMP is not acceptable to the MoEF. The miner has to prepare two EMPs separately – one for IBM and another for MoEF. The Committee suggests that IBM and MoEF should prepare guidelines for a composite EMP so that IBM can approve the same in consultation with MoEF’s field offices. This will eliminate anomalous situations where increase of even a few tonnes in production requires project authorities to get a fresh EMP approved from the MoEF although the IBM allows a grace of +10% per cent, keeping in view the fluctuations in the market situation and process complexities. If a single EMP is accepted in principle such anomalies can be resolved in advance. The Committee feels the MoEF should also have a cushion of +10% per cent in production while giving EIA clearance.”

“....The above passage indicates that the permissible variation in production as per the Indian Bureau of Mines is +10% but according to the letter dated 12th December, 2011 issued by the Ministry of Mines, **the reasonable variation limit could be +20%....”**

“....In terms of Rule 22(5) of the MCR a mining plan shall incorporate a tentative scheme of mining and annual program and plan for excavation from year to year for five years. At best, **there could be a variation in extraction of 20% in each given year but this would be subject to the overall mining plan limit of a variation of 20% over five years.** What this means is that a mining lease holder cannot extract the five year quantity (with a variation of 20%) in one or two years only. The extraction has to be staggered and continued over a period of five years. If any other interpretation is given, it would lead to an absurd situation where a mining lease holder could extract the entire permissible quantity under the mining plan plus 20% in one year and extract miniscule amounts over the remaining four years, and this could be done without any reference to the EC. The submission of learned counsel in this regard simply cannot be accepted....”

“.....A submission made by the mining lease holders was that the maximum production in any year up to 1993-94 should be considered as the base for making the calculations. Such a contention was also urged before the CEC and was rejected. We have examined this contention independently and are of the view that the base year of 1993-94 is most appropriate - we have already given our reasons for this. Some lessees might lose in the


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process while some of them might benefit but that cannot be avoided. In any event, each mining lease holder is being given the benefit of calculations only from 2000-01 and is not being 'penalized' for the period prior thereto. We think the mining lease holders should be grateful for this since it was submitted by learned counsel for the petitioners and the learned Amicus that the penalty should be levied from the date of EIA 1994. In our opinion, the cut-off from 2000-2001 (without interest) is undoubtedly reasonable and there can be hardly be any grievance in this regard...."

".....To avoid any misunderstanding, confusion or ambiguity, we make the following very clear:

- (1) *A mining project that has commenced prior to 27th January, 1994 and has obtained a No Objection Certificate from the SPCB prior to that date is permitted to continue its mining operations without obtaining an EC from the Impact Assessment Agency. However, this is subject to any expansion (including an increase in the lease area) or modernization activity after 27th January, 1994 which would result in an increase in the pollution load. In that event, a prior EC is required. However, if the pollution load is not expected to increase despite the proposed expansion (including an increase in the lease area) or modernization activity, a certificate to this effect is absolutely necessary from the SPCB, which would be reviewed by the Impact Assessment Agency.*
- (2) *The renewal of a mining lease after 27th January, 1994 will require an EC even if there is no expansion or modernization activity or any increase in the pollution load.*
- (3) *For considering the pollution load the base year would be 1993-94, which is to say that if the annual production after 27th January, 1994 exceeds the annual production of 1993-94, it would be treated as an expansion requiring an EC.*
- (4) *There is no doubt that a new mining project after 27th January, 1994 would require a prior EC.*
- (5) *Any iron ore or manganese ore extracted contrary to EIA 1994 or EIA 2006 would constitute illegal or unlawful mining (as understood and interpreted by us) and compensation at 100% of the price of the mineral should be recovered from 2000-2001 onwards in terms of Section 21(5) of the MMDR Act, if the extracted mineral has been disposed of. In addition, any rent, royalty or tax for the period that such mining activity was W.P. (C) Nos. 114/2014 etc. carried out outside the mining lease area should be recovered.*
- (6) *With effect from 14th September, 2006 all mining projects having a lease area of 5 hectares or more are required to have an EC. The extraction of any mineral in such a case without an EC would amount to illegal or unlawful mining attracting the provisions of Section 21(5) of the MMDR Act.*

Further, based on the inspection report and the violation notifications issued by the MoEF&CC dated 14.03.2017 & 08.03.2018, SEAC Sub-committee classified the level of damages caused by the Project Proponent on the environment based on the following criteria:

As per the above Notifications, the estimation of Ecological Remediation cost, Natural Resources Augmentation cost and Community Resources Augmentation cost are part of the appraisal of mining projects under violation category.

2. Damage Assessment and Evaluation of Costs

Each mining project has its own characteristics such as mineral mined, mining lease area, mining lease period, method of mining, mined mineral output, mined material storage, waste material storage, transportation of mined material, formation of benches, green belt development, proximity to the habitations, water body and forest, market value of mined


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ore, pollution potential of mining project, human safety and health issues and ecological damage. Hence, the SEAC has arrived the following methodology based on major and important factors, field inspection and data collected and expertise of the members of SEAC.

Table 1: Classification of Mining Projects for Violation Category

Sl. No	Criteria	Low	High
1.	Year wise Mined Mineral Output	As per approved Mining Plan	Not as per approved Mining Plan
2.	Bench formation	Formed and as per specifications	Not formed
3.	Drilling, Blasting and Heavy Machineries use	Not used	Drilling, Blasting and Heavy Machineries used
4.	Adequate and qualified statutory personnel	Employed	Inadequate and unqualified personnel employed
5.	Waste dumps location	Within the lease hold area	Outside the lease hold area
6.	Habitations/Forest location	Away from the site by 500 m or more	Located within 500m
7.	Ground water table intersection	Not intersected	Intersected
8.	Green belt development in safety zone and as per norms of species & numbers	Developed in safety zone and as per norms	Green belt formed outside the safety zone and also not as per norms
9.	Mined Mineral storage (Ore)	Scientific and within the lease area	Unscientific and outside the lease area
10.	Surface Drainage	Constructed and as per specifications	Not constructed
11.	Mined material transport route	Away from habitations atleast by 500 m	Passing through the habitations

In the step 1, the objective is to classify the mining project taken up for the study into either low level ecological damage category (or) high level ecological damage category. In this exercise, 11 characteristics attributed to the mining projects in general are used as criteria. Depending upon the applicability of the each of the criteria to the mining project, the mining project will become classified into either low level ecological damage category or high level ecological damage category. In the above Table, if a minimum of 6 criteria becomes applicable for a classification, then the project is classified under the concerned type of classification (low/high).

In view of the above and based on the inspection report & the Ecological damage, remediation plan and natural & community resource augmentation plan furnished by the


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project proponent, the SEAC decided the fund allocation for Ecological remediation, natural resource augmentation & community resource augmentation and penalty by following the below mentioned criteria given in Table 2.

Table 2: Damage Assessment Classification of Granite Mining Projects

Level of damages	Ecological remediation cost	Natural resource augmentation cost	Community resource augmentation cost	CER	Total
	Rs in lakhs / Ha	Rs in lakhs / Ha	Rs in lakhs / Ha	Rs in lakhs / Ha	Rs in lakhs / Ha
Low level Ecological damage	0.40	0.50	0.70	0.40	2.00
High level Ecological damage	0.75	1.00	1.25	0.75	3.75

In the step 2, the objective is to estimate the Ecological Remediation cost, Natural Resources Augmentation cost and Community Resources Augmentation cost. In this exercise, data related to the select mining projects from project proposals and field conditions have been used to calculate the damage assessment from the above Table 2.

ESTIMATION OF ECOLOGICAL REMEDIATION COST, NATURAL RESOURCES AUGMENTATION COST AND COMMUNITY RESOURCES AUGMENTATION COST UNDER VIOLATION CATEGORY

STEP – 1:

Classification of Mining Projects according to the Violation level

Sl. No	Criteria	Response	Level of Damage	Concluding Remarks	Final Classification
1.	Year wise Mined Mineral output	The mining operation was carried out as per the approved Mining Plan with prior EC obtained on 27.03.2015. Here, the granite volume of 523.800 cu.m was allowed as per EC, but the the	Not carried out in accordance with the quantity as specified in the EC as 108.411 cu.m were produced during the violation period – High Level damage	Out of 11 criteria, 8 criteria have been scored for Low Level of Damage.	Low Level Ecological Damage


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		quantity of 632.211 cu.m has been produced as per the Assistant Director's (Mines) measurement. [532.800 cu.m - 632.211 cu.m = (-) 108.411 cu.m].			
2.	Benches formation	Partially Formed as per the specifications given in the approved Mining Plan. BH = 7.5 m & BW not less than BH (i.e., 8.0 to 12.0 m); Bench Slope = 10 to 15° (to vertical).	Benches are not formed as per the Approved Mining Plan – High Level damage		
3.	Drilling, Blasting and Heavy Machineries use	No Drilling & Blasting operations were carried out. Instead, the HEMM fitted with rock breaker deployed for primary rock breakage.	Very mild and Controlled Drilling & Blasting operations were adopted along with the Diamond Wire Saw Cutting for the extraction of Dimension Stones but the HEMM		


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			were used- Low Level damage	
4.	Adequate and qualified statutory personnel	Required: 3	Three number of statutory personnel employed – Low Level damage	
		Sanctioned & Available:3		
5.	Waste dumps location	Low quantity of waste produced due to low stripping ratio. However, the mineral rejects were produced also stored in the mine lease holed area.	The waste dump placed within the mine.- Low Level damage	However, vide CCOM/IBM Lr No. K-011011/1/2011-CCOM-VOL-1(PF), dated. 10.01.2013, any dumping of waste outside the mining lease boundary proposed in the approved Mining Plan/Scheme of Mining is permitted but necessary approval shall be obtained from the Regional office/IBM in this regard.
6.	Habitations/Forest location	Parikkalpattu village located in the Eastern Part at a distance of 200 to 250 m range where about 1077 persons are living.	Habitations are located within 500 m – High level damage	
7.	Ground water intersection	Not intersecting	Mining operations	


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		the Ground Water Table.	are not intersecting the Ground Water Table – Low level damage		
8.	Green belt development in safety zone and as per norms in terms of species & numbers	Yes, provided. About 100 Trees in an extent of 0.09 Ha (@ 10 Trees/Ha), predominantly local species like Neem, Pungan, etc. are planted and maintained with about 90.0% Survival Rate in this Lease.	Green belt developed around the safety zone – Low level damage		
9.	Mined Mineral storage	It is being stored in the mine lease area currently with a systematic & scientific manner in the non-mineralized zone.	Further, Reserve Ore Stock is being maintained in the mine lease area – Low level damage		
10.	Surface Drainage	Constructed as per the specifications.	Garland drains are constructed on the surface – Low level damage		

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11.	Mined Material transport route	Not necessarily Passing through the village	Trucks carrying the Granite blocks are NOT necessarily pass through the villages to reach the Highway as the alternative route is available - Low level damage		
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Step 2: (i) Application of SEAC Methodology

Level of Damage	Ecological Remediation Cost	Natural Resource Augmentation Cost	Community Resource Augmentation Cost	CER	Total
	Rs. in lakhs / Ha	Rs. in lakhs / Ha	Rs. in lakhs / Ha	Rs. in lakhs / Ha	Rs. in lakhs / Ha
SEAC Scale	0.40	0.50	0.70	0.40	2.00
Actual Amount	40000 × 6.09	50000 × 6.09	70000 × 6.09	40000 × 6.09	200000 × 6.09
	243600	304500	426300	243600	12,18,000/=

DAMAGE COST CALCULATION

SEAC Sub-committee inspected the project site and the documents of project cost details were verified.

The level of damages are assessed by the following criteria:

1. Low level Ecological damage: Only procedural violation – work/operation at site without obtaining EC.
2. Medium level Ecological damage:
 - a. Procedural violation started the construction at site or operation without obtaining EC.
 - b. Infrastructural violation such as deviation from awarded EC, CTO & Mining Plan approvals.
 - c. Non operation of the project.
3. High level Ecological damage: a. Procedural violation (started the construction or operation at site without obtaining EC).


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b. Infrastructural violation such as deviation from awarded EC, CTO & Mining Plan approvals.

c. Under Operation (occupied) without Statutory Approvals.

Thus, the Proposal falls in **Low Level Ecological Damage** as the operations were carried out without obtaining prior EC for the enhanced recovery quantity of Granite only.

CONCLUSIONS:

As the Proposal falls in **Low Level Ecological Damage** during the Violation Period, the Sub-Committee is of the opinion that the higher Environmental Compensation value has been arrived **based on the SEAC-TN model** is **Rs. 9,74,400/-** which is **higher than** the other estimation - Environmental Compensation values of **Rs. 1,01,000 based on the EIA model prepared by the EIA coordinator**. Therefore, **the aforesaid value of Rs. 9,74,400/-** must be compensated for Remediation, Natural Resource Augmentation and Community Resource Augmentation plan as follows:

Sl. No.	Activity Proposed	Total, Rs.
1	Ecological Damage Remediation Plan	3,74,400
2	Natural Resource Augmentation Plan	3,00,000
3	Community Resource Augmentation Plan	3,00,000
Grand Total		9,74,400

The Project Cost is **Rs.100 Lakhs**. CER Budget is estimated as 2% of the Project Cost i.e. **Rs.2,00,000/-**. **Based on the SEAC-TN model for the violation cases, the CER value is estimated as Rs. 2,43,600/-**. However, the PP had committed to provide the following budget (**Rs.5,00,000/-**) towards the Corporate Environmental Responsibility (CER) during the SEAC appraisal meeting.

Name of the Village	Particulars	CER Amount
Perumbakkam Govt School. Perumbakkam village	Education & Repairs and Maintenance of School buildings, Upliftment of Toilet facilities for Girls Students, etc.	Rs.5.00 Lakhs
Total		Rs.5.00 Lakhs

STATUTORY PROCEDURES TO BE FOLLOWED:

1. The Bank Guarantee for **Rs. 9,74,400/-** must be given to TNPCB for successful implementation of the Schemes in 1 year period. The Bank Guarantee will be released after successful implementation of the Remediation Plan and Natural and Community Resource Augmentation Plan.
2. CER fund of **Rs. 5.00 Lakhs** has to be spent by M/s. TAMIN as committed during the appraisal and receipt has to be produced to SEAC/SEIAA-TN for awarding the EC.
3. Credible Action under Section 19 of the E(P) Act shall also be complied for awarding the EC.


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RECOMMENDATIONS

The SEAC Sub-Committee observed that the Mining of Black Granite in an extent of 6.09.0 Ha SF No. 11 (part) for Environmental Clearance under violation comes under the "Low level Ecological damage category" as per the SEAC Violation norms. Hence, the subcommittee opines the **grant of Environmental Clearance** for Mining of Black Granite in an extent of 6.09.0 Ha SF No. 11 (part) of M/s Tamil Nadu Minerals Limited **may be considered** subject to the following conditions in addition to the normal conditions:

1. The amount prescribed for Ecological remediation (Rs. 3,74,400), natural resource augmentation (Rs. 3,00,000) & community resource augmentation (Rs. 3,00,000), totaling Rs. **9,74,400**. Hence the SEAC decided to direct the project proponent to remit the amount of Rs. **9,74,400** in the form of bank guarantee to Tamil Nadu Pollution Control Board and submit the acknowledgement of the same to SEIAA-TN. The funds shall be utilized for the remediation plan, Natural resource augmentation plan & Community resource augmentation plan as indicated in the EIA/EMP report.
2. The project proponent shall carry out the works assigned under ecological damage, natural resource augmentation and community resource augmentation within a period of six months. If not, the bank guarantee will be forfeited to TNPCB without further notice.
3. The amount committed by the Project proponent for CER (Rs. **5.00 Lakhs**) shall be remitted in the form of DD to the beneficiary for the activities committed by the proponent. A copy of receipt from the beneficiary shall be submitted to SEIAA-TN.
4. The project proponent shall submit the proof for the action taken by the state Government/TNPCB against project proponent under the provisions of Section 19 of the Environment (Protection) Act, 1986 as per the EIA Notification dated: 14.03.2017 and amended 08.03.2018.
5. The company shall obtain 'No Dues Certificate' from State Government i.e. Department of Geology & Mining within a period of two weeks and submit the same to SEAC before grant of EC, if not produced earlier.


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6. The proposed action plan for green belt development shall be maintained in 33 % of the overall project area and accordingly the plantation shall be carried out in 2.00 Ha in a phase manner as a part of mine closure activities.
7. The PP shall install the Environmental Management Cell headed by the statutory (I/II Class) Mines Manager of the concerned mine under violation category and the cell shall include a dedicated full-time Environmental Engineer exclusively to look into the effective implementation of Environmental Management Plan besides the reviewing the compliance reports with the regulatory authorities.
8. The PP shall strictly adhere with the safety provisions as laid for the operation of Diamond Wire Saw machines and use of Cranes vide DGMS Tech Circulars No: 02 of 29.11.2019 & No. 10 of 19.07.2002 respectively.
9. The PP shall ensure that the Catch drains and siltation ponds of appropriate size should be constructed to arrest silt and sediment flows from soil, OB and mineral reject (Granite waste) dumps. The water so collected in such sump should be utilized for watering the mine area, roads, green belt development, etc. The drains should be regularly de-silted and maintained properly.
10. 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.
11. The proponent shall obtain a 'Star Rating' system awarded by Anna University, Chennai annually to the mining lease being operated for their efforts and initiatives taken for successful implementation of the Sustainable Development Framework (SDF).
12. The Project Proponent shall ensure that 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 MoEF & CC Ministry and its Integrated Regional Office (IRO) located in Chennai.

This proposal has placed in 332nd SEAC meeting held on 25.11.2022. Based on the inspection report and documents furnished, SEAC decided to accept the recommendation made by the subcommittee and decided to recommend the proposal for the grant of Environmental Clearance for the period of 5 Years for the production quantity of 71,634 m³


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of ROM 7,163 m³ of (10% Recovery) of Granite & 64,471 m³ of Granite waste . The peak production shall not exceed 15313 m³ of ROM, 1531 m³ of Granite 13782 m³ of Granite waste with the ultimate depth of mining upto 30m AGL subject to the standard conditions & normal conditions stipulated by MOEF &CC, in addition to the conditions as recommended by the Subcommittee.

Discussion by SEIAA and the Remarks:-

The subject was placed in 603rd Authority meeting held on 20.03.2023 & 21.03.2023. After detailed discussion, the Authority noted as follows.

1. In the 332nd SEAC meeting held on 25.11.2022, the Committee decided to recommend the proposal to SEIAA for grant of Environmental Clearance under violation category subject to the following conditions in addition to the normal conditions:
 - i. The amount prescribed for Ecological remediation (Rs. 3,74,400), natural resource augmentation (Rs. 3,00,000) & community resource augmentation (Rs. 3,00,000), totaling Rs. 9,74,400. Hence the SEAC decided to direct the project proponent to remit the amount of Rs. 9,74,400 in the form of bank guarantee to Tamil Nadu Pollution Control Board and submit the acknowledgement of the same to SEIAA-TN. The funds shall be utilized for the remediation plan, Natural resource augmentation plan & Community resource augmentation plan as indicated in the EIA/EMP report.
 - ii. The amount committed by the Project proponent for CER (Rs. 5.00 Lakhs) shall be remitted in the form of DD to the beneficiary for the activities committed by the proponent. A copy of receipt from the beneficiary shall be submitted to SEIAA-TN.
 - iii. The project proponent shall submit the proof for the action taken by the state Government/TNPCB against project proponent under the provisions of Section 19 of the Environment (Protection) Act, 1986 as per the EIA Notification dated: 14.03.2017 and amended 08.03.2018.
2. The proposal was placed in the 577th Authority meeting held on 14.12.2022 & 15.12.2022. After detailed discussion, the Authority accepts the recommendation of SEAC and decided to request the Member Secretary, SEIAA to obtain the above

details from the proponent as recommended by SEAC and place the proposal in the ensuing Authority meeting for further course of action.

3. The proponent vide his letter 14.03.2023 has furnished the copy of Bank Guarantee submitted to TNPCB & copy of acknowledgement obtained from TNPCB for the submission of BG (BG NO. 018371223000011, dated: 23.02.2023) and also affidavit towards commitments of CER to be carried out as recommended by SEAC.
4. The proponent has furnished the copy of acknowledgement obtained from HM Panchayat Union Middle School, Perumbakkam Village towards CER activity over the cheque of Rs. 5,00,000 (Rs. Five lakhs only).
5. The proponent has submitted the details of court case filed by TNPCB in the Judicial Magistrate Court, Tindivanam vide case Number: CC/0000184/2022, dated 23.12.2022, (CNR Number: TNVP110011702022) against the proponent.

In view of the above, the Authority accepted the recommendation of SEAC and decided to grant Environmental Clearance under violation category for the period of 2023-2024 (since four years of mine plan were lapsed) to the quantity of 14,784 m³ of ROM, 1,478 m³ of Black Granite (10% Recovery) & 13,306 m³ of Granite waste with the ultimate depth of mining upto 30 AGL 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.


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5. The project proponent shall store/dump the 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. The project proponent shall carry out the works assigned under ecological damage, natural resource augmentation and community resource augmentation within a period of one year. If not, the bank guarantee will be forfeited to TNPCB without further notice.
7. The project proponent shall obtain prior permission from Director of Mine safety & Regional Inspector of Mines, Directorate General of Mines Safety, Chennai region before obtaining CTO from TNPCB.

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 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)


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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

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


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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.
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.


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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


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ensure that the biological clock of the villages are not disturbed because of the mining activity.

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.


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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.
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.

Reserve Forests & Protected Areas

43. The activities should provide nature based support and solutions for forest protection and wildlife conservation.
44. The project activities should not result in forest fires, encroachments or create forest fragmentation and disruption of forest corridors.
45. There should be no disturbance to the freshwater flow from the forest impacting the water table and wetlands.
46. The project proponent should support all activities of the forest department in creating awareness to local communities on forest conservation.
47. The project activities should not alter the geodiversity and geological heritage of the area.
48. The activities should not result in temperature rise due to increased fossil fuels usage disrupting the behaviour of wildlife and flora.
49. The activities should support and recognise the rights and roles of indigenous people and local communities and also support sustainable development.
50. The project activities should support the use of renewables for carbon capture and carbon storage in the project site and forest surrounds.
51. The project activities should not result in changes in forest structure, habitats and genetic diversity within forests.


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Green Belt Development

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

Workers and their protection

54. 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.
55. 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.
56. 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

57. 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.

58. 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

59. 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

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

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

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

Directions for Reclamation of mine sites

63. 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.

64. 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.


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65. 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.
66. For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
67. 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.
68. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
69. 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.
70. 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.
71. 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.
72. 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


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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.

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

74. 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 used to restore the site by adding soil humus and mycorrhiza.

75. Action taken for restoration of the site should be specifically mentioned in the EC compliances.

Part –A : Conditions to be compiled before commencing mining operations

1. The project authorities shall advertise in two widely circulated local newspapers, one of which shall be in the vernacular language of the locality concerned 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.
 - III. Environmental Clearance may also be seen on the website of SEIAA.


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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.

Conditions for Pre – Mining operation:

- i) “Consent to Operate” should be obtained from the Tamil Nadu Pollution Control Board before the start of the operation of the project and copy shall be submitted to the SEIAA-TN.
- ii) The project proponent shall carry out the works assigned under ecological damage, natural resource augmentation and community resource augmentation within a period of three year. If not, the bank guarantee will be forfeited to TNPCB without further notice.
- iii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be obtained. No change in mining technology and scope of working should be made without prior approval of the State Environmental Impact Assessment Authority. No change in the calendar plan including excavation, quantum of Granite and waste should be made.
- iv) Project proponent shall comply with all the guidelines and notifications issued by MoEF & CC, New Delhi regarding Mining of Minerals and comply with orders of Hon’ble NGT from time to time regarding mining of minerals under 1(a).
- v) A copy of the clearance letter shall be sent by the proponent to the Local Body, Thandampattu Taluk, Thiruvannamalai District, and the Local NGO, if any, from whom suggestions / representations, if any, have been received while processing the proposal. The clearance letter shall also be put on the website of the Proponent.
- vi) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.


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- vii) All required sanitary and hygienic measures should be in place before starting mining.
- viii) The company shall stress upon the preventive aspects of occupational health.
- ix) Provision shall be made for the housing of mining labour with all necessary infrastructure and facilities such as, mobile toilets, Safe drinking water, medical health care, crèche etc.
- x) The project authorities should advertise with basic details at least in two widely circulated local newspapers, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN and a copy of the same should be forwarded to the TNPCB located at Chennai.
- xi) A separate environment and safety management cell with qualified staff shall be set up before commissioning of mining activities and shall be retained throughout the lifetime of the mine, for implementation of the stipulated environmental safeguards.
- xii) The State Pollution Control Board should display a copy of the Environmental Clearance issued to the project at the Regional office, District Industry Centre and the Collector's office/Tahsildar's office for 30 days.
- xiii) A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
- xiv) The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
- xv) The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
- xvi) Regarding CSR activities, the proponent should concentrate more on infrastructure facilities useful to the local community. They should include skill development and sports as some of the activities in this regard.
- xvii) Regular monitoring and check up for pulmonary and carcinogenic diseases


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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 PHC & 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.

Conditions for Mining Phase

- I. To furnish to the SEIAA for one year period:
 - a. Report on quality and quantity of ground water to be generated during mining operations.
 - b. Comparative statement on normal ground water and mined out water with respect to qualities & suitability for agriculture etc for one year period.
- II. 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 TNPCB, Chennai and SEIAA-TN.
- III. 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.
- IV. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the TNPCB, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.
- V. The proponent shall conduct AAQ Monitoring Survey once in 6 months in the locations furnished in the EIA report and furnish report to the TNPCB, Chennai.


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- VI. The critical parameters such as RSPM (PM_{2.5}, P.M₁₀) and NO_x in the ambient air within the impact zone, peak particle velocity at 300 m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the company in public domain.
- VII. Data on ambient air quality [(RSPM and NO_x] shall be regularly submitted to the TNPCB at Chennai and the SEIAA/SPCB/CPCB once in six months.
- VIII. Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.
- IX. Pre-placement medical examination and 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.
- X. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
- XI. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
- XII. Corpus fund created should be prioritized and utilized for health issues.
- XIII. Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral within the lease area. The mineral transportation within the mine lease shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
- XIV. 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.


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- XV. At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for monitoring of RSPM (PM_{2.5}, P.M₁₀) and NO_x. Location of the stations should be decided in consultation with Tamil Nadu Pollution Control Board based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring etc.
- XVI. Separate drain shall be constructed in between waste dump (bund) and nearby river course, if any, to avoid silting in the water body.
- XVII. Garland drains and siltation ponds of appropriate size shall be constructed around the mine working, soil and mineral dumps to prevent run off of water and flow of sediments. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after the monsoon, and maintained properly.
- XVIII. The rain water accumulation in the mine during rainy seasons shall be treated by providing settling tanks in the periphery of the mining lease area and the overflow clean water from the settling tanks shall be allowed to discharge through the first order streams to join nearby natural drains. The settling tanks shall be cleaned periodically for removal of sediments and such records of cleaning shall be maintained properly.
- XIX. Garland drains proposed on the non moving sides of the Dump yards shall be connected to settling tanks to arrest any wash off sediments from the dumps and only overflowing clean water shall be allowed to discharge through the first order streams. The settling tanks shall be of sufficient dimensions to hold the wash offs in one rainy season and has to be cleaned before every rainy season.
- XX. Conservation plan furnished to protect the scheduled flora and fauna in the core and buffer zone of the project site shall be implemented. Scheduled species of fauna found in the study area shall be monitored closely.
- XXI. Annual monitoring on Bio-diversity around the project site shall be conducted and a report shall be furnished.

- XXII. Greenbelt shall be raised including a 7.5 m wide statutory barrier all around the mining lease, reclaimed and rehabilitated areas, around water body, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. Greenbelt shall be developed all along the mine lease area in a phased manner as per the approved mining plan.
- XXIII. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
- XXIV. The project authority shall implement suitable water conservation measures including rain water harvesting system to augment ground water resources in the area in consultation with the Regional Director, State Ground Water Board.
- XXV. The Company shall submit within 3 months their policy towards Corporate Environment Responsibility which should inter-alia address (i) Standard operating process/ procedure to bring into focus any infringement/deviation/violation of environmental or forest norms/conditions, (ii) Hierarchical system or Administrative order of the company to deal with environmental issues and ensuring compliance of EC conditions and (iii) System of reporting of non-compliance /violation of environmental norms to the Board of Directors of the company and/or stakeholders or shareholders.
- XXVI. A Final Mine Closure Plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests, Government of India, New Delhi in advance of 5 years prior to the final mine closure for approval. Mine closure procedure shall be followed as per the approved mining plan.
- XXVII. Depth of water table of the wells located inside the mining area and wells located around the monitoring area shall be monitored regularly.
- XXVIII. CSR activity shall include providing social & welfare measures for the local residents & nearby villages around the mine area. It shall focus on providing water supply and sanitation facility to the nearby government schools around the mine area and maintenance of village roads, ponds, providing solar street lights etc. Funds earmarked for CSR activity shall be


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used for that purpose only and separate account shall be maintained and report on implementation shall be furnished regularly.

- XXIX. The points raised in public hearing and concerns shall be addressed without fail as per action plan submitted to SEIAA.

Conditions for Post Mining / Operation Phase & Entire life of the project:

- i. It is mandatory for the project proponent to furnish to the SEIAA, Half yearly compliance report in hard and soft copies on 1st June and 1st December of each calendar year in respect of the conditions stipulated in the prior Environmental clearance, and also before commencement of production.
- ii. No expansion or modernization in the project shall be carried out without prior approval of the SEIAA-TN. In case of any deviations or alterations in the project proposal from those submitted to this Authority for clearance, a fresh reference shall be made to the SEIAA-TN to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- iii. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- iv. The implementation of the project vis-à-vis environmental action plans shall be monitored by the TNPCB at Chennai/TNPCB/CPCB. A six monthly compliance status report shall be submitted to monitoring agencies regularly.
- v. Data on ambient air, stack and fugitive emissions shall be regularly submitted online to the TNPCB and Central Pollution Control Board as well as hard copy once in six months and display data on RSPM, SO₂ and NO_x outside the premises at the appropriate place for the general public.
- vi. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Mines Act.
- vii. The first aid facilities in the occupational health centre shall be strengthened and the medical records of each employee should be maintained separately


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- viii. The overall noise levels in and around the mining area shall be kept well within the standards prescribed for by providing noise control measures on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under E(P)Act 1986 viz. 55 dBA (day time) and 45 dBA (night time).
- ix. The project proponent shall regenerate / preserve water body located at about 5.0 km from the propose site at its own expenses. The project proponent shall also develop village ponds in addition and shall ensure that the existing ponds in and around 5.0 Km radius are well maintained.
- x. 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.
- xi. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MoEF by e-mail.
- xii. Environmental Clearance is being issued without prejudice to the action initiated under Environment (Protection) Act, 1986 or any court case pending or any other court order shall prevail.
- xiii. The SEIAA/SEAC reserves the right to add any further condition(s) on receiving reports from the project authority. The above condition shall be monitored by the TNPCB.
- xiv. The SEIAA, TN may revoke or suspend the Environmental clearance, if implementation of any of the above conditions is not satisfactory.
- xv. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to


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

- xvi. 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.
- xvii. 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, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 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.
- xviii. This clearance is issued with respect to only environmental considerations and it does not imply that SEIAA approved the way by which lease is granted to the project. While granting lease, the concerned authority shall ensure compliance of Relevant rules, Regulations, Notification, Government resolutions, circulars, Judgments/Orders of Hon'ble Court and NGT, etc.
- xix. 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.


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Copy to :

1. The Additional Chief Secretary to Government, Environment, Climate Change and Forests Department, Tamil Nadu.

2. The Additional Chief Secretary to Government, Industries, Investment Promotion & Commerce Department, Tamil Nadu.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
4. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai - 32.
5. The Director General of Forest, Integrated Regional Office, MoEF & CC, Shastri Bhavan, Nungambakkam, Chennai.
6. Monitoring Cell, I A Division, Ministry of Environment Forest & Climate Change, Paryavaran Bhavan, CGO Complex, New Delhi - 110 003.
7. The Commissioner of Geology and Mining, Guindy, Chennai.
8. The District Collector, Villupuram District.
9. Stock File.

