

**DRAFT EXECUTIVE SUMMARY
PROPOSED ROUGH STONE QUARRY
CATEGORY – B1**

(Submitted for Public Hearing as per the provisions of EIA Notification
2006 & its amendments thereof)

ToR Identification No. TO25B0108TN5338525N (F.No.12756), dated 24/11/2025

PROPOSED QUARRY LEASE DETAILS	
SURVEY NO	49/2 (Part-2)
VILLAGE	ADAIYUR
TALUK	TIRUVANNAMALAI
DISTRICT	TIRUVANNAMALAI
EXTENT	2.00.0 Ha
CLUSTER EXTENT	6.30.0 Ha
PROPOSED PRODUCTION OF ROUGH STONE FOR 5 YEARS	ROUGH STONE 2,32,622m ³ PEAK PRODUCTION – 47,270 m ³
LAND	GOVERNMENT PORAMBOKE LAND

(Sector No. 1(a) Sector No.1 as per NABET)

Category of the Project: B1 Cluster Mining, Total Cluster Area –6.30.0.0 Ha
Baseline Monitoring Period – October to December 2025

APPLICANT

TMT.R.KALPANA

W/o. MANIKANDAN, RESIDING AT No.798,
BAJANAI KOVIL STREET, DEVIKAPURAM,CHEPET TALUK,
TIRUVANNAMALAI DISTRICT – 606 902.

ENVIRONMENTAL CONSULTANT	LABORATORY
M/s. GLOBAL MINING SOLUTIONS (NABET Accredited & ISO 9001 Certified Consultant) Plot No. 6, S.F.No. 13/2, A2, VS City, RC Chettypatty, Kottamettupatty, Omalur, Salem, Tamil Nadu – 636 455. NABET Accreditation No: NABET/EIA/26- 29/RA 0478, Valid Until - 03.01.2029 Contact: 97502 23535 & 94446 54520 Email: infoglobalmining@gmail.com, globalminingsolutionssalem@gmail.com	M/s. SHRIENT ANALYTICAL & RESEARCH LABS PRIVATE LIMITED (NABL Accredited Testing Laboratory) Valid Until -29.09.2029 #416/15, Dhargas Road, Perungalathur, West Tambaram, Chennai, Tamil Nadu, India.

EXECUTIVE SUMMARY

1.1 OVER ALL JUSTIFICATION FOR IMPLEMENTATION OF THE PROJECT INTRODUCTION

Tmt.R.Kalpana Lessee, has obtained Precise Area communication letter from the Assistant Director, Department of Geology and Mining, Tiruvannamalai to quarry out Mineable reserves of 6,39,710.50 Ts (2,32,622 m³) of Rough stone and 2,170 Ts Top soil upto a depth of 36m (6m above ground level 30m below ground level). Existing depth 10m (6m AGL & 4m BGL). Over an extent of 2.00.0 ha., located at the Survey No. 49/2 (PART-2) in Adaiyur village, Tiruvannamalai Taluk, Tiruvannamalai District, Tamil Nadu State, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the proposed "Rough stone Quarry of Tmt.R.Kalpana mines cluster falls under Schedule 1(a) of EIA Notification and its subsequent amendments the project comes under Category B1. The ToR for preparation of EIA/EMP report of the project was approved vide ToR Identification No. TO25B0108TN5338525N, dated 24/11/2025 This report has been prepared in line with the approved TOR for production of maximum excavation of 2,32,622 m³ of Rough Stone and 1085 m³ Topsoil.

Sl. No.	Description	Status/Remarks
1.	Sector	Non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Rough stone quarry
4.	Type of Lease	The applied area was previously operated by another lessee (Thiru.R. Arasappan) during the lease period 13.06.2012 – 12.06.2017. CCR is not applicable
5.	Extent of the lease	2.00.0 Ha
6.	Proposed depth of mining	36m (6m above ground level 30m below ground level) Existing depth 10m reached
7.	Method of mining	Opencast mechanized.
8.	Proposed lease period	5 Years
9.	Proposed Environmental Clearance	5 Years

10.	Mineable reserves 36m (6m above ground level 30m below ground level)	6,39,710.50Ts/2,32,622m ³ of Rough Stone & 2,170Ts/1085m ³ of Topsoil for the depth of 36m (6m AGL & 30m BGL)
11.	Proposed production quantity for five years 36m (6m above ground level 30m below ground level)	6,39,710.50Ts/2,32,622m ³ of Rough Stone & 2,170Ts/1085m ³ of Topsoil for the depth of 36m (6m AGL & 30m BGL)

The Lessee Tmt.R.Kalpana is an Individual firm with sound experience in the identification, quarrying and marketing of Rough Stone. The proposed land is a Government poramboke land and attached as **Annexure 6**.

1.1.1 LOCATION

The proposed project site is located in Adaiyur Village, Tiruvannamalai Taluk, Tiruvannamalai District, Tamil Nadu State and its Latitude: 12°16'38.23"N to 12°16'45.53"N and Longitude: 79°02'09.62"E to 79°02'14.38"E. with Survey of India Topo Sheet No. 57 P/03. To conduct the study, the proposed mine lease area (core zone) and an impact zone of 10 km radius (called buffer zone) around the proposed mine site were considered. The EIA report is based on three months baseline data (i.e. October to December 2025)

1.1.2 GEOLOGY

The rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high-grade metamorphic rock. The strike of the Charnockite formation is N30°W-S30°E with vertical dipping.

1.1.3 PROJECT DESCRIPTION

This is a proposed Rough Stone quarry by Opencast Mechanized mining method with drilling and blasting. The quarrying is restricted up to a depth of 36m (6m above ground level 30m below ground level). The geological reserves are estimated to be 17,03,449 Ts of Rough Stone and 3,354 Ts. The mineable reserve calculated by deducting 7.5m & 10m safety distance and bench loss. The mineable reserves are 232622 m³ of Rough Stone and 1085 m³ Topsoil a which will be recovered at the rate of 100% recovery upto a depth of 36m (6m above ground level 30m below ground level).

- It is proposed to quarry out rough stone with 5m bench height, 5m width with 70° slope using conventional Open cast Mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough Stone.
- There is no overburden anticipated during entire rough stone quarrying operation.

Salient features of the project		
S.No.	Type of Detail	Description
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	Existing
3	Category	B1
4	Nature of mineral	The Applied area was previously operated by another lessee (Thiru.R. Arasappan) During the Lease Period 13.06.2012 – 12.06.2017. CCR is not applicable
5	Life of the mine	5 years
6	Geological reserves	Rough Stone – 17,03,449Ts / 619436 m3 Top soil - 3,354 Ts / 1677 m3
	Mineable reserves (upto 36m (6m above ground level 30m below ground level)	6,39,710.50 Ts / 2,32,622 m3 of Rough Stone & 2,170 Ts /1085 m3 of Topsoil for the depth of 36m (6m AGL & 30m BGL)
	Proposed production quantity for five years 36m (6m above ground level 30m below ground level)	6,39,710.50 Ts / 2,32,622 m3 of Rough Stone & 2,170 Ts /1085 m3 of Topsoil for the depth of 36m (6m AGL & 30m BGL)
7	Waste generation and management	Nil
8	Existing depth	10m (6m above ground level and 4m below ground level)
9	Bench height and width	Proposed bench height & width is 5.0m respectively and number of proposed benches is 7+1 Nos.
10	Ultimate pit depth	36m (6m above ground level 30m below ground level)
11	End use	The excavated Rough Stone is used for construction industries for Government & Public sector projects besides catering domestic housing and infrastructure projects in and around the district.

1.1.4 PROJECT REQUIREMENTS

The requirements of the project is given below.

S.No.	Nature of requirement	Description
1	Water requirement	Total water requirement of 3.0 KLD which will be procured from the outside agencies. Out of 1.0 KLD drinking water requirement, Green belt development is 1.0 KLD and dust suppression is 1.0 KLD.
2	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid. Total Fuel requirement is 1,86,459 liters of HSD for entire life of the project.
3	Manpower requirement	This project will give employment opportunities to 27 people
4	Financial requirement	The total project cost as per PFR will be INR . 257.84 Lakhs including Operational cost, Fixed Asset cost and EMP cost
5	Funds for Socio economic development	INR 3 Lakhs is allocated. In addition, any demand raised by people during public hearing will also be met.

1.1.5 DESCRIPTION OF LEASE AREA

The features in the study area is given below.

Table 1.1 Description of the lease area				
S.No.	Areas	Distance from project site		
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius		
2	Areas which are important or sensitive for ecological reasons			
A	Wetlands, water courses or other water bodies,	Water bodies	Distance	Direction
		Odai	430m	SW
		Nochimalai Tank	460m	SE

EXECUTIVE SUMMARY FOR THE ROUGH STONE QUARRY OF Tmt.R.KALPANA OVER AN EXTENT OF 2.00.0 HA LOCATED AT THE SF.NO. 49/2 (PART-2) OF ADAIYUR VILLAGE, TIRUVANNAMALAI TALUK, TIRUVANNAMALAI DISTRICT, TAMIL NADU STATE.

		<table> <tr> <td>Kosalai Tank</td><td>1.64 km</td><td>SE</td></tr> <tr> <td>Devanambattu Tank</td><td>2.5 km</td><td>S</td></tr> <tr> <td>Devananda Tank</td><td>1.76 km</td><td>NW</td></tr> <tr> <td>Venkikak Tank</td><td>2.8 km</td><td>SE</td></tr> <tr> <td>Meelnachipattu Tank</td><td>7.26 km</td><td>NW</td></tr> <tr> <td>Melpadur Chitheri</td><td>6.77 km</td><td>NW</td></tr> <tr> <td>Narthavadi Tank</td><td>8.4 km</td><td>NW</td></tr> <tr> <td>Adaiyur Tank</td><td>7.8 km</td><td>SE</td></tr> </table>	Kosalai Tank	1.64 km	SE	Devanambattu Tank	2.5 km	S	Devananda Tank	1.76 km	NW	Venkikak Tank	2.8 km	SE	Meelnachipattu Tank	7.26 km	NW	Melpadur Chitheri	6.77 km	NW	Narthavadi Tank	8.4 km	NW	Adaiyur Tank	7.8 km	SE
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Narthavadi Tank	8.4 km	NW																								
Adaiyur Tank	7.8 km	SE																								
B	Coastal zone, biospheres,	Nil within 10km radius																								
C	Mountains, forests	- Kavunttumalai R.F – 713m (W) - Adiannamalai R.F- 3.09Km (SE) - Sorakolathur R.F – 6.09Km (N) - Radhapuram R.F- 7.46Km(SW)																								
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil within 15km radius																								
4	Inland, coastal, marine or underground waters	Nil within 15km radius																								
5	State, National boundaries	Nil within 15km radius																								
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Nil within 15km radius																								
7	Defense installations	Nil within 15km radius																								
8	Densely populated or built-up area	Densely Populated Tiruvannamalai - 7.4km (SE)																								
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Densely Populated Tiruvannamalai - 7.4km (SE)																								
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Nil																								
11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil																								

12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earth quakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No. The area is not prone to earthquakes, floods, etc.
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The baseline data collection for meteorology, air, water, noise and soil environments have been carried out during March to May 2025.

Air, water, noise and soil samples are collected and analyzed through NABL accredited lab.

1.6 EXPLANATION OF HOW ADVERSE EFFECTS HAVE BEEN MITIGATED

1.6.1 AIR ENVIRONMENT

The air monitoring have been carried out in 6 locations and the results are given below.

Table 1.2: Details Of Ambient Air Quality Monitoring Locations				
S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ 1	Project site core zone	-	12°16'38.98"N 79° 2'12.33"E
2	AAQ 2	Vengayavellore village	1.58 km NE	12°17'26.50"N 79° 2'39.97"E
3	AAQ 3	Pichchandal village	4.47 km NE	12°18'55.97"N 79° 3'16.88"E
4	AAQ 4	Adaiyur village	1.66 km SE	12°15'55.96"N 79° 2'46.93"E
5	AAQ 5	Vengikkal village	3.91 km SE	12°15'32.37"N 79° 4'6.33"E
6	AAQ6	Vediappanur village	2.76 km SW	12°15'35.60"N 79° 1'4.74"E

All the values of pollutant concentrations were found to be within the NAAQs Standards.

Station ID	Min	Max	Avg.
Particulate matter PM_{2.5} (µg/m³)			
AAQ-1	23.8	31.6	27.7
AAQ-2	17.7	27.2	22.45
AAQ-3	18.9	27.2	23.05
AAQ-4	20.4	28.7	24.75
AAQ-5	23.5	28.6	26.05
AAQ-6	22.1	33.6	27.85
CPCB NAAQS 2009 for PM_{2.5} - 60 µg/m³			
Particulate matter PM₁₀ (µg/m³)			
AAQ-1	49.9	68.9	59.4
AAQ-2	38.8	50	44.4

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Station ID	Min	Max	Avg.
AAQ-3	41	51.8	46.4
AAQ-4	44	57.3	50.65
AAQ-5	46.3	60.1	53.2
AAQ-6	47.8	59.2	53.5
CPCB NAAQS 2009 for PM₁₀ - 100 µg/m³			
Sulphur Di-oxide as SO₂ (µg/m³)			
AAQ-1	6.3	8.6	7.45
AAQ-2	4	6.2	5.1
AAQ-3	4	6.1	5.2
AAQ-4	4.3	6.1	5.2
AAQ-5	4	7.1	5.55
AAQ-6	4.4	6.9	5.65
CPCB NAAQS 2009 for SO₂ - 80 µg/m³			
Oxide of Nitrogen as NO₂ (µg/m³)			
AAQ-1	10.6	12.7	11.65
AAQ-2	7.7	10.3	9
AAQ-3	7.2	8.8	8
AAQ-4	7.7	10.8	9.25
AAQ-5	8.1	11.9	10
AAQ-6	9.1	10.8	9.95
CPCB NAAQS 2009 for NO₂ - 80 µg/m³			

1.6.2 WATER ENVIRONMENT

Table 1.3 Results of Ground Water sampling Analysis in 6 locations							IS:10500: 2012	
	W1	W2	W3	W4	W5	W6	Desira ble	Permis sible
Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Turbidity	<1	<1	<1	<1.0	<1	<1	Agreeable	Agreeable
pH at 25 °C	7.42	7.84	6.97	7.38	7.42	7.25	6.5 - 8.5	No Relaxation
Electrical Conductivity	1034	412.6	720.5	1690	1012	1165	-	-
Total Dissolved Solids	620	250	435	1015	610	702	500	2000
Total hardness as CaCO ₃	428	174	232	348	401	332	200	600
Calcium as Ca	83.2	44.8	58	66.8	78	74.4	75	200
Magnesium as Mg	52.8	14.9	20.9	43.4	49.4	35.0	30	100
Calcium as CaCO ₃	208	112	145	167.0	195	186	-	-
Magnesium as CaCO ₃	220	62	87	181	206	146	-	-
Total alkalinity as CaCO ₃	320	150	160	325	256	260	200	600
Chloride as Cl ⁻	81.5	34.5	166	330	112	176	250	1000
Free Residual chlorine as Cl ⁻	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL (D.L - 0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	BDL(D.L-0.2)	0.2	1.0

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Sulphates as SO ₄ ²⁻	115	13.5	70.6	212	116	220	200	400
Iron as Fe	0.05	0.04	0.03	0.07	0.05	BDL(D.L - 0.01)	0.3	No Relaxation
Nitrate as NO ₃	2.36	BDL(D.L- 1.0)	3.54	2.65	2.99	2.34	45	No Relaxation
Fluoride as F	0.33	0.26	0.29	0.41	0.29	0.45	1.0	1.5
Manganese as Mn	BDL(D.L- 0.05)	BDL(D.L- 0.05)	BDL (D.L - 0.05)	BDL(D.L- 0.05)	BDL(D.L- 0.05)	BDL(D.L- 0.05)	0.1	0.3

All the values were found to be within permissible limits

1.6.3 NOISE ENVIRONMENT

Noise levels were measured in 6 locations and the results are given below.

Table 1.4 Noise monitoring results					
S. No	Location	Day equivalent	Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	Project site core zone	46.1	38.8	75	70
2	Vengayavellore village	48.4	39.2		
3	Pichchandal village	47.3	40.1		
4	Adaiyur village	46.3	38.6		
5	Vengikkal village	49.8	39.8		
6	Vediappanur village	44.4	37.1		

1.6.4 SOIL ENVIRONMENT

Soil samples are collected from 6 locations and the results are given below.

Table 1.5 Results of Soil Sample Analysis								
S. No	Parameter	Unit	S1	S2	S3	S4	S5	S6
1	pH at 25 °C	-	7.56	6.98	6.85	6.99	7.12	7.54
2	Electrical Conductivity	µmhos /cm	75.68	80.24	47.32	62.45	55.39	121
3	Dry matter content	%	96.57	93.25	96.57	95.89	96.11	94.36
4	Water Content	%	3.43	6.75	3.43	4.11	3.89	5.64
5	Organic Matter	%	0.49	0.52	0.69	0.75	0.96	0.94
6	Soil texture	-	LOAM	CLAY LOAM	loam	loam	loam	SANDY LOAM
7	Grain Size Distribution	%	50.32	30.79	49.01	34.65	40.12	66.65
	i. Sand		28.96	42.32	31.69	45.52	36.51	23.74

8	ii. Silt	%	20.72	26.89	19.3	19.83	23.37	9.61
9	iii. Clay	%	1.42	1.32	1.75	1.25	2.32	1.78
10	Phosphorous as P	mg/kg	662	550	428	387	420	469
11	Sodium as Na	mg/kg	354	323	636	590	664	305
12	Potassium as K	mg/kg	190	212	154	205	244	176
13	Nitrogen and Nitrogenous Compounds	mg/kg	BDL(D.L .0.02)	BDL(D.L .0.02)	BDL(D.L .0.02)	BDL(D.L .0.02)	BDL(D.L .0.02)	BDL(D.L .0.02)
14	Total Sulphur	%	19.8	19.5	20.6	22.1	23.6	21.1
15	Porosity	%	40	44	42	40	42	38
16	Water Holding Capacity	Inches /foot	7.56	6.98	6.85	6.99	7.12	7.54

1.6.5 BIOLOGICAL ENVIRONMENT

FLORA

For measuring the extent of flora present in the study area, the area is divided into 4 quadrants. The flora population in each quadrant is summed up for the total population in the study area. Field survey is done. Erukku, Aavarai and Nayuruvi are found in lease area. In the buffer zone, common trees like Neem, papaya, mango, teak, etc and shrubs like Avarai, Aloe vera, etc, climbers like Kovai, jasmine etc are found.

FAUNA

In the study area, commonly found animals like dogs, cats, bush rat, cows, birds like crow, Myna, Sparrow, etc were found.

1.6.6 LAND USE

The land use land cover data is found using the LANDSAT – 9 satellite imagery. The number of bands used are 11. The land use pattern is given below:

Sl.No.	LAND USE / LAND COVER	Area in Sq.Km	Area in Percentage
1	Built-up land	12.7	4.04
2	Crop land	156.17	49.71
3	Existing quarry	3.63	1.15
4	Fallow land	18.32	5.83
5	Hill and Forest	62.37	19.85

6	Land with scrub	12.57	4
7	Land without scrub	6.51	2.07
8	Plantations	21.56	6.86
9	Water bodies	19.65	6.25
10	Salt Affected land	0.68	0.21
	Total Area	314.16	100

1.6.7 SOCIO ECONOMIC ENVIRONMENT

The socio economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained from Census 2011 is also used.

The following data area collected from secondary data.

- Demographic pattern.
- Health pattern
- Occupational structure.
- Amenities available.

Adaiyur is a large village located in Tiruvannamalai Taluka of Tiruvannamalai district, Tamil Nadu with total 934 families residing. The Adaiyur village has population of 4236 of which 2170 are males while 2066 are females as per Population Census 2011.

In Adaiyur village population of children with age 0-6 is 528 which makes up 12.46 % of total population of village. Average Sex Ratio of Adaiyur village is 952 which is lower than Tamil Nadu state average of 996. Child Sex Ratio for the Adaiyur as per census is 872, lower than Tamil Nadu average of 943.

Adaiyur village has higher literacy rate compared to Tamil Nadu. In 2011, literacy rate of Adaiyur village was 80.12 % compared to 80.09 % of Tamil Nadu. In Adaiyur Male literacy stands at 87.13 % while female literacy rate was 72.86 %.

As per constitution of India and Panchyati Raaj Act, Adaiyur village is administrated by Sarpanch (Head of Village) who is elected representative of village. Our website, don't have information about schools and hospital in Adaiyur village.

1.6.8 HYDROGEOLOGY OF THE LEASE AREA

There is Odai is located at a distance of 430m in Southwest direction, Nochimalai Tank- 460m (SE), Kosalai Tank -1.64 km SE, Devanambattu Tank -2.5 Km S of lease area. The hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery.

There are many tanks located in the study area, which are mostly dry throughout the year. These tanks get water only during monsoons. The factors may be monsoon failure, insufficient rainfall, poor rain water management and water consuming patterns.

1.6.9 GROUND WATER STUDY

For Ground water study, satellite imagery is used. Water levels from monitoring levels are collected through imaging. The pre-monsoon and post-monsoon data are collected and the results are analyzed.

During field visit, it is observed that water is available in wells only after monsoon. The yield is obtained at deep levels only.

As far as the mining lease area is considered, the area is rocky and no major seepage is envisaged. The production quantity is very less and the depth proposed is 36m (6m above ground level 30m below ground level) Hence, there will not be any major impact due to mining on water levels or ground water levels in the area.

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental impacts on the following environments are identified.

- Land environment
- Water environment
- Vegetation
- Fauna
- Air environment
- Noise environment
- Socio-economic impacts

1.6.10 LAND ENVIRONMENT: IMPACT AND MITIGATION MEASURES

The major impact due to this project on land environment is the change in land use. Since this quarry is a small one and the production is less, mining activity will be carried out upto 36m (6m above ground level 30m below ground level). Other than quarrying of minerals, no other change will be done since there is no dumping. To prevent soil erosion during monsoon season, garland drain will be constructed with silt traps. At the mine closure stage, 1.69.0 Ha of lease area will be left as rain water harvesting pond. 0.29.0 Ha will be developed with green belt. For this, plants like Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indica are selected

WATER ENVIRONMENT: IMPACT AND MITIGATION MEASURES

There is no water body present inside the lease area. The entire water requirement for the project is 3.0 KLD which will be sourced from outside agencies. Negligible sewage will be generated, for which a septic tank with soak pit will be set up.

During monsoon season, the excess rain water, if any, will be led through garland drain of 0.6m width and 0.3 m depth to the collection pond with silt traps.

Since the mining operation will be limited upto depth of 36m (6m above ground level 30m below ground level). there will not be any seepage. However, the rain water percolation and collection of water from seepage shall be less than 300lpm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5H.P.Motor. The quality of water is expected to be potable. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water can also be used for plantation purposes

The major water bodies found in the buffer zone are.

Water bodies	Distance	Direction
Odai	430m	SW
Nochimalai Tank	460m	SE
Kosalai Tank	1.64 km	SE
Devanambattu Tank	2.5 km	S
Devananda Tank	1.76 km	NW
Venkikak Tank	2.8 km	SE

Meelnachipattu Tank	7.26 km	NW
Melpadur Chitheri	6.77 km	NW
Narthavadi Tank	8.4 km	NW
Adaiyur Tank	7.8 km	SE

Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made in to these water bodies, there is no major impact. For the canal, adequate safety distance is left. The proponent will restrict the mining operation only within the lease and no other work will be carried out near the canal or any area outside the lease.

It is planned to carryout appropriate rainwater harvesting schemes and artificial recharge schemes in the area.

- Rain water falling in the quarry will be collected efficiently through garland drains.
- Water thus collected will be passed through collection tank with silt traps. This water can be used by the proponent for water sprinkling and for green belt purposes.
- Excess water after desiltation will be provided to downstream users, if any

1.7 BIOLOGICAL ENVIRONMENT: IMPACT AND MITIGATION MEASURES

Impacts

- Fauna is affected due to noise and vibration.
- Dust generation due to mining activities
- Change in land use of the lease area
- Accidental falling of animals

Mitigation measures

- Sirens will be blown before blasting in the mines. To reduce noise levels, plantation will be done. Blasting will be carried out only in the allotted time.

- To reduce dust generation, mist sprayers will be used. During transportation, the material will be covered with tarpaulin. Water sprinkling will be done to reduce generation of pollutants
- After the mine closure stage, the mine pit will be left as rain water collecting tank, which can attract bird population in the nearby areas.
- To prevent entry of animals, the mining area will be properly fenced.

1.7 AIR ENVIRONMENT: IMPACT AND MITIGATION MEASURES

The major air pollutants due to mining operations are fugitive emissions like PM₁₀, PM_{2.5}. Other than these pollutants, gaseous emissions of sulfur dioxide (SO₂) and oxides of nitrogen (NO_x) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

The major impacts are Dust emission due to drilling, blasting and transportation. The major mitigation measures include Using Wet drilling methods, Allowing drilling only with PPE, Carrying out blasting only during specified times, Avoiding blasting during unfavourable weather conditions, Using explosives of good quality, Using mist sprayers Regular wetting of transport, Covering the materials carried in tippers with tarpaulin, Proper maintenance of vehicles used for transportation, Conducting regular emission tests for vehicles used for transport Development of greenbelt is proposed in the safety zone 10m barriers in the lease area.

The anticipated data is calculated using AERMOD software and the projected values are found to be within limits.

1.9 NOISE ENVIRONMENT: IMPACT AND MITIGATION MEASURES

Impacts

- ✚ Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area.
- ✚ As per DGMS (Directorate General of Mines Safety) and OSHA (Occupational Safety and Health Administration) limits, the acceptable noise level is 85 dB(A) for an exposure period of 8 hours.
- ✚ Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife.

- ✚ Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus, which causes a persistent high-pitched ringing in the ears, paracusis or distorted hearing

Mitigation measures

- ✚ As the distance between the source and receptor increases, the noise level also decreases. Hence, there will be a natural attenuation
- ✚ The proposed has planned to develop green belt in the periphery of the lease area, which diminishes sound volume by dampening them.
- ✚ All the equipment/machinery/trucks involved will be properly maintained to control noise generation
- ✚ Conducting regular health checkups for employees involved
- ✚ Employees will be made to work on shifts to reduce their exposure time
- ✚ Providing earplugs to all employees

By adopting these measures, the noise levels will be maintained well within MoEF & CC limits since the baseline value is low.

1.10 VIBRATION: IMPACT AND MITIGATION MEASURES

Impacts

- ✚ Though vibration will be only felt by the people working inside the lease area, it is usually undesired.
- ✚ Vibration may also cause flyrocks
- ✚ It may frighten the birds and small insects in the lease area. However, it will be felt only for a short period

Mitigation measures

- ✚ Carrying out blasting on limited scale, only from 12:00 PM to 2:00 PM
- ✚ Control of fly rock and vibration by maintaining peak particle velocity within standard as prescribed by the DGMS and MOEF & CC.
- ✚ Shallow depths jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive
- ✚ Supervising blasting by competent and statutory foreman/ mines manager.

1.11 SOCIO ECONOMIC ENVIRONMENT

Impact and Mitigation measures

No land is acquired from anyone. No rehabilitation is needed. Hence, there is no negative impact. The proponent has planned to spend INR 3,00,000 for CER activities. This amount will be subjected to change after public hearing.

1.12 OCCUPATIONAL HEALTH

Impacts

Dust generation due to drilling and blasting, Noise generation due to drilling and blasting, unexpected accidents. Continuous exposure to dust causes Pneumonia, Tuberculosis, Rheumatic arthritis and Segmental Vibration, Short term impact will be lack of sleep, high blood pressure and heart ailments. Long term exposure may lead to partial or permanent deafness, Risks include fly rocks, cracks or fissures due to improper mining methods

Mitigation measures

- Using dust suppression measures like water spraying on roads to reduce rise of air pollutants
- Providing green belt for air pollutant and noise attenuation
- Ensuring slope stability
- Employing only trained professionals for blasting
- Conducting Pre-Medical Examination for employees before inducting
- Conducting periodical Medical Examination once in 6 months.
- Making all first aid kits available in mines office
- Keeping fire extinguisher in place
- Educating the employees about how to handle unexpected happenings
- Posting information containing emergency contact numbers in mines office
- By adopting all these measures, the safety of the employees working in the quarry will be ensured.

1.13 ENVIRONMENTAL MONITORING PROGRAMME

Monitoring is done to measure the efficiency of control measures implemented. Regular monitoring of various environmental parameters like air, water, noise and

soil environments is needed to assess the status of environment during the project operation. A schedule is framed with timeline to monitor various parameters during the operation of the project. To evaluate the effectiveness of environmental management programme, regular monitoring of the important environmental parameters will be taken up. Air monitoring will be carried out once in 3 months, water sample will be collected once in a season, noise will be monitored once in 3 months, soil samples will be analyzed once per season. For EMP, a budget of INR 25.34 Lakhs is allocated.

1.14 PROJECT BENEFITS

Financial benefits

- This project will contribute financially through payment of taxes like royalty, GST, etc
- The project will also contribute via CSR.
- The demands of people during public hearing will also be considered by the project proponent

Social benefits

- This project provides employment to 27 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 3,00,000 is allocated.
- Based on the demand of the people during public hearing, further funds will be allocated, if necessary.

Various aspects of mining activities were considered and related impacts were evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared an 25.34 lakhs for the 5 years has been allocated as EMP cost. The EMP is dynamic, flexible and subjected to periodic review. For project where the major environmental impacts are associated, EMP will be under regular review. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area



ANNEXURE-1

**ANNEXURE****I**

ந.க.எண்.16/கனிமம்/2024

தமிழ்நாடு சட்டமன்றப் பேரவை,

திருவண்ணாமலை வட்டம், ஆட்சியர் அலுவலக வளாகம்,

திருவண்ணாமலை

நாள். 11.03.2025

அறிவிக்கை

பொருள்: கனிமங்களும் குவாரிகளும் - கிறகனிமம் - கங்குவாரிகள் - மின்னணு மொது ஏலம் (E-Auction) - திருவண்ணாமலை மாவட்டம் மற்றும் வட்டம் - ஆடையூர் கிராம புல எண். 49/2 (பகுதி-2) 200.0 ஹெக்டேர் பரப்பில் கற்குவாரி அமைக்க ஏலம் விடப்பட்டது - அதிகபட்ச ஏலத்தொகை கோரிய திருமதி. கல்பணா என்பவர் பெயரில் ஏலம் உயர்ஜிதம் செய்யப்பட்டது - முழு ஏலத்தொகையும் செலுத்தப்பட்டுள்ளது - கங்கத் திட்ட அறிக்கை மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மைச் சான்று பெற்று சமர்ப்பிக்க அறிவுறுத்தல் - தொடர்பாக.

- பார்வை: 1. திருவண்ணாமலை மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண். 03, நாள். 04.12.2024.
2. மின்னணு ஏல நாள். 08.01.2025.
3. இவ்வலுவலக கடிதம் ந.க.எண்.363/கனிமம்/2024-1, நாள். 10.01.2025.
4. இவ்வலுவலக கடிதம் இதே எண். நாள். 13.01.2025.
5. திருமதி கல்பணா, க/பெ.மணிகண்டன் என்பவரின் கடிதம் நாள்.13.02.2025.

திருவண்ணாமலை மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண். 03, நாள். 04.12.2024 மூலம் திருவண்ணாமலை மாவட்டத்திற்குட்பட்ட அரசு புறம்போக்கு நிலங்களில் சாதாரண கங்குவாரி அமைப்பதற்கு தகுதி வாய்ந்த இணங்களுக்கு மின்னணு ஒப்பந்தப்புள்ளி டெண்டர்/ஏலம் குறித்த அறிவிப்பு வெளியிடப்பட்டது.

மேற்படி அரசிதழில் வரிசை எண்.1ல் கண்ட திருவண்ணாமலை மாவட்டம் மற்றும் வட்டம், ஆடையூர் கிராமம் அரசு புறம்போக்கு புல எண். 49/2 (பகுதி-2)ல் 200.0 ஹெக்டேர் பரப்பில் கற்குவாரி செய்ய, 5 ஆண்டுகளுக்கு குத்தகை உரிமம் வழங்க, இணையதளம் மூலம் விண்ணப்பங்கள் வரவேற்கப்பட்டு, 08.01.2025 அன்று ஏலம் நடைபெற்றதில் ரூ.175,00,000/- (ரூபாய் ஒரு கோடியே எழுபத்து ஐந்து இலட்சம் மட்டும்) ஏலம் கோரிய திருமதி ஆர்.கல்பணா என்பவர் உயர்ஜிதம் ஏலதாரராக தேர்ந்தெடுக்கப்பட்டுள்ளார்.

R. Kalpana



3. 1959 ஜெனரல் டீமாட் ஏலத்தொகையைச் செலுத்தாமல் கூறியிருக்கப்பட்டு, முழு ஏலத்தொகையும் கீழ்க்கண்டவாறு அரசாங்கத்தில் செலுத்தப்பட்டுள்ளது.

சலுகை நாள்	சலுகை எண்	வங்கி	நினை	ஏலத்தொகை (ரூபாயில்)
லிண்டன்பிக்கும் டீமாட் செலுத்தப்பட்ட EMD			EMD	17,29,769
10.01.2025	20250110022222	Indian Bank	ஏலத்தொகையில் 10%	17,50,000
10.02.2025	20250210014535	SBI	ஏலத்தொகையில் 90%	70,20,231
10.02.2025	20250210014502	SBI		70,00,000
			மொத்தம்	1,75,00,000

பார்வை 5ல் காணும் கடிதத்தில் ஏலதாரர், ஏலத்தொகையில் 20% தொகைக்கு /மதிப்பிற்கு குறைவில்லாமல் அடையா சொத்து (Solvency Certificate of Immovable Properties) மதிப்பு எண்ணித் தர சமர்ப்பித்துள்ளார்.

எனவே, ஏலதாரர் திருமதி.ஆர்.கல்பணா, த/பெய்மணிகண்டன் என்பவருக்கு இத்துடன் இணைக்கப்பட்டுள்ள புலப்படத்தில் வண்ணம் தீட்டப்பட்ட பகுதியினை 5 ஆண்டுகளுக்கு கற்குவாரி செய்ய உகந்த புலம் (Precise Area) என தீர்மானித்து அறிவிப்பு செய்யப்படுகிறது.

மேலும், தமிழ்நாடு சிறுகணிம சலுகை விதிகள் 1959, விதிகள் 41 மற்றும் 42ன்படி, கல் மற்றும் இரை சிறு கணிமங்களுக்கு குவாரி குத்தகை உரிமம் வழங்கும் முன்பு ஒப்புதல் பெறப்பட்ட எங்கத்திட்ட, அறிக்கை மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மை சான்று பெறப்பட வேண்டும் என வரையறுக்கப்பட்டுள்ளது.

எனவே, ஏலதாரர் திருமதி.ஆர்.கல்பணா, த/பெய்மணிகண்டன் என்பவரின் ஒப்புதல் பெறப்பட்ட எங்கத்திட்ட அறிக்கை மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மை சான்றிணை பெற்று சமர்ப்பிக்கும் பட்சத்தில் திருவண்ணாமலை மாவட்டம் மற்றும் வட்டம், ஆண்டூர் கிராமம் அங்கு புறம்போக்கு புல எண். 49/2 (பகுதி-2)ல் 2.00.0 ஹெக்டேர் பரப்பில் கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு சுற்குவாரி செய்ய 1959ம் ஆண்டு தமிழ்நாடு சிறுகணிம சலுகை விதிகளின், விதி 8 (6) (b)-ன்படி 5 ஆண்டுகளுக்கு குத்தகை உரிமம்

R. Kalpana



வழங்க உரிய நடவடிக்கை மேற்கொள்ளப்படும் என்ற விபரம்
தெரிவிக்கப்படுகிறது.

நிபந்தனைகள்

1. அருகில் உள்ள பட்டா மற்றும் புறம்போக்கு நிலங்களுக்கு முறையே 7.5 மீ. மற்றும் 10 மீ பாதுகாப்பு இடைவெளி விட வேண்டும்.
2. நிலையான அமைப்புகளுக்கு (நீர் நிலைகள், நெடுஞ்சாலைகள், மின் சாதனங்கள், இரயில் பாதைகள்) 50 மீ. பாதுகாப்பு இடைவெளி விட வேண்டும்.
3. அருகில் உள்ள நிலங்களுக்கும் மற்றும் பொதுமக்களுக்கும் எவ்வித பாதிப்புமின்றி குவாரிப்பணி மேற்கொள்ள வேண்டும்.
4. குவாரிப்பணி ஆரம்பிப்பதற்கு முன்பாக குத்தகை உரிமம் வழங்கப்பட்ட புலத்தினை சுற்றி முள்கம்பி வேலி அமைத்து குத்தகை காலம் முழுவதும் பராமரித்து வர வேண்டும்.
5. பாறைகளை தகர்க்க கைத்துறைப்பான்களை கொண்டு பாறைகளை துறையிட்டு குறைவான வெடிபொருட்கள் பயன்படுத்த வேண்டும்.
6. குவாரிப்பணிமினை விஞ்ஞானப்பூர்வமாகவும், முறையாகவும் மேற்கொள்ள வேண்டும்.

மேலும், ஏலதாரர் இவ்வறிவிப்பு கிடைக்கப்பெற்ற 90 நாட்களுக்குள் மேற்சொன்ன நியந்தனைகளை குறிக்கும் வகையில் வரைவு சுரங்கத்திட்ட அறிக்கை தயார் செய்து துணை இயக்குநர், புனியியல் மற்றும் சுரங்கத்துறை, திருவண்ணாமலை அவர்களிடம் ஒப்பதல் பெற சமர்ப்பிக்குமாறு அறிவுறுத்தப்படுகிறது.


 திருவணை இயக்குநர்.

புவியியல் மற்றும் சுரங்கத்துறை.
திருவண்ணாமலை.

11.03.25

பெறுநர்
திருமதி.ஆர்.கல்பனா,
க/பெ.மணிகண்டன்,
எண்.798, பஜனை கோவில் தெரு,
தேவிகாபுரம், சேத்துப்பட்டு வட்டம்,
திருவண்ணாமலை - 606 902.

R. Kalpana



ANNEXURE-2

From
Dr.S.Vediappan, M.Sc., Ph.D.,
Deputy Director,
Geology and Mining,
Tiruvannamalai - 4.

To
Tmt.R.Kalpana,
W/o.Manikandan.
No.798. Bajanai Koil Street,
Devikapuram, Chetper,
Tiruvannamalai 606 902.

R.c.No.16/Mines/2025 dated 10.06.2025.

Sir,

Sub: Mines and Minerals – Minor Mineral - Rough stone - Tiruvannamalai District and Taluk – Adaiyur Village - Govt. Poramboke Land in SF.No.49/2 (part-2) over an extent of 2.00.0 Hectare – Application preferred by Tmt.Kalpana - successful Bidder – Precise area communicated – Submission of three copies of draft Mining Plan for approval - Approval accorded - regarding

Ref: 1. E-Auction date 08.01.2025.
2. This Office Letter even No. dated 13.01.2025.
3. Precise Area Communication Notice Rc.No.16/Mines/2025, dated 11.03.2025.
4. Mining Plan submitted by Tmt.Kalpana dated 06.06.2025

Tmt.Kalpana, has preferred an application for the grant of Rough Stone quarry lease over an extent of 2.00.0 Hectare of Government Poramboke land in SF.No.49/2 (Part-2) of Adaiyur Village, Tiruvannamalai Taluk and District for a period of 5 years vide in the reference 1st cited and the precise area has been communicated to the applicant vide the reference 3rd cited with a direction to submit the approved mining plan and Environmental Clearance.

2. As directed, the applicant has submitted three copies of draft mining plan for approval vide in the reference 4th cited. The Mining Plan has been verified in detail and found that it has been prepared in accordance with the guidelines / instructions issued by the Commissioner of Geology and Mining in letter RC. No. 3868 / LC / 2012 dated 19.11.2012.

R. Kalpana

i) The reserves estimated in the mining plan is

Depth in Mts.	Geological Resources in Rough Stone		Mineable Reserves in Rough Stone	
	Cbm	Tons	Cbm	Tons
36m (6m AGL and 30m BGL)	619436	1703449.00	232622	639710.50

ii) Year wise production proposed for the **five year period** are as follows:-

Year	Mineral	Quantity	
		CBM	Tons
I	Rough Stone	45980	126445.00
II		46202	127055.50
III		46500	127875.00
IV		46670	128342.50
V		47270	129992.50
Total		232622	639710.50

3. Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, the mining plan is hereby approved, subject to the following conditions:

- The mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- This approval of the mining plan does not in any way convey the approval of the Government in terms or any other provisions of the Mines and Minerals (Development and Regulation) Act, 1957, or any other connected laws including Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1980, Explosives Act, 1884 (Central Act IV of 1884) Minor Mineral Concession and Development Rules, 2010 and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.
- The mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- The validity of the mining plan is co-terminus with the lease period.
- Quarrying shall be done in accordance with the approved Mining Plan.

R. Kalpana

- vi. If anything is found to be concealed in the contents of the mining plan which are required by the mines act or if any proposed for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
- vii. All the conditions stipulated in the precise area communication dated 11.03.2025 should be duly complied with.

4. Further, other quarries situated within 500m radial distance are as follows.

i) Existing Quarries

Sl. No. Name of the Owner	Village & S.F. Nos.	Extent in Hect.	Lease Period	Remarks
M.Ayyakannu, S/o.Manikkam, No.481/1, Pillaiyar Kovil street, Nandimangalam village, Padiagraharam Post, Tiruvannamalai District.	Adaiyur 49/2 (Part-1)	4.30.0	16.08.2023 to 15.08.2028	Existing Quarries

i) Abandoned quarries

Sl. No. Name of the Owner	Village & S.F. Nos.	Extent In Hect.	Lease Period	Remarks
N. Harijayashree, W/o.K.Nareshkumar, No.18/7, Vadamathadhi Street, Tiruvannamalai	49/2 (Part-1)	4.30.0	09.11.2006 to 08.11.2011	Expired Quarry
M.Vijai Ganesh 16-A, Valayalkara St., Tiruvannamalai	49/2 (Part-1)	4.30.0	25.04.2012 to 24.04.2017	
M. Vijay Ganesh, S/o.A. Mani, No.16-A, Valayalkara Street, Tiruvannamalai.	49/2 (Part-1)	4.30.0	09.11.2006 to 08.11.2011	
R.Arasappan 47, V.O.C.Nagar, Tiruvannamalai	49/2 (Part -2)	4.30.0	13.06.2012 to 12.06.2017	

R. Kalpana

ii) Present Proposed Quarries

Name of the Owner	Village & S.F. Nos.	Extent in Hect.
Tmt.R.Kalpana, W/o.Manikandan. No.798. Bajanai Koil Street, Devikapuram, Chetper, Tiruvannamalai 606 902	49/2 (Part-2)	2.00.0

Encl: 2 Copies of Approved Mining Plan.

[Signature] 10.06.24
Deputy Director
Geology and Mining,
Tiruvannamalai.

Copy submitted to:

1. The Chairman, SEIAA,
Tamil Nadu, 3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet, Chennai-15.
2. The Commissioner of Geology and Mining, Chennai-32.
3. The District Collector, Tiruvannamalai.

[Signature] 10.06.24

R. Kalpana