

Executive Summary

For

Public Hearing

**Thiru. P. Ramachandran Multi Colour Granite
Quarry
2.84.5 Ha
At**

**S.F.No. 407/1, 407/2, 407/3 (P), 407/4, 408/3, 408/4
(P) of K.Pitchampatti Village, Karur taluk, Karur
District**

**Sector No. 1(a) (Sector No. 1 as per NABET)
Category of the Project: B1 (Cluster Mining)**

Project Proponent:

**P. Ramachandran
S/O Paramasivam,
12, Bharathiyar 5th street,
SS Colony Ward- 18,
Madurai District – 625 016**

Prepared By:

M/s Ecotech Labs Pvt. Ltd.



NABET Accredited EIA Consultant

**48, 2nd Main road, Ram Nagar South Extension,
Pallikaranai, Chennai -600100**

JULY 2023

EXECUTIVE SUMMARY

1. Project Background:

Proposed proposal pertains to Multi Colour Granite mining project by open cast semi mechanized method on allotted mine lease area at K.Pitchampatti Village, Karur taluk of Karur District, Tamil Nadu. It is a Plain terrain.

Proposed quarry was existing quarry and lease was granted in favour of P. Ramachandran, the Lessee had obtained lease for quarrying granite vide Government Order.(3D) No. 37, Industries (MMB.2) Department dated 19.07.2016 for a period of twenty years and the lease deed was executed on 05.08.2016 and the lease will expire on 04.08.2036.

The Proposed Multi Colour Granite Quarry over an extent of 2.84.50 Ha at S.F.No. 407/1, 407/2, 407/3 (P), 407/4, 408/3, 408/4 (P) of K.Pitchampatti Village, Karur taluk, Karur District, Tamilnadu. Based on the 500m radius letter obtained from geology of mining, Karur vide letter no Rc.No.248/Mines/2021 dated 27.10.2022 proposal coming under Cluster of mine exceeding more than 5 Ha and the total cluster area is 9.52 Ha. We have submitted our fresh application for ToR to SEIAA vide Proposal No: SIA/TN/MIN/408532/2022 on 29.11.2022.

The category of the project is B1 (cluster), the lease area exhibits Plain terrain and sloping towards south-west side covered with Multi Colour Granite. The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 5.0-meter vertical bench with a bench width of 5.0 meter. In addition to the above the Quarry operation involves Diamond wire saw cutting, loading and transportation.

The quarry operation is proposed up to depth for 25 m (1.0 m Top Soil + 4 m Weathered granite + 20 m Multi colour Granite) below ground level. The total Geological Reserves is 98680 m³ and Mineable Reserves is 49220 m³. The Geological reserve in ROM is about 98680 m³. Geological reserve at 35% reserves is about 34538m³. The Mineable Reserves in ROM is about 49,220 m³. Mineable reserve at 35% reserves is about 17228 m³ and Proposed Yearwise production is carried

out as 7559 m³ at 35 % reserves to be mined for (Sixty months) Five years only.

The Mining Plan was approved by Director of Geology and Mining, Guindy, Chennai-32 vide letter No. 503/MM2/2016 dated 06.02.2016. The lessee has obtained Environmental clearance from SEIAA-TN vide letter no. Lr.No.SEIAA-TN/F.No.5073/1(a)/EC.No.3293/2016 dated 11.07.2016.

The 1st scheme of mining for the period from 05.08.2021-04.08.2022 to 05.08.2025-04.08.2026 is now being prepared and submitted under rule 18(2) of GCDR 1999 for approval on 29.03.2021.

The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wild life sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

2. Nature & Size of the Project

The proposed Multi Colour Granite Quarry over an extent of 2.84.50 Hectares land is located at K.Pitchampatti Village of Karur taluk, Karur District.

Mineral intends to quarry : Multi Colour Granite
District : Karur
Taluk : Karur
Village : K.Pitchampatti
S. F. Nos. : 407/1, 407/2, 407/3 (P), 407/4, 408/3, 408/4 (P)
Extent : 2.84.50 Hectares

Table 1: Brief Description of the Project

S. No.	Particulars	Details
1	Latitude	10°46'54.76"N to 10°46'47.80"N
2	Longitude	78°04'07.23"E to 78°04'15.25"E
3	Site Elevation above MSL	206 m from MSL
4	Topography	Plain terrain
5	Land use of the site	Patta land
6	Extent of lease area	2.84.50 Ha
7	Nearest highway/Road	➤ SH74 – Dindugal- Karur Road 6.3 km, E ➤ NH 44 – Karur Main Road – 12.6km, NW
8	Nearest railway station	Palaiyam Railway Station – 9.3 km, SE

9	Nearest airport	Tiruchirapalli International Airport – 68.8km, E
10	Nearest town / city	Town - K.Pitchampatti-2.3 km -NE City - Karur-11.8Km -NE District - Karur-11.8 Km -NE
11	Rivers / Canal	Amaravathi river- 9 km, W Kudaganar River- 8.8 km, NW Kudaganar Check Dam- 10.4 km, W
12	Lake	<ul style="list-style-type: none"> • Kandedutha Manickam Lake- 3.1 km, SW • Edayapatti Lake- 5.7 km, SW • Vellaiyanai Kulam- 7.5 km- NE • Poove Kulam – 11.7 km, E • Alamarathupatti Kanmai- 0.6 km- N • Pitchampatti Kanmai- 0.9 km, N • Seasonal Odai- 40 m, E • Vellariyan Kulam- 8.2 km, N
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	Kadavur Slender Loris Sanctuary- 14.8 km, S
16	Reserved / Protected Forests	Nil in 15 km radius
17	Seismicity	Proposed Lease area come under Seismic zone-II (low risk area)
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

The demand for granite increased due to rapid industrialization and growth in infrastructure. So the number of granite producing quarries is increasing in India. Granite is the chief material for the export industries like monuments, flooring slabs, Kitchen articles, sculptures & export. Based on the demand of Granite, the lessee intends to produce the required quantity of Multi Colour Granite for domestic market.

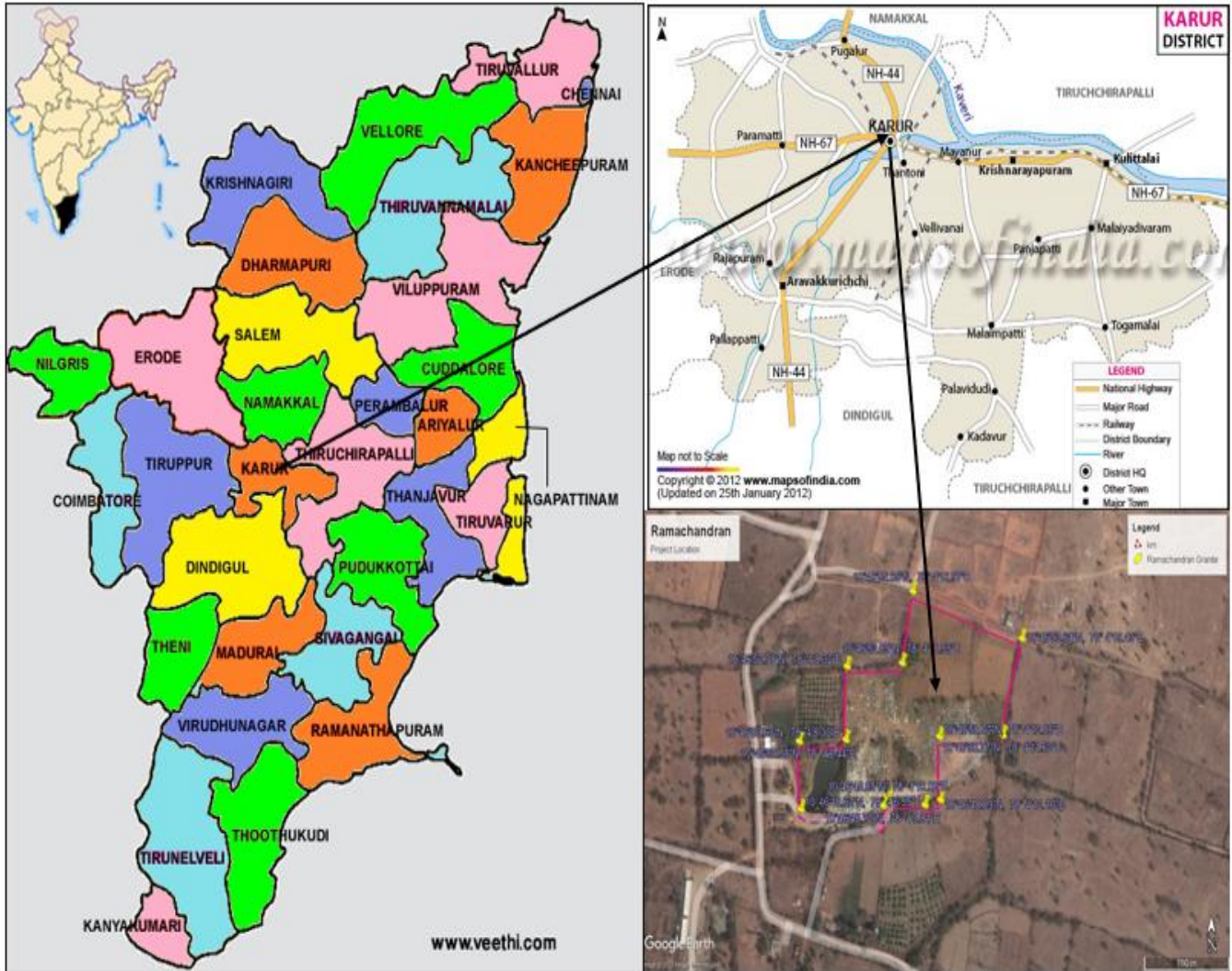


Figure 1: Location Map of the Project Site

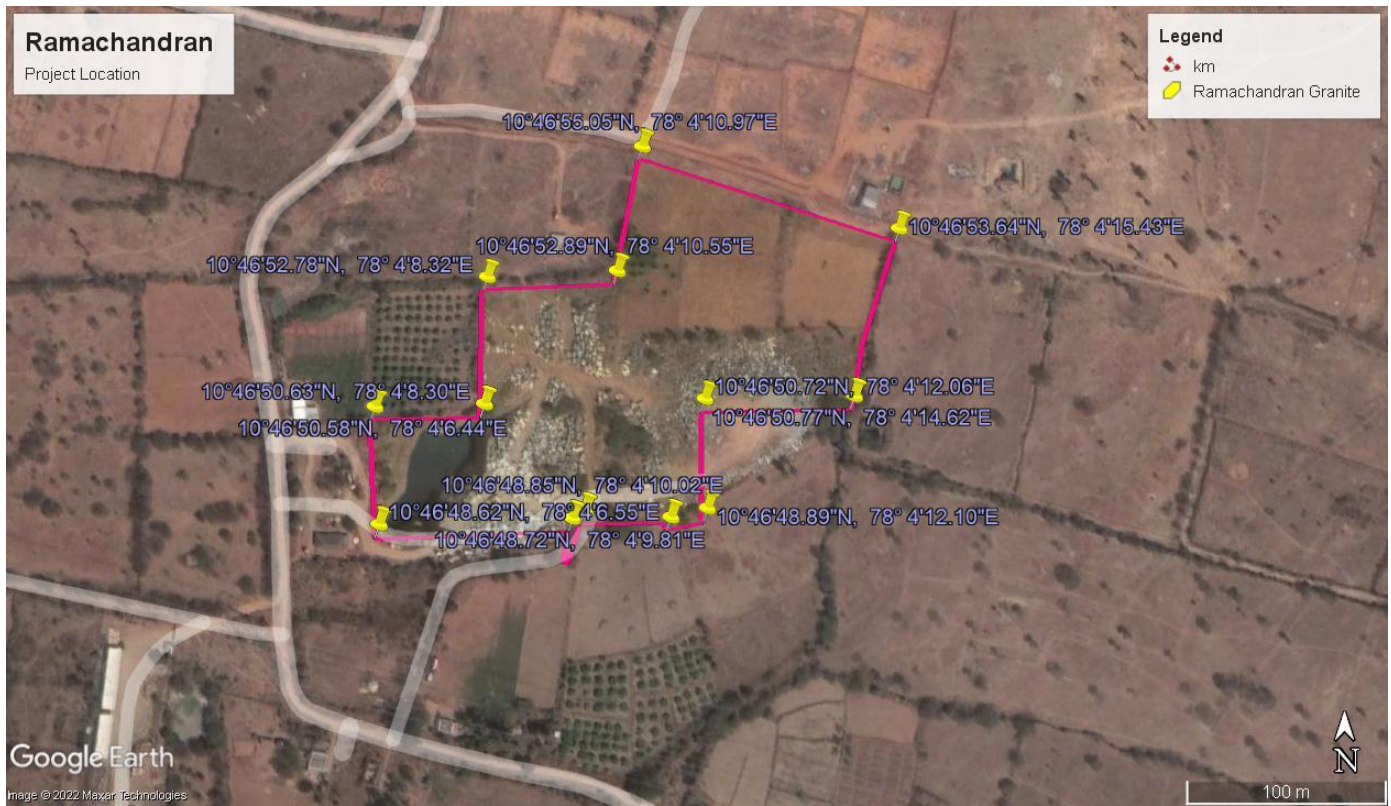


Figure 2: Google Image of the Project Site

4. Multi Colour Granite

The Multi Colour Granite and granite gneiss is mainly composed of medium to fine grained with feldspar and quartz are main constituents, garnet and other mafic minerals are secondary minerals. It has commercially called as 'Paradiso' which is widely used for Slabs, Tiles and Monuments after cutting and polishing.

5. Geological Resources

The Geological reserve is estimated as **98680 m³** upto a depth of 25.0m (1.0m Top Soil + 4.0m Weathered Granite + 20.0m Multi Colour Granite), by area cross sectional method.

<i>Project Name</i>	<i>Thiru.P.Ramachandran Multicolour Granite Quarry - 2.84.50 Ha</i>	<i>Final EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.P.Ramachandran</i>	
<i>Project Location</i>	<i>K.Pitchampatti Village, Karur taluk, Karur District.</i>	

Table 2. Geological resources

Section	Bench	L (m)	W (m)	D (m)	Volume in M3	Total Reserve in M3	Multi-Colour Granite Reserve @ 35%	Granite Waste @ 65%	Weathered Granite	Top soil
XY-AB	I	63	148	1						9324
	II	63	148	4					37296	
	III	63	24	5	7560	7560	2646	4914		
	IV	63	24	5	7560	7560	2646	4914		
	V	63	24	5	7560	7560	2646	4914		
	VI	63	24	5	7560	7560	2646	4914		
	TOTAL					30240	30240	10584	19656	37296
X1Y1-A1B1	I	83	141	1						11703
	II	83	141	4					46812	
	III	83	24	5	9960	9960	3486	6474		
	IV	83	24	5	9960	9960	3486	6474		
	V	83	24	5	9960	9960	3486	6474		
	VI	83	24	5	9960	9960	3486	6474		
	TOTAL					39840	39840	13944	25896	46812
X1Y1-A2B2	I	15	42	1						630
	II	15	42	4					2520	
	III	26	4	5	520	520	182	338		
	IV	78	24	5	9360	9360	3276	6084		
	V	78	24	5	9360	9360	3276	6084		
	VI	78	24	5	9360	9360	3276	6084		
	TOTAL					28600	28600	10010	18590	2520
GRAND TOTAL					98680	98680	34538	64142	86628	21657

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<i>Project Location</i>	<i>K.Pitchampatti Village, Karur taluk, Karur District.</i>	

Table 3. Mineable Resources

Section	Bench	L (m)	W (m)	D (m)	Volume in M3	Total Reserve in M3	Multi-Colour Granite Recoverable Reserve @ 35%	Granite Waste @ 65%	Weathere d Granite	Side Burden	Topsoil
XY-AB	I	36	36	1							1296
	II	34	33	4					4488		
	III	27	10	5						1350	
	IV	17	5	5						425	
	III	27	15	5	2025	2025	709	1316			
	IV	17	10	5	850	850	298	552			
	TOTAL					2875	2875	1007	1868	4488	1775
X1Y1- A1B1	I	73	73	1							5329
	II	72	71	4					20448		
	III	68	39	5						13260	
	IV	63	29	5						9135	
	V	58	19	5						5510	
	VI	53	9	5						2385	
	III	68	24	5	8160	8160	2856	5304			
	IV	63	24	5	7560	7560	2646	4914			

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	V	58	24	5	6960	6960	2436	4524			
	VI	53	24	5	6360	6360	2226	4134			
	TOTAL				29040	29040	10164	18876	20448	30290	5329
X1Y1- A2B2	I	1	16	1							16
	II	1	15	4					60		
	III	12	22	5						1320	
	IV	64	17	5						5440	
	V	59	12	5						3540	
	VI	54	7	5						1890	
	III	12	4	5	240	240	84	156			
	IV	64	24	5	7680	7680	2688	4992			
	V	59	19	5	5605	5605	1962	3643			
	VI	54	14	5	3780	3780	1323	2457			
		TOTAL				17305	17305	6057	11248	60	12190
GRAND TOTAL					49220	49220	17228	31992	24996	44255	6641

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<i>Project Location</i>	<i>K.Pitchampatti Village, Karur taluk, Karur District.</i>	

Table 4. Year wise Production Plan

Year	Section	Bench	L (m)	W (m)	D (m)	Volume in M3	Total Reserve in M3	Colour Granite Recoverable Reserve @ 35%	Granite Waste @ 65%	Weathered Granite	Side Burden	Topsoil	
05.08.2021 to 04.08.2022	XY-AB	I	36	36	1							1296	
		II	34	33	4					4488			
		III	27	10	5						1350		
		IV	17	5	5						425		
		III	27	15	5	2025	2025	709	1316				
		IV	17	10	5	850	850	298	552				
	X1Y1-A1B1	I	10	44	1								440
		II	10	42	4						1680		
		III	10	10	5							500	
		III	10	24	5	1200	1200	420	780				
TOTAL						4075	4075	1427	2648	6168	2275	1736	
05.08.2022 to 04.08.2023	X1Y1-A1B1	I	36	44	1							1584	
		II	36	42	4					6048			
		III	36	10	5						1800		
		III	36	24	5	4320	4320	1512	2808				
		TOTAL						4320	4320	1512	2808	6048	1800

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Year	Section	Bench	L (m)	W (m)	D (m)	Volume in M3	Total Reserve in M3	Colour Granite Recoverable Reserve @ 35%	Granite Waste @ 65%	Weathered Granite	Side Burden	Topsoil
05.08.2023 to 04.08.2024	X1Y1-A1B1	I	28	44	1							1232
		II	27	42	4					4536		
		III	35	10	5						1750	
		III	35	24	5	4200	4200	1470	2730			
		TOTAL				4200	4200	1470	2730	4536	1750	1232
05.08.2024 to 04.08.2025	X1Y1-A1B1	IV	36	24	5	4320	4320	1512	2808			
		TOTAL				4320	4320	1512	2808			
05.08.2025 to 04.08.2026	X1Y1-A1B1	IV	39	24	5	4680	4680	1638	3042			
		TOTAL				4680	4680	1638	3042			
GRAND TOTAL						21595	21595	7559	14036	16752	5825	4552

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast semi mechanized mining with 5.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves Diamond wire saw cutting, loading and transportation.

Process Description

The proposed mining is planned to be carried out by open cast-semi mechanized method of mining, in this proposed mining area by using compressor operated jack hammer drills, excavators and dumpers etc.

Hydraulic excavator will be used to remove the over burden, Shifting of Blocks and waste removal etc. Compressor operated jack hammers will be used to drill the holes as preparatory work before cutting the Block by using Wire saw.

The diamond wire saw has many advantages to its credit such as

- 1) Reduced Consumption of Explosives.
- 2) Reduced noise level
- 3) Reduced Loss of material
- 4) Simple to use and saves squaring operation.

7. Water Requirement

Total water requirement for the mining project is 2 KLD. Domestic water will be sourced from nearby K.Pitchampatti Village and other water will be source from nearby road tankers supply.

Table 5. Water Balance

Purpose	Quantity	Source
Domestic & Flushing	1.0 KLD	Drinking water will be brought from the approved water vendors in the nearby villages.
Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression	0.5 KLD	From road tankers supply
Total	2.0 KLD	

8. Man Power and Organization Chart

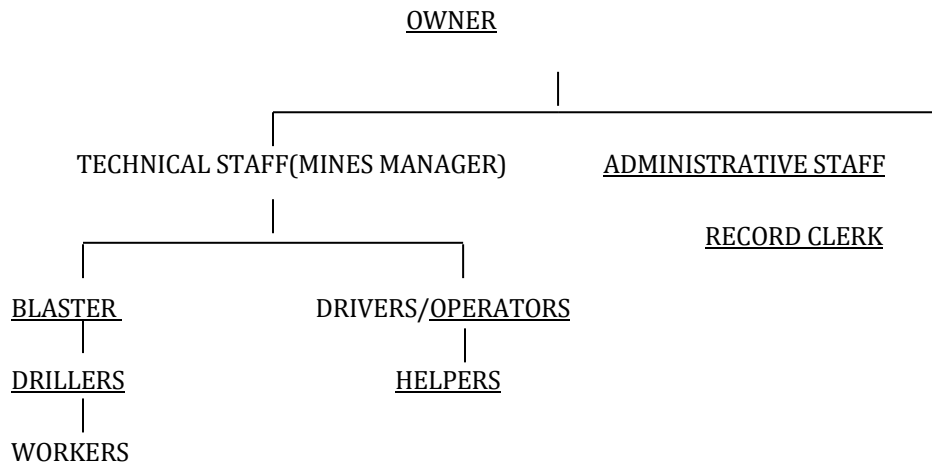
Total manpower required for the project is approximately 20 persons. Workers will be from nearby villages.

Table 6. Man Power

1.	Project Manager, Supervisor and record Clerk		3 Nos
2.	Skilled	Drill Operator	1 No.
		Drillers/ Workers	4 No.
		Excavator/ Rock Breakers	3 Nos
		Vehicle Drivers	2 No.
3.	Semi-skilled- Watchman		1 No.
4.	Unskilled (Dresser/cutter)		6 Nos
	Total =		20 Nos

No child less than 18 years will be entertained during quarrying operations.

ORGANISATION CHART



9. Solid Waste Management

Table 7. Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	4.86 kg/day	Municipal bin including food waste
2	Inorganic	3.24 kg/day	TNPCB authorized recyclers

As per CPCB guidelines: MSW per capita/day =0.45 kg/day

Table 8. 500m Radius Cluster Mine

1) Existing quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent
1	Thiru.P.Ramachandran	K.Pitchampatti Village and Karur Taluk	407/1, 407/2, 407/3 (P), 407/4, 408/3, 408/4 (P)	2.84.5 Ha
2	Tvl.Ananta Granites LLP	K.Pitchampatti Village and Karur Taluk	468/1B (P), 417/8, 468/2	2.22.5 Ha

2) Abandoned/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent
Nil				

3) Details of Proposed/Applied quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	M/s Dahlia Granites Pvt Ltd	K.Pitchampatti Village and Karur Taluk	417/2, 417/5, 417/7 (P), 454/2	2.65.0	Proposed Area

2.	Smt.P.Sujeetha	K.Pitchampatti Village and Karur Taluk	404/1(P), 404/2(P), 404/3(P), 404/4(P), 404/5(P), 404/6(P), 404/7(P), 404/8, 405/1, 405/2, 405/3(P), 405/4, 405/5(P), 405/6A(P)	1.80.0	--
				9.52.0	

The Total extent of the Existing / Lease expired / Proposed quarries are 9.52.0 Ha

10. Land Requirement

The total extent area of the project is 2.84.50 Ha, Patta land in K.Pitchampatti Village of Karur taluk, Karur District.

Table 9. Land Use Breakup

Description	Present Area (Ha.)	Area to be required at the present scheme period (Ha)	End of life of Quarrying Period (Ha.)
Area under Quarry	0.18.0	0.40.0	0.85.0
Dumps	0.20.0	0.41.0	0.61.5
Stockyard	Nil	Nil	Nil
Infrastructure	Nil	0.02.0	0.02.0
Roads	0.03.0	0.04.0	0.07.0
Green Belt	Nil	0.27.0	0.32.0
Unutilized Area	2.43.5	1.70.5	0.97.0
Grand Total	2.84.5	2.84.5	2.84.5

11. Human Settlement

There are no habitations within 500m radius. There are villages located in this area within 5km radius of the quarry.

Table 10. Habitation

Direction	Village	Population	Distance in Kms
North	K.Pitchampatti	200	2.3kms
West	Papanayakanoor	350	3.0km
East	Gudalur	250	5.0kms
South	Vasanthakathirpalayam	250	1.0km

12. Power Requirement

The proposed granite building stone quarrying does not required any power supply for the quarrying operation.16 Litres diesel per hour required for excavator whenever needed.

13. Scope of the Baseline Study

This chapter contains information on existing environmental scenario on the following parameters.

1. Micro – Meteorology
2. Water Environment
3. Air Environment
4. Noise Environment
5. Soil / Land Environment
6. Biological Environment
7. Socio-economic Environment

13.1 Micro – Meteorology

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. Since meteorological factors show wide fluctuations with time, meaningful interpretation can be drawn only from long-term reliable data.

- i) Average Minimum Temperature : 26.3 °C
- ii) Average Maximum Temperature. : 40 °C
- iii) Average Annual Rainfall of the area : 806 mm

13.2 Air Environment

Ambient air monitoring was carried out on monthly basis in the surrounding areas of the Mine Lease area to assess the ambient air quality at the source. To know the ambient air quality at a larger distance i.e. in the study area of 5 km. radius, air quality survey has been conducted at 5 locations. Major air pollutants like Particulate Matter (PM10), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) were monitored and the results are summarized below.

The baseline levels of PM₁₀ (51-37(µg/m³)), PM_{2.5}(14-22 (µg/m³)), SO_x 5-9 (µg/m³) ,NO_x (10-22 (µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from July to September, 2022

13.3 Noise Environment

Ambient noise levels were measured at 5 locations around the proposed project site. The noise level during day varies from 41-65 dB(A) and during night varies between 36-50 dB(A).

13.4 Water Environment

- The average pH ranges from 7.32-7.82
- TDS value varied from 720 mg/l to 1515 mg/l
- Hardness varied from 385 to 767 mg/l
- Chloride varied from 155 to 420 mg/l

13.5 Land Environment

The analysis results shows that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 6.9 to 8.05 with organic matter 0.67

% to 1.92 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

13.6 Biological Environment

The proposed Mining lease area is mostly dry barren ground with small shrubs and bushes. No specific endangered flora & fauna exist within the mining lease area.

14. Rehabilitation/ Resettlement

- The overall land of the mine is private patta land. There are no displacement of the population within the project area and adjacent nearby area. Social development of nearby villages will be considered in this project.
- The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement.

15. Greenbelt Development

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major component of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like Neem will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 60 trees per annum with interval 5m.
4. The rate of survival expected to be 70% in this area

Table 11 Plantation/ Afforestation Program

Year	No. of trees proposed to be planted	Name of the species	Survival rate expected in %	No. of trees expected to be grown
I	270	Neem	70	189
II	270	Neem	70	189
III	270	Neem	70	189
IV	270	Neem	70	189
V	270	Neem	70	189

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

1. Water sprinkling will be done on the roads & unpaved roads.
2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.
3. Plantation will be carried out on approach roads, solid waste site & nearby mine premises.
4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

1. Periodical monitoring of ambient noise will be done as per CPCB guidelines.
2. No other equipment except the transportation vehicles and excavator for loading will be allowed.
3. Noise generated by these equipments shall be intermittent and does not cause much adverse impact

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

- i. Environmental Monitoring of the surrounding area
- ii. Developing the green belt/Plantation
- iii. Ensuring minimal use of water
- iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

A monitoring schedule with respect to Ambient Air Quality, Water & Wastewater Quality, Noise Quality as per Tamil Nadu State Pollution Control Board (TNPCB), shall be maintained.

19. Project Cost

The total project cost is **Rs.1,32,30,000** for deployment of machinery and creation of infrastructural facilities like approach road, Mine office / Workers Shed, First Aid Room etc., including electrifications and water supply

Table 12 Project Cost details

S. No.	Description	Cost
1	Fixed ,Asset Cost	33,50,000
2	Operational Cost	95,00,000
3	EMP Cost	3,80,000
	Total	1,32,30,000

20. Corporate Environmental Responsibility

The Corporate Environment Responsibility (CER) fund will be provided to the below activity.

Table 13 CER Cost

S.No.	CER Activity	CER (Rs.)
1.	Panchayat Union Primary School, K.Pitchampatti, Panchayat Union Primary School, Alampadi Activity: Provision of ➤ Green Belt Development ➤ Solar powered Smart Classroom, ➤ Solar lights to the School, ➤ Environmental Awareness related books to the school library, ➤ Basic amenities such as safe Drinking Water, Hygienic Toilet facilities. ➤ Greenbelt development in and around the school	5,00,000

21. Benefits of the Project,

- There is positive impact on socio-economics of people living in the villages. Mining operations in the subject area has positive impact by providing direct and indirect jobs opportunities

- The project is environmentally compatible, financially viable and would be in the interest of construction industry thereby indirectly benefiting the masses.
- Quarrying in this area is not going to have any negative impact on the social or cultural life of the villagers in the near vicinity.