

May 2023

Executive Summary

Thiru.S.Raghu Rough stone quarry- 1.30.0 Ha

For

PUBLIC HEARING

At

**S.F Nos : 381(Part-1) of Gopanapalli Village, Hosur Taluk,
Krishnagiri District, Tamil Nadu**

PROJECT PROPONENT

**Thiru.S.Raghu,
S/o.Sreeramaiya,
D.No.6/202, Anusonai Village,
Bommathathanur village,
Denkanikottai Taluk,
Krishnagiri District-635113**

EIA Notification 2006 Schedule 1(a) Category B1 (Cluster)

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EXECUTIVE SUMMARY

1. Project Background:

The Proposed project total extent area is 1.30.00 Ha, It is a government Poramboke land in S.F.No.381 (part-1) of Gopanapalli Village, Hosur Taluk, and Krishnagiri District. The category of project is B1, It is a Rough stone quarry in Gopanapalli village. The area is situated on hilly terrain area sloping towards western side covered with Rough Stone which does not sustain any type of vegetation.

The quarry operation is proposed to carry out with conventional open cast mechanized method using shot-hole drilling and smooth blasting. Roughstone is removed by using hydraulis excavators. proposed bench height is 7 m and bench width is 5 m. The thickness of topsoil in this area is 2.0 m .

The quarry operation is proposed up to depth of 51 m-topsoil 2.0 m + Rough stone 49 m (surface ground level above height is 8 m and surface ground level below depth is 43 m). The total Geological Resources is about 616028 m³ of Rough stone. The Mineable Reserves and proposed yearwise production is carried out 231,238 m³ of Roughstone to be mined for ten years. The precise area letter and relevant mining laws in force. Mining Plan was approved by The Deputy Director, Department of Geology & Mining, Krishnagiri district vide letter Rc.No.539/2022/Mines dated 04.05.2022. Precise area communication letter received from the district collector, Krishnagiri district vide letter Rc.No.539/2022/Mines, dated 04.05.2022.

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 Existing Rough Stone Quarry over an extent of 1.30.00 Hectares land is located at Gopanapalli Village, Hosur Taluk, Krishnagiri District.

Mineral intends to quarry : Rough stone Quarry
District : krishnagiri
Taluk : Hosur

Village : Krishnagiri
S. F. Nos. :381 (part-1)
Extent : 1.30.00 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	Latitude : 12° 38' 05.49" N to 12° 38' 03.12" N
2	Longitude	Longitude : 77° 48' 43.41" E to 77° 48' 37.72" E
3	Site Elevation above MSL	840 m from MSL
4	Topography	Hilly terrain topography
5	Land use of the site	Government Poramboke
6	Extent of lease area	1.30.00 Ha
7	Nearest highway	SH17 A , Hosur-Denkanikottai, 2.88 km, W
8	Nearest railway station	Kelamangalam Railway Station – 6.15 km, SE
9	Nearest airport	Kampegowda International Airport – 61.49 km, NNW
10	Nearest town / city	<ul style="list-style-type: none"> • Town - Hosur - 11.54 Km, N • City - Hosur – 11.54 Km, N • District -Krishnagiri – 45.47Km, SE
11	Rivers / Canal	<ul style="list-style-type: none"> • Ponnaiyar River, 11.86 km, NE
12	Lake	<ul style="list-style-type: none"> ❖ Devaganapalli Lake, 1.71 km, NW ❖ Nagondapalli Lake, 4.48km, NW ❖ Achettapalli Lake, 5.61 km, N ❖ Nanjappan Kodigai Eri, 5.80km, SE ❖ Bynakanahalli kere, 5.63 km ,W ❖ Mathukur kere,6.57 km, W ❖ Uliveeranahally Kere,7.10 km ,WNW ❖ Poonapalli Lake, 7.35 km, NW ❖ Chinnatti Dam, 7.10 km ,SSE ❖ Mathigiri lake, 7.36 km, N ❖ NB Agraharam lake, 8.82 km, NNE ❖ Gokul nagar Lake, 8.07 km, NNE ❖ Karapalli Lake, 8.89 km, NNE
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	Nil in 15 km radius
16	Reserved / Protected	❖ Sanamavu Reserve Forest, 8.17 km, E

	Forests	❖ Denkanikotta Reserve Forest, 13.75 km, S
17	Seismicity	Proposed Lease area comes under Seismic zone-II
18	Defense Installations	Nil

2. NEED FOR THE PROJECT

- ❖ Rough stone is quarried for producing crusher aggregates to the nearby building contractors, road contractors and nearby villagers.
- ❖ After the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- ❖ The rough stone is hard and compact in nature. It can be crushed only in crushers for producing aggregates.
- ❖ As the mining continues, no reclamation or back filling is required.

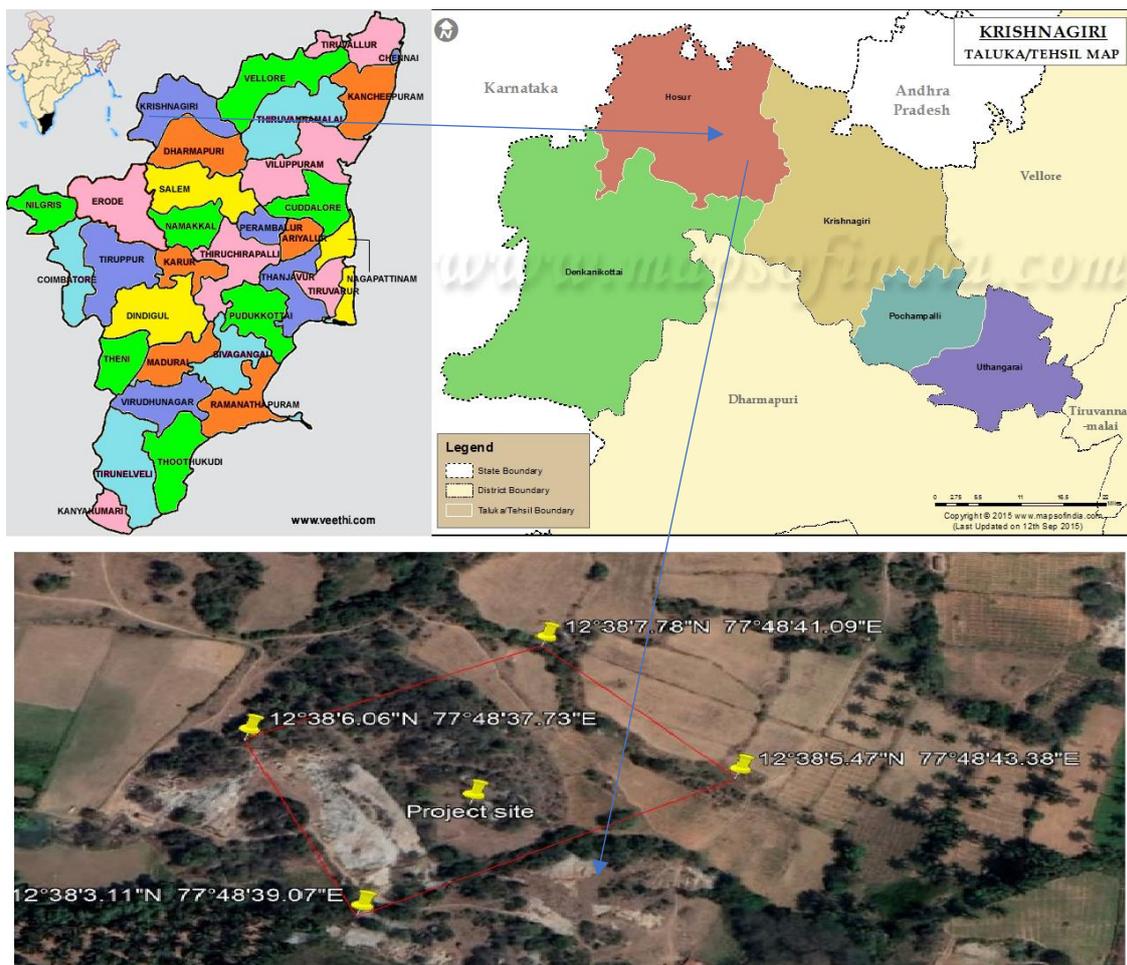


Figure 1: Location Map of the Project Site



Figure 2: Google Image of the Project Site

4. CHARNOCKITE

Generally, the Charnockite is grey to greenish colored, coarse to medium grained, greasy nature with or without garnet. Because of the limited outcrops, the quarry sections are studied to infer the various interrelationships between the litho units. Charnockite is interbanded nature with crystalline carbonate rocks are observed in most of the quarry in Pandalgudi, Lakshmiapuram, Gopalapuram, Sundakottai chinnakamanpatti, Weathering of the Charnockite on the surface gives a deceptive look of gneiss and in the quarry sections at depth the fresh charnockite is exposed, which are well exemplified in almost all the Charnockite quarry sections.

5. GEOLOGICAL RESOURCES

Table 2. Geological resources

GEOLOGICAL RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (Cu.m.)	Recoverable Reserve in Cu.m(100%)	Topsoil (Gravel) in Cu.m.
XY-AB	I	131	98	2			25676
	II	100	98	5	49000	49000	
	III	131	98	5	64190	64190	
	IV	131	98	5	64190	64190	
	V	131	98	5	64190	64190	
	VI	131	98	5	64190	64190	
	VII	131	98	5	64190	64190	
	VIII	131	98	5	64190	64190	
Total=					434140	434140	25676

Table 3. Mineable Resources

MINABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (Cu.m.)	Recoverable Reserve in Cu.m(100%)	Topsoil (Gravel) Cu.m.
XY-AB	I	111	78	2			17316
	II	88	76	5	33440	33440	
	III	104	71	5	36920	36920	
	IV	94	61	5	28670	28670	
	V	84	51	5	21420	21420	
	VI	74	41	5	15170	15170	
	VII	64	31	5	9920	9920	
	VIII	54	21	5	5670	5670	
Total					151210	151210	17316

Table 4. Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION								
YEAR	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m³)	Recoverable Reserve in m³ (100%)	Top Soil m³
I-YEAR	XY-AB	I	111	78	2			17316
		II	88	76	5	33440	33440	
TOTAL						33440	33440	17316
II-YEAR	XY-AB	III	52	71	5	18460	18460	
TOTAL						18460	18460	
III-YEAR	XY-AB	III	52	71	5	18460	18460	
TOTAL						18460	18460	
IV-YEAR	XY-AB	IV	52	61	5	15860	15860	
TOTAL						15860	15860	
V-YEAR	XY-AB	IV	42	61	5	12810	12810	
		V	32	51	5	8160	8160	
TOTAL						20970	20970	
GRAND TOTAL						107190	107190	17316

YEARWISE DEVELOPMENT AND PRODUCTION							
YEAR	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Recoverable Reserve in m ³ (100%)
VI- YEAR	XY-AB	V	52	51	5	13260	13260
VII- YEAR		VI	37	41	5	7585	7585
VIII- YEAR		VI	37	41	5	7585	7585
IX- YEAR		VII	64	31	5	9920	9920
X-YEAR		VIII	54	21	5	5670	5670
		TOTAL					44020

6. MINING

Opencast mining

Opencast method of semi mechanized mining is adopted to extract Rough Stone. However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom [possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of mines safety for which necessary provision is available with the regulation 106 (2) (b) of MMR-1961, under Mine Act-1952.

Process Description

- The reserves and resource are arrived based upon the Geological investigation
- Removal of Rough Stone by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer 25.5mm Dia.
- Minimum Blasting With Class 3 Explosives.

7. Water Requirement

This Rough stone quarry project does not require huge water and electricity for the project.

Table 5. Water Balance

Purpose	Quantity	Sources
Drinking Water	0.5 KLD	Packaged Drinking water vendors available in Goolisandram Village which is about 0.37 km from NNW side of the area.
Green belt	0.75 KLD	From Hired Water Tanker.
Dust suppression	0.75 KLD	From Hired Water Tanker.
Total	2.0 KLD	

8. Manpower

The nearby villagers will be getting employment benefits in the proposed working quarry.

Table 6. Man Power

1	Skilled	Operator	2
		Mechanic	1
		Blaster/Mat	1
2	Semi-skilled	Driver	2
3	Unskilled	Musdoor/Labours	5
		Unskilled-helpers	4
4	Management and Supervisory staff		3
Total			18 Nos

9. Solid Waste Management

Table 7 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	2.8 kg/day	Municipal bin including food waste
2	Inorganic	4.32 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 other quarries:

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
.....Nil.....					

2) Details of abandoned /Old Quarries

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
.....Nil.....					

3) Details of Present Proposed quarries

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
1	Thiru.S.Raghu	Gopanapallai village, Hosur taluk	381(Part-1)	1.30.0	Instant Proposal
2	M/s.Natural stone	Gopanapallai village, Hosur taluk	220/1(Part-1)	3.00.0	Precise area given
3	Thiru.Nithin Reddy	Gopanapallai village, Hosur taluk	220/1(Part-2)	3.00.0	Precise area given
4	Thiru.Sri Krish	Gopanapallai village, Hosur taluk	220/1(Part-3)	3.00.0	Precise area given
5	Thiru.Vijayakumar	Gopanapallai village, Hosur taluk	220/1(Part-4)	2.00.0	Precise area given

6	Thiru.Dhivakar	Gopanapallai village, Hosur taluk	381/1(Part-2)	1.50.0	Precise area given
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10. Land Requirement

The total extent area of the project is 1.30.00 Ha, government Poramboke Land in Village of Gopanapalli, Hosur Taluk, and Krishnagiri District.

Table 9 Land Use Breakup

SL. NO.	LAND USE	PRESENT AREA (HECT)	AREA IN USE DURING THE QUARRYING PERIOD (HECT)
1.	Area under Quarrying	Nil	0.87.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	Nil	0.01.0
4.	Green Belt	Nil	0.41.0
5.	Unutilized	1.30.0	Nil
	Total	1.30.0Ha	1.30.0Ha

11. Human Settlement

There are no habitations within 300m radius. There are villages located in this area within 15 km radius of the quarry.

Table 10 Habitation

SL. NO	DIRECTION	VILLAGE	POPULATION	DISTANCE
1	North	Goolisandram	163	1.5
2	East	Bennikkal	260	6.0
3	South	Nagappan Agraharam	370	2.5
4	West	Agraharam	310	3.0

12. Power Requirement

The Electricity for Mines office and Lights only at nights (working is restricted on day time only between 9 Am to 5 Pm). Diesel (HSD) will be used for quarrying machineries around **187882 litres of HSD** will be used for the entire project life. Diesel will be brought from nearby diesel pumps. No power is required for the project. Lightings on the Night time the power will be taken from nearby electric poles after obtaining permission from concerned authorities.

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 : 18° C
- ii) Average Maximum Temperature. : 38°Celsius
- iii) Average Annual Rainfall of the area: 800 mm-900 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), and Nitrogen Dioxide (NO₂) were monitored and the results are summarized below.

The baseline levels of PM₁₀ (39- 66 µg/m³), PM_{2.5} (15- 34 µg/m³), SO₂ (6-21 µg/m³), NO₂ (10-37 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from January to March 2023.

13.3 Noise Environment

The maximum Day noise and Night noise were found to be 65 dB(A) and 49 dB(A) respectively in Pattalama Temple. The minimum Day Noise and Night noise were 46 dB(A) and 36 dB(A) respectively which was observed in Anjaneya Temple. The observed values are all well within the Standards prescribed by CPCB.

13.4 Water Environment

- The average pH ranges from 6.98 – 7.82.
- TDS value varied from 505 mg/l to 975 mg/l
- Hardness varied from 236 to 634 mg/l
- Chloride varied from 33.3 to 286 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 4.7 to 8.32 with organic matter 0.59 to 1.25 %. 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 a Government Poramboke land. There is no hutment in the lease area. No human being will be displaced from the project area so no person will be affected contrary local people will get job opportunities and better facilities. There is no rehabilitation & resettlement of people is required.

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, Vilvam, Panai, etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 650 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area

Table.11. Plantation/ Afforestation Program

Name of species proposed	Survival	No of species
Neem, Vilvam, Vaagai, Eachai, Naval, Mantharai, Magizha Maram, Vila Maram, Poo Marudhu, Panai, Marudha maram, Thandri, Sengondrai, Poovarasu, Thethankottai Maram, Pungam	80%	650
Total		650

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 (TNPCCB), shall be maintained.

19. Project Cost

The total project cost is **Rs 161,90,000/-** 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 (Rs.)
1	Fixed cost	Rs.1,31,90,000/-
2	Operational cost	Rs.30,00,000/-
3	EMP cost	Rs.169,70,946

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 value (Rs)
1.	Panchayat Union Middle School, H.Settipalli Provision of <ul style="list-style-type: none">➤ Infrastructure, additional class room➤ Environmental books for library (in Tamil language),➤ Greenbelt facilities and➤ Bench and desks➤ Basic amenities such as safe drinking water, Hygienic Toilets facilities, furniture.	5,00,000
Total		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.