

March

2023

Executive Summary for Conducting Public Hearing

FOR

“Thiru. S. Mahesh Kumar Rough Stone Quarry over a total extent of 1.60.0 Ha”

At

S.F.No. 72(part) and 87/1(part) of Doripalli Village of Shoolagiri Taluk, Krishnagiri District and Tamil Nadu

Project Proponent:

**Thiru. S. Mahesh Kumar
S/o. Srinivasan,
D.No. 590, Thippepalli village,
Bukkasagaram post, Hosur Taluk,
Krishnagiri – 635130.**

Project termed under schedule 1(a) Category B₁

Prepared By:

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EXECUTIVE SUMMARY

1. Project Background:

The Proposed project is in Government Land having total extent area of 1.60.0 Ha, located at S.F.No. 72(part) and 87/1(part) of Doripalli Village of Shoolagiri Taluk, Krishnagiri District and Tamil Nadu. The category of project is B1, it is an fresh rough stone quarry in Doripalli village. The area is situated on elevated terrain sloping towards Western 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 mining with 5.0-meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

The quarry operation is proposed up to depth for 37 m (2.0m Topsoil + 35.0m Rough Stone (Above Surface level – 5m and Below Surface level – 32m)). The Total Geological reserve is about 5,02,430 m³ of Rough Stone. The Mineable Reserves is about 1,72,190 m³ of Rough Stone. The year wise production/recoverable resources of rough stone for 10 years is about 1,72,190 m³.

Mining Plan was approved by The Deputy Director, Dept. of Geology & Mining, Krishnagiri vide Roc No: 548/2022/Mines dated 28.06.2022. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wildlife sanctuaries as per Wildlife protection Act 1972, within the radius of 15 km.

2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 1.60.0 Hectares land is located Doripalli Village of Shoolagiri Taluk, Krishnagiri District.

Mineral intends to quarry : Rough stone
District : Krishnagiri
Taluk : Shoolagiri
Village : Doripalli
S. F. Nos. : 72(part) and 87/1(part)
Extent : 1.60.0 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	12° 42' 49.2" N to 12° 42' 47.58" N
2	Longitude	77° 57' 21.10" E to 77° 57' 14.63" E
3	Site Elevation above MSL	795 m from MSL
4	Topography	Elevated terrain
5	Land use of the site	Government land
6	Extent of lease area	1.60.0 Ha
7	Nearest highway	NH 44 – Kashmir to Tamilnadu Highway– 3.6 km, S
8	Nearest railway station	Hosur Railway Station – 14.21 km, W
9	Nearest airport	Hosur Airport – 21.21 km - SW
10	Nearest town / city	Town - Shoolagiri - 7.01 km, SE City - Shoolagiri - 7.01 km, SE District – Krishnagiri – 34.97 km – SE
11	Rivers / Canal	• Ponnaiyar River – 4.7 km, SW
12	Lake	❖ Doripalli lake – 0.50 km, S ❖ Bukkasagaram lake – 1.29 km, NW ❖ Lake 1 – 2.61 km, SW ❖ Lake 4 – 2.75 km, SW ❖ Lake 3 – 2.96 km, SW ❖ Lake 2 – 3.15 km, SW ❖ Kamandoddi Lake – 3.17 km, SW ❖ Lake 5 – 3.51 km, SW ❖ Old lake – 3.88 km, SW ❖ Konerapalli Lake – 4.03 km, SE ❖ Chappadi Lake – 4.84 km, SE ❖ Lake 6 – 6.84 km, SE

		<ul style="list-style-type: none"> ❖ Thamanyanapalli lake – 7.32 km, NW ❖ Muthali Lake – 7.56 km, NW ❖ Kumudapalli Lake – 8.2 km, W • Tippalam Lake – 9.28 km, SW
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Hill fort – 34.21 km, SE
15	National parks / Wildlife Sanctuaries	Nil in 15 Km radius
16	Reserved / Protected Forests	<ul style="list-style-type: none"> ❖ Settipalli Reserve Forest – 2.28 km, SE ❖ Perandapalli Forest – 3.78 km, SW ❖ Sanamavu Reserve Forest – 7.66 km, SW
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 mining activities as proposed are the backbone of all construction and infrastructure projects as the raw material for construction is available only from such mining. The Rough stone extracted will be transported to be Stone crusher of district Krishnagiri.
- ❖ The raw Rough stone as well as the crushed material of stone is in high demand in real estate, construction projects as well as in building construction projects.
- ❖ Rough stone is quarried for producing crusher aggregates to the nearby building contractors, road contractors and nearby villagers.
- ❖ After quarrying the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- ❖ No damage to the land is caused, no reclamation or back filling is required.

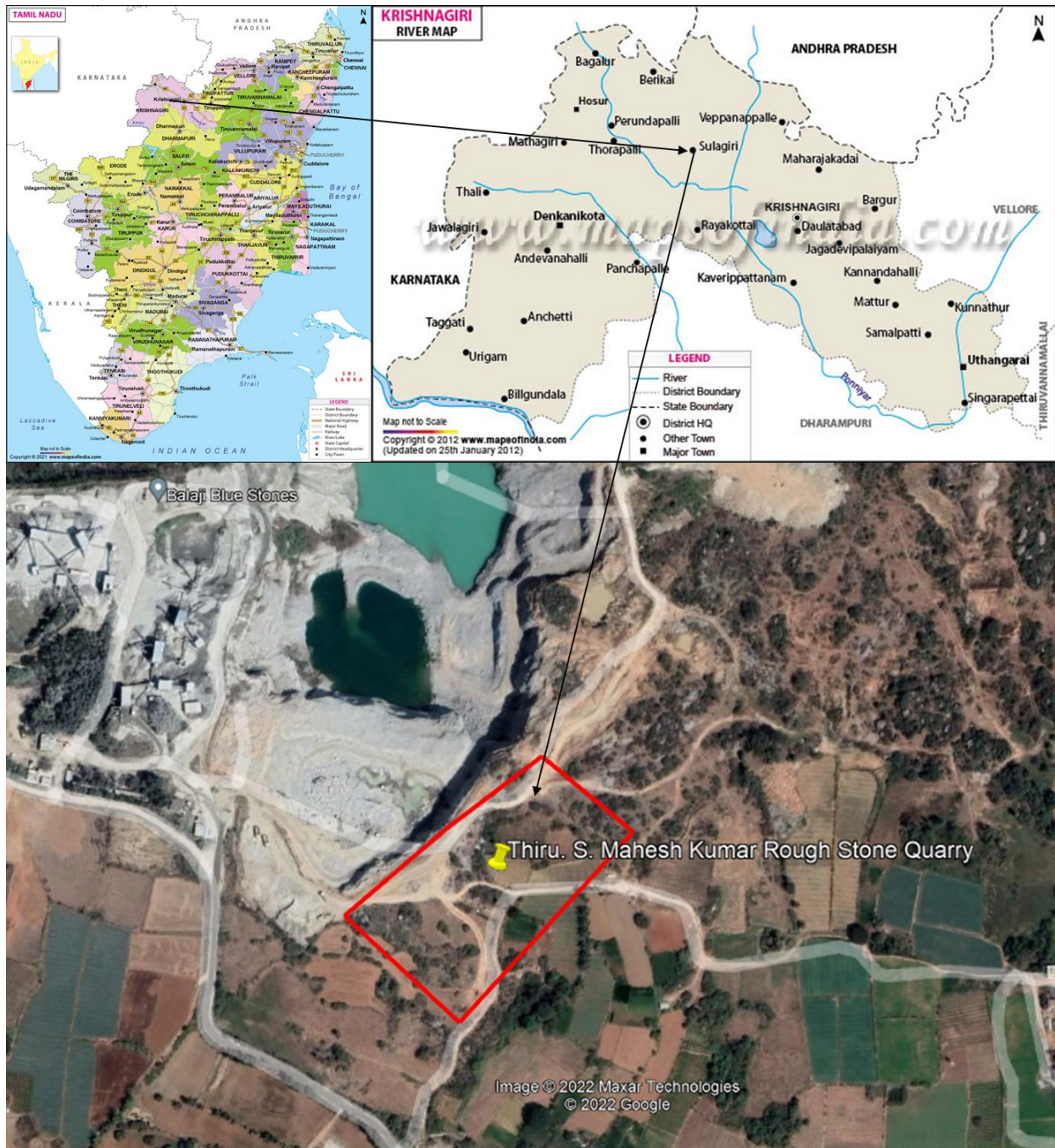


Figure 1: Location Map of the Project Site



Figure 2: Google Image of the Project Site

4. Charnockite

Charnockite and granitic gneisses are extensively quarried as rough stone which is used as aggregates for construction of building, laying of roads and for preparation of value added products like hollow blocks, pillar stones, M-sand etc. Charnockite occurs as massive bodies, greyish colour, medium to coarse grained, composed quartz, feldspar and orthopyroxene. At places, metamorphic gneissic banding (alternate dark and black colour) in charnockite is noticed. Top portion, it gives gneissic appearance but 1-5m depth below it is typical charnockite of grey colour.

5. Geological resources

The geological resources have been calculated based on the cross section method

Table 2. Geological resources

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (Cu.m.)	Geological Reserve in Cu.m(100%)	Topsoil in Cu.m.
XY-AB	I	171	94	2			32148
	II	86	47	5	20210	20210	
	III	171	94	5	80370	80370	
	IV	171	94	5	80370	80370	
	V	171	94	5	80370	80370	
	VI	171	94	5	80370	80370	
	VII	171	94	5	80370	80370	
	VIII	171	94	5	80370	80370	
Total=					502430	502430	32148

Table 3. Mineable Reserves

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (Cu.m.)	Mineable Reserve in Cu.m(100%)	Topsoil in Cu.m.
XY-AB	I	150	74	2			22200
	II	75	36	5	13500	13500	
	III	144	67	5	48240	48240	
	IV	134	57	5	38190	38190	
	V	124	47	5	29140	29140	
	VI	114	37	5	21090	21090	
	VII	104	27	5	14040	14040	
	VIII	94	17	5	7990	7990	
Total=					172190	172190	22200

Table 4. Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION(FIRST FIVE(I-V)YEAR								
YEAR	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Recoverable Reserve in m3 (100%)	Top Soil in m3
I- YEAR	XY- AB	I	74	74	2			10952
		II	75	36	5	13500	13500	

TOTAL						13500	13500	10952
II-YEAR	XY-AB	I	76	74	2			11248
		III	72	67	5	24120	24120	
TOTAL						24120	24120	11248
III-YEAR	XY-AB	III	72	67	5	24120	24120	
TOTAL						24120	24120	
IV-YEAR	XY-AB	IV	72	57	5	20520	20520	
TOTAL						20520	20520	
V-YEAR	XY-AB	IV	62	57	5	17670	17670	
		V	52	47	5	12220	12220	
TOTAL						29890	29890	
GRAND TOTAL (I-V Year)						112150	112150	22200

YEARWISE DEVELOPMENT AND PRODUCTION(SECOND FIVE(VI-X)YEAR							
YEAR	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Recoverable Reserve in m3 (100%)
VI-YEAR	XY-AB	V	72	47	5	16920	16920
VII-YEAR		VI	72	37	5	13320	13320
VIII-YEAR		VI	42	37	5	7770	7770
IX-YEAR		VII	104	27	5	14040	14040
X-YEAR		VIII	94	17	5	7990	7990
TOTAL						60040	60040

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 5.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, blasting, loading and transportation.

Process Description

- The reserves and resource are arrived based upon the Geological investigation
- Removal of Topsoil by Excavators and directly Loaded into Tippers.
- Removal of Rough Stone by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer of 25.5mm Dia.
- Minimum Blasting With Class 2 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

7. Water Requirement

Total water requirement for the mining project is 1.81 KLD. Domestic water will be sourced from nearby Doripalli Village and other water will be source from nearby road tankers supply.

Table 5. Water Balance

Purpose	Quantity	Source
Drinking Water	0.81 KLD	Packaged Drinking water vendors available in Doripalli which is about 0.35 km from project area
Green belt	0.5 KLD	Other domestic activities through road tankers supply
Dust suppression	0.5 KLD	From road tankers supply
Total	1.81 KLD	

8. Manpower

Total manpower required for the project is approximately 18 persons. Workers will be from nearby villages.

Table 6. Man Power

1.	Skilled	Operator	2 No.
		Mechanic	1 No.
		Blaster/Mat	1 No.
2.	Semi – skilled	Driver	2 Nos
3.	Unskilled	Musdoor / Labors	5 Nos
		Cleaners	3 Nos

		Office Boy	1No
4.	Management & Supervisory staff		3 Nos
	Total =		18 Nos

9. Solid Waste Management

Table 7 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.24 kg/day	Municipal bin including food waste
2	Inorganic	4.86 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 & S.F.Nos.	Extent in Hect.	G.O No. & Date	Lease Period
1.	Thiru.K.Srinivasan	Alur Village & 809 (Part -3)	1.46.0	Roc.No.187/2018/Mines dt: 08.03.2019	08.03.2019 to 07.03.2029

2) Abandoned Quarries:

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	Lease Period	Remarks
1.	Thiru.K.Srinivasan	Alur Village & 809 (Part -2)	3.00.0	Roc.No.81/2012/Mines-2 dt: 10.09.2014	16.09.2014 to 15.09.2019
2.	Thiru.Venkatraj	Alur Village & 809 (Part -1)	3.00.0	Roc.No.80/2012/Mines-2 dt: 05.02.2016	29.02.2016 to

					28.02.2021
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3) Proposed Quarries

S. No.	Name of the Owner	Village & S.F.Nos.	Extent in Hect.	G.O No. & Date	Lease Period
1.	Thiru.S.Mahesh Kumar	Doripalli Village & 72(part) & 87/1(part)	1.60.0	Rc.No.548/2022/Mines dated: 26.04.2022	Precise area given

The Total extent of the Existing / Lease expired / Proposed quarries are 9.06.0 Ha

10. Land Requirement

The total extent area of the project is 1.60.0 Ha, Government land in Doripalli Village of Shoolagiri Taluk, Krishnagiri District.

Table 9 Land Use Breakup

Sl. No.	Description	Present Area (Ha.)	Area in use during the quarrying period (Ha.)
01.	Area under Quarrying	Nil	1.10.0
02.	Infrastructure	Nil	0.01.0
03.	Roads	Nil	0.01.0
04.	Green Belt	Nil	0.48.0
05.	Unutilized Area	1.60.0	Nil
	TOTAL	1.60.0Ha	1.60.0Ha

11. Human Settlement

There are no habitations within 300m radius. There are villages located in this area within 5km radius of the quarry.

Table 10 Habitation

S.No	Direction	Village	Distance in kms	Population
1	North	Punnagaram	3.2kms	400
2	East	Nallaganakothapalli	3.0Kms	250

3	South	Addakuruki	2.0Kms	510
4	West	Alur	6.0Kms	530

12. Power Requirement

The Rough Stone Quarry project does not require huge water and electricity for the project. **16 Litre** diesel per hour for excavator for mining and loading for Rough stone 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 : 17 °C
- ii) Average Maximum Temperature. : 39 °C
- iii) Average Annual Rainfall of the area : 968 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 (57-38 µg/m³), PM2.5 (29-16 µg/m³), SO₂ (14-5 µg/m³), NO₂ (28-10 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from December 2022 to February 2023.

13.3 Noise Environment

The maximum Day noise and Night noise were found to be 60 dB(A) and 51 dB(A) respectively in Indian oil petrol station, Addakurukki. The minimum Day Noise and Night noise were 42 dB(A) and 33 dB(A) respectively which was observed in project site.

13.4 Water Environment

- The average pH ranges from 6.67 – 8.09.
- TDS value varied from 585 mg/l to 1040 mg/l
- Hardness varied from 278 to 541 mg/l
- Chloride varied from 48.4 to 271 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 6.7 to 7.90 with organic matter 1.15 to 1.32 %, 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 Government 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, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 160 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, Pungam, Poovarasu, Naval, Mantharai, Arasa Maram, Magizham, Vilvam, vaagai, Marudha maram, Thandri, Poovarasu, Manjadi, Usil, Aathi, Panai, Uzha, Illuppai, Eachai, Vanni Maram	80%	800
Total		800

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 3,91,20,000** 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	Rs. 1,24,20,000
2	Operational and Fencing Cost	Rs. 30,00,000
3	EMP Cost	Rs. 2,37,00,000
	Total	Rs. 3,91,20,000

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 value (Rs)
1.	Govt. Primary School, Dasanpuram – 0.8 km, SW Provision of ➤ Solar powered smart class, ➤ Infrastructure, ➤ Environmental books for library (in Tamil language), ➤ Greenbelt facilities and ➤ 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 socioeconomics 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.