

# **Executive Summary**

## **For**

### **Public Hearing**

**Thiru.Venkata Reddy Rough Stone Quarry-  
2.75.0 Ha**

**At**

**S.F No 616/3 (Part 2) of Kammandoddi Village,  
Shoolagiri Taluk, Krishnagiri District.**

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

**Category of the Project: B1 (Cluster Mining)**

**Project Proponent:**

**Thiru. P. Venkata Reddy  
S/O G. Pillareddy  
Kukkalapalli Village,  
Kammandoddi Post, Shoolagiri Taluk  
Krishnagiri District,  
Pincode-635 109**

**Prepared By:**

**M/s Ecotech Labs Pvt. Ltd.   
NABET Accredited EIA Consultant   
48, 2<sup>nd</sup> Main road, Ram Nagar South Extension,  
Pallikaranai, Chennai -600100**

**MARCH 2023**

# EXECUTIVE SUMMARY

## 1. Project Background:

The Proposed project is Rough Stone Quarry with a total extent area is 2.75.0 hectares, It is a Government Poromboke land in Kammandoddi Village, Shoolagiri Taluk, Krishnagiri District. It is a proposed Rough Stone quarry. The. The category of the project is B1 (cluster), the lease area exhibits Hilly terrain and gently sloping towards western side covered with Rough Stone.

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 7.0 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 of 43m (3.0m Topsoil + 40.0m Rough Stone). Geological Resources is estimated at **6,93,990 m<sup>3</sup>** of Rough stone and **41,766 m<sup>3</sup>** of Topsoil(Gravel). Mineable Reserves is estimated at **2,20,980 m<sup>3</sup>** of Rough Stone and after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force. Production Schedule is proposed production of **2,20,980 m<sup>3</sup>** of Rough Stone and **28,803 m<sup>3</sup>** of Topsoil(Gravel) for the period of Five years.

The Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Rc.No.541/2022/Mines dated: 10.06.2022. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wild life sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

The Mining Plan has been proposed for Rough Stone Quarry in Government Poromboke Land S.F.Nos.616/3 (Part 2) over an extent of 2.75.0 Ha. in Kammandoddi Village, Shoolagiri Taluk, Krishnagiri District.

## 2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 2.75.0 Hectares land is located Kammandoddi Village of Shoolagiri Taluk, Krishnagiri District.

Mineral intends to quarry : Rough stone  
District : Krishnagiri

Taluk : Shoolagiri  
Village : Kammandoddi  
S. F. Nos. : 616/3 (Part 2)  
Extent : 2.75.0 Hectares

**Table 1: Brief Description of the Project**

S. No	Particulars	Details
1	Latitude	12°40'08.75"N to 12°39'58.96"N
2	Longitude	77°56'57.55" E to 77°56'55.62"E
3	Site Elevation above MSL	744m AMSL
4	Topography	Hilly Terrain
5	Land use of the site	Government Poramboke Land
6	Extent of lease area	2.75.0 Hectares
7	Nearest highway	NH 44 – Dharmapuri-Bengaluru Road, 1.2 km, N NH 844 – Papparapatti- Somanahalli Road – 4.8 km, SW
8	Nearest railway station	Kelamangalam Railway Station – 10.5 km, SW
9	Nearest airport	Hosur Airport – 20km, E
10	Nearest town / city	Town - Kammandoddi –4 km -NW City - Shoolagiri –7 Km -NE District - Krishnagiri - 32.5 Km -SE
11	Rivers / Canal	<ul style="list-style-type: none"> <li>• Gobasandram River – 2.6 km, NW</li> <li>• Ponnaiyar River- 0.8 km, SW</li> <li>• Kelavarapalli Dam- 13.9 km, NW</li> </ul>
12	Lake	<ul style="list-style-type: none"> <li>• Kammandoddi Lake – 1.4 km, N</li> <li>• Kammandoddi Old Lake- 1.6 km, NW</li> <li>• Chappadi Lake- 2.2 km, NE</li> <li>• Konerapalli Lake- 2.3 km, NE</li> <li>• Chennathur Lake- 3 km, NE</li> <li>• Doripalli Lake- 4.4 km, N</li> <li>• Bukkasagaram Lake- 5.8 km, N</li> <li>• Thorapalli Lake- 9 km, NW</li> <li>• Nanjappan Kodigai Eri- 11.8 km, SW</li> </ul>
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	Udedurgam Cauvery north Wildlife Sanctuary- 14.2 km, S
16	Reserved / Protected Forests	<ul style="list-style-type: none"> <li>• Settipalli RF – 2.4 km, NE</li> <li>• Perandapalli Forest- 2.7 km, W</li> </ul>

		<ul style="list-style-type: none"> <li>• Sanamavu Reserved Forest- 3.2 km, SW</li> <li>• Punnagaram RF – 7 km, N</li> </ul>
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 2: Google Image of the Project Site**

#### **4. Charnockite**

Krishnagiri District is comprised of Archaean peninsular gneisses such as Charnockites, Hornblende gneisses, Biotite gneisses and migmatites, dolerites and are intruded by younger formations like pegmatite and quartz veins. The peninsular gneisses/ migmatite consists of biotite mica, plagioclase and orthoclase feldspar and quartz and are found as sheet rocks. The rock formations surrounded by shear zones in between the country rocks and later period of intrusions, fractured / joint, weathered rock formations, the metamorphosed rock formations are in enormous in nature. The massive rock formations which are not suitable for the productions of granite slabs are also suitable and used to produce rough stones. The predominant occurrence of granitic gneissic rock formations which are most suitable to produce rough stone, jelly and for making M. Sand, crusher dust.

#### **5. Geological Resources**

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

**Table 2. Geological resources**

<b>GEOLOGICAL RESERVES</b>							
<b>Section</b>	<b>Bench</b>	<b>Length in (m)</b>	<b>Width in (m)</b>	<b>Depth in (m)</b>	<b>Volume in (Cu.m.)</b>	<b>Geological Reserves in Cu.m(100%)</b>	<b>Topsoil (Gravel) in Cu.m.</b>
XY-AB	I	100	53	3			15900
	II	23	21	5	2415	2415	
	III	100	43	5	21500	21500	
	IV	100	52	5	26000	26000	
	V	100	60	5	30000	30000	
	VI	100	66	5	33000	33000	
	VII	100	72	5	36000	36000	
	VIII	100	94	5	47000	47000	
	IX	100	94	5	47000	47000	
<b>Total</b>					<b>242915</b>	<b>242915</b>	<b>15900</b>
XY-CD	I	75	34	3			7650
	II	75	26	3	5850	5850	
	III	75	35	5	13125	13125	
	IV	75	42	5	15750	15750	
	V	75	51	5	19125	19125	
	VI	75	58	5	21750	21750	
	VII	75	66	5	24750	24750	
	VIII	75	88	5	33000	33000	
	IX	75	88	5	33000	33000	
<b>Total</b>					<b>166350</b>	<b>166350</b>	<b>7650</b>
XY-EF	I	61	16	3			2928
	II	61	16	5	4880	4880	
	III	61	21	5	6405	6405	
	IV	61	26	5	7930	7930	
	V	61	35	5	10675	10675	
	VI	61	54	5	16470	16470	
	VII	61	59	5	17995	17995	
	VIII	61	59	5	17995	17995	
	IX	61	59	5	17995	17995	
<b>Total</b>					<b>100345</b>	<b>100345</b>	<b>2928</b>
XY-GH	I	52	98	3			15288
	II	28	43	5	6020	6020	
	III	52	98	5	25480	25480	
	IV	52	98	5	25480	25480	
	V	52	98	5	25480	25480	
	VI	52	98	5	25480	25480	
	VII	52	98	5	25480	25480	
	VIII	52	98	5	25480	25480	

	IX	52	98	5	25480	25480	
<b>Total</b>					<b>184380</b>	<b>184380</b>	<b>15288</b>
<b>Grand Total</b>					<b>693990</b>	<b>693990</b>	<b>41766</b>

Topsoil (Gravel) = 41766 cu.m

Total Geological Reserves in ROM = 693990 cu.m

Reserves @ 100% = 693990 cu.m

**Table 3. Year wise Production Plan**

<b>YEARWISE DEVELOPMENT AND PRODUCTION</b>								
YEAR	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Recoverable Reserve in m3 (100%)	Top Soil (Gravel) in m3
I-YEAR	XY-AB	I	93	46	3			12834
		II	14	21	5	1470	1470	
		III	88	33	5	14520	14520	
	XY-CD	I	75	27	3			6075
		II	75	23	3	5175	5175	
		III	75	22	5	8250	8250	
	XY-EF	I	51	6	3			918
		II	39	6	5	1170	1170	
		III	43	6	5	1290	1290	
<b>Total</b>						<b>31875</b>	<b>31875</b>	<b>19827</b>
II-YEAR	XY-AB	IV	88	37	5	16280	16280	
	XY-CD	IV	75	25	5	9375	9375	
	XY-EF	IV	38	6	5	1140	1140	
<b>Total</b>						<b>26795</b>	<b>26795</b>	
III-YEAR	XY-AB	V	83	39	5	16185	16185	
	XY-CD	V	75	28	5	10500	10500	
	XY-EF	V	33	10	5	1650	1650	
<b>Total</b>						<b>28335</b>	<b>28335</b>	
IV-YEAR	XY-AB	VI	78	40	5	15600	15600	
		VII	73	42	5	15330	15330	
		VIII	68	49	5	16660	16660	
	XY-CD	VI	75	31	5	11625	11625	
		VII	75	34	5	12750	12750	
		VIII	70	40	5	14000	14000	
	XY-EF	VI	28	19	5	2660	2660	
<b>Total</b>						<b>88625</b>	<b>88625</b>	
	XY-AB							



V- YEAR	X1Y1- GH	IX	63	39	5	12285	12285	
		IX	65	30	5	9750	9750	
		I	34	88	3			8976
		II	18	43	5	3870	3870	
		III	29	83	5	12035	12035	
		IV	19	78	5	7410	7410	
<b>Total</b>						<b>45350</b>	<b>45350</b>	<b>8976</b>
<b>Grand Total</b>						<b>220980</b>	<b>220980</b>	<b>28803</b>

## 6. Mining

### *Opencast mining*

The quarry operation is proposed to carry out with conventional open cast mechanized mining with 7.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

#### **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 3 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

## 7. Water Requirement

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

**Table 4. Water Balance**

<b>Purpose</b>	<b>Quantity</b>	<b>Source</b>
Drinking Water	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
<b>Total</b>	<b>2.0 KLD</b>	

## 8. Man Power

Total manpower required for the project is approximately 21 persons. Workers will be from nearby villages.

**Table 5. Man Power**

1.	Skilled	Operator	8 No.
		Foreman/ Part time Mining Engineer/ Blaster	1 No.
		Management & Supervisory Staff	1 No.
2.	Semi-skilled		2 No.
3.	Unskilled		12Nos
		Total =	21 Nos

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

## 9. Solid Waste Management

**Table 6 Solid Waste Management**

S. No	Type	Quantity	Disposal Method
1	Organic	2.7 kg/day	Municipal bin including food waste
2	Inorganic	4.05 kg/day	TNPCB authorized recyclers

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

**Table 7. 500m Radius Cluster Mine**

### 1) Existing other quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Thiru.B.Arun Reddy	Kammandoddi Village & Shoolagiri Taluk	616/3 (Part)	3.77.0 Ha	19.06.2019 to 18.06.2024
2.	M/s Thriveni earth Movers (P) Ltd	Kammandoddi Village & Shoolagiri Taluk	665 (Part-1)	4.40.0 Ha	26.06.2016 to 25.09.2026

## 2) Abandoned/ Old Quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent
1.	Thiru. P.Bhusankara Reddy	Kammandoddi Village & Shoolagiri Taluk	616/1A1	1.74.5 Ha
2.	Thiru.B.Yoganandha Reddy	Kammandoddi Village & Shoolagiri Taluk	653 (part 2)	3.12.0 Ha

## 3) Proposed quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status
1.	Thiru.P.Venkata Reddy	Kammandoddi Village & Shoolagiri Taluk	616/3 (Part-2)	2.75.0	Instant Proposal

The Total extent of the Existing / Lease expired / Proposed quarries are 15.78.5 Ha

## 10. Land Requirement

The total extent area of the project is 2.75.0 Ha, Government Poromboke land in Kammandoddi Village of Shoolagiri Taluk, Krishnagiri District.

**Table 8 Land Use Breakup**

SL. NO.	LAND USE	PRESENT AREA (HECT)	AREA IN USE DURING THE QUARRYING PERIOD (HECT)
1.	Area under Quarrying	1.22.0	1.99.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.01.0
4.	Green Belt & Dump	Nil	0.74.0
5.	Unutilized Area	1.52.0	Nil
	<b>Total</b>	<b>2.75.0</b>	<b>2.75.0</b>

## 11. Human Settlement

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

**Table 9 Habitation**

S.No	Direction	Village	Distance	Population
1	North	Pannapalli	1 Km	220
2	East	Chappadi Village	2.6 Km	320
3	South	Agaram Agraharam	1.7 km	430
4	West	Halekotta	2.3 km	260

## 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 : 33.7 °C

ii) Average Maximum Temperature. : 24.2 °C

iii) Average Annual Rainfall of the area : 922.8 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 (PM<sub>10</sub>), Sulphur Dioxide (SO<sub>2</sub>), Nitrogen Dioxide (NO<sub>2</sub>) were monitored, and the results are summarized below.

The baseline levels of PM<sub>10</sub> (59-35 µg/m<sup>3</sup>), PM<sub>2.5</sub> (28-16 µg/m<sup>3</sup>), SO<sub>2</sub> (13-5µg/m<sup>3</sup>), NO<sub>2</sub> (28-10 µg/m<sup>3</sup>), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from June to August 2022.

### **13.3 Noise Environment**

Ambient noise levels were measured at 5 locations around the proposed project site. The maximum Day noise and Night noise were found to be 55 dB(A) and 44 dB(A) respectively in Shoolagiri Police Station. The minimum Day Noise and Night noise were 49 dB(A) and 39 dB(A) respectively which was observed in Project Site & Government High School, Devasanapalli.

### **13.4 Water Environment**

- The average pH ranges from 6.97-7.9.
- /TDS value varied from 528 mg/l to 1395 mg/l
- Hardness varied from 220 to 859 mg/l
- Chloride varied from 72.8 to 362 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 6.45 to 8.51 with organic matter 1.4 % to 4.8 %. 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 Government Poromboke 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 Vilvam, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 80 trees per annum with interval 5m.
4. The rate of survival expected to be 70% in this area

**Table.10 Plantation/ Afforestation Program**

Scientific Name	Local Name
<i>Diospyro sebenum</i>	Karungali
<i>Aegle marmelos</i>	Vilvam
<i>Lagerstromia speciosa</i>	Poo Marudhu
<i>Toona ciliate</i>	Sandhana Vembu
<i>Morinda citrifolia</i>	Vellai nuna
<i>Pongamia Pinnata</i>	Pungam
<i>Prosopis cinera</i>	Vannimaram
<i>Syzygium cumini</i>	Naval
<i>Premna tomentosa</i>	Purangai Naari

<i>Litsea glutinosa</i>	Pisinpattai
<i>Chloroxylon sweitenia</i>	Purasamaram
<i>Strychnos potatorum</i>	Therthang Kottai

- The development of greenbelt in the periphery of the mine area.
- Trees will be planted along the sides of the lease boundary and avenues as well as Non-active dumps at a rate of 1250 trees with an interval of 5m in 3 rows with tall and long tree species alternative rows.

## **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 2,11,70,000** 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 .11 Project Cost details**

S. No.	Description	Cost
1	Project Cost	1,78,20,000
2	Expenditure Cost	30,00,000
3	EMP Cost	3,50,000
	<b>Total</b>	<b>2,11,70,000</b>

## 20. Corporate Environmental Responsibility

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

**Table 12 CER Cost**

S.No.	CER Activity	CER 2% of the project cost (Rs.)
1.	Developing Sports facilities and Providing Toilet, Water Filter facilities to Government Schools in Kammandoddi Village	<b>5,00,000</b>

## 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.