

Sep

2021

Executive Summary for Conducting Public Hearing

FOR

“Tmt.S.Menaka Rough Stone Quarry over a total extent of 1.50.0 Ha”

At

**S.No. 1 (Part) (Bit-3A) of Kondamanaickenpatti Village,
Senthamangalam Taluk, Namakkal District and Tamil
Nadu**

Project Proponent:

**Tmt.S.Menaka
W/o. V. Sribalan,
No.444, Main Road,
Senthamangalam Taluk,
Namakkal District – 637 409.**

Project termed under schedule 1(a) Category B₁

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EXECUTIVE SUMMARY

1. Project Background:

The Proposed project total extent area is 1.50.0 Ha, Government land in Kondamanaickenpatti Village of Senthamangalam Taluk, Namakkal District. The category of project is B1, It is a new Rough stone quarry in Kondamanaickenpatti 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 semi 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 15 m above ground level. The Total Geological reserve is about 16,84,500 m³ of Rough Stone. The Mineable Reserves of Rough stone is 6,55,000 m³. The year wise production/recoverable resources of rough stone for 5 years is 72,000 m³.

Mining Plan was approved by The Assistant Director, Dept. of Geology & Mining, Namakkal vide Roc No: 1446/Mines/2019 dated 20.03.2020. 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 New Rough Stone and Gravel Quarry over an extent of 1.50.0 Hectares land is located Kondamanaickenpatti Village of Senthamangalam Taluk, Namakkal District.

Mineral intends to quarry : Rough stone

District : Namakkal
 Taluk : Senthamangalam
 Village : Kondamanaickenpatti
 S. F. Nos. : 1 (Part) (Bit-3A)
 Extent : 1.50.0 Hectares

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	11°15'24.99"N to 11°15'30.69"N
2	Longitude	78°12'26.69"E to 78°12'31.43"E
3	Site Elevation above MSL	260 m from MSL
4	Topography	Elevated terrain
5	Land use of the site	Government land
6	Extent of lease area	1.50.0 Ha
7	Nearest highway	SH 95 - 2.53 km towards Eastern side
8	Nearest railway station	Namakkal Railway station - 4.46 Km - SW
9	Nearest airport	Salem Airport – 60.15 Km - NW
10	Nearest town / city	Town - Senthamangalam - 3.77 Km -NE City - Namakkal - 6.06 Km – SW District – Namakkal - 6.06 Km – SW
11	Rivers / Canal	Nil
12	Lake	<ul style="list-style-type: none"> • Vettambadi Lake – 2.44 km, SE • Palayapalayam Big Lake – 4.32 km, SE • Palayapalayam Small Lake – 5.14 km, SE • Namakkal Lake – 5.10 km, SW • Thusur Lake – 6.61 km, SW • Singilipatti Lake – 8.68 km, SW • Eranapuram Lake – 11.35 km, W • Rangappanaickenpalayam Lake – 12.29 km, SW • Thimdamangalam Lake – 13.93 km, SW • Boating Lake – 11.98 km, E • Puthur Lake – 13.79 km, NW
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 Forests	<ul style="list-style-type: none"> • Bailnadu South R.F – 13.27 km, NE • Jambuthu R.F – 7.73 km, E
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 Namakkal.
- ❖ 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.

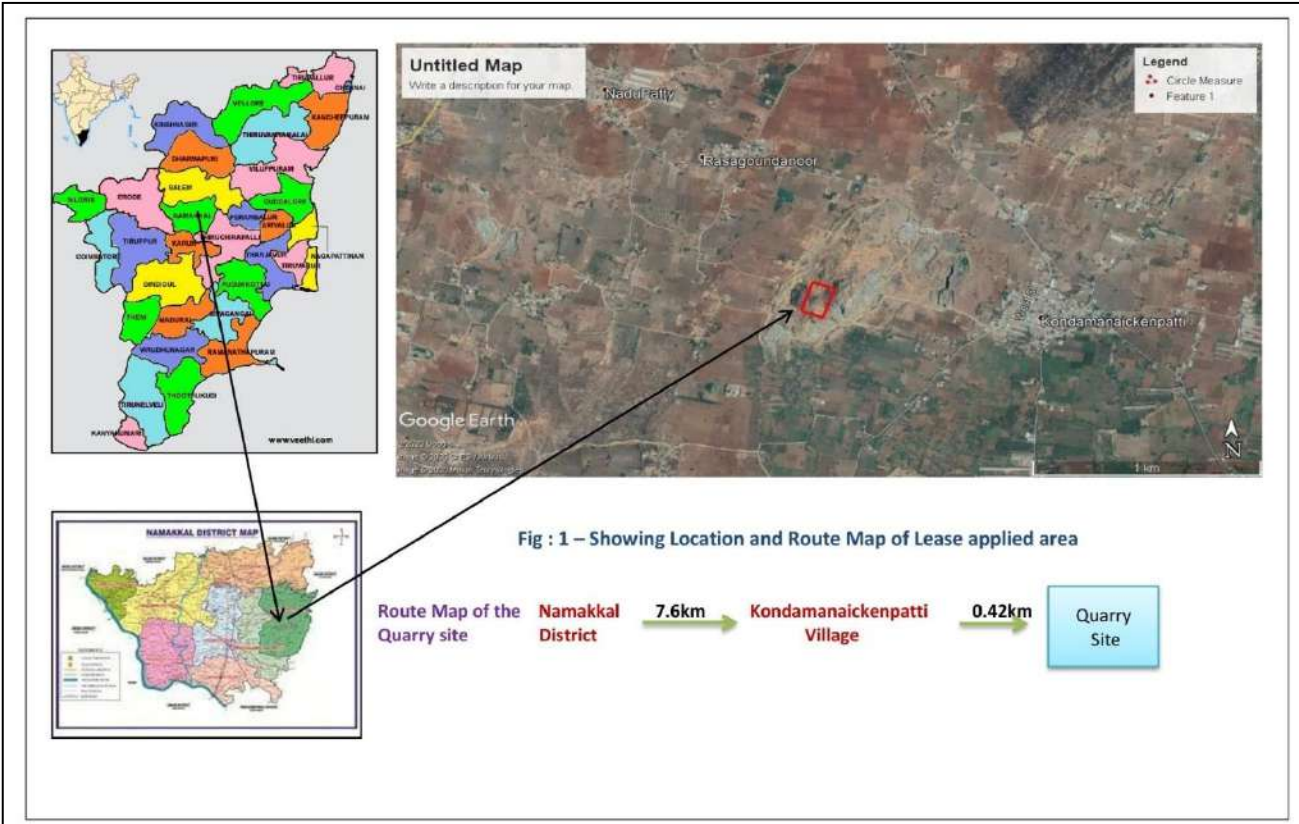


Figure 1: Location Map of the Project Site



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. Rough stone quarries are seen mainly in Rasipuram, Namakkal, Senthamanglam, Tiruchengode and few in Paramathivelur.

5. Geological Resources

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

Table 2. Geological resources

Topography	Section	Length in (m)	Width in (m)	Depth in (m)	Volume m ³	Geological Resources of Rough stone in m ³

Above Ground Level	XY-AB	69	100	50	345000	345000
	XY-CD	81	100	45	364500	364500
Below Ground Level	XY-AB	69	100	65	448500	448500
	XY-CD	81	100	65	526500	526500
TOTAL						1684500

Table 3. Year wise Production Plan

Topography	Year	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in m ³	Recoverable Reserves of Rough stone in m ³
Above Ground Level	I	XY-AB	260-255	49	59	5	14455	14455
TOTAL								14455
Above Ground Level	II	XY-AB	260-255	49	41	5	10045	10045
		XY-CD	255-250	23	37	5	4255	4255
TOTAL								14300
Above Ground Level	III	XY-CD	255-250	23	63	5	7245	7245
		XY-AB	255-250	69	22	5	7590	7590
TOTAL								14835
Above Ground Level	IV	XY-AB	255-250	69	42	5	14490	14490
TOTAL								14490
Above	V	XY-AB	255-	69	36	5	12420	12420

Ground Level		250						
	XY-CD	250-245	50	6	5	1500	1500	
TOTAL								13920
GRAND TOTAL								72000

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 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 32mm 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 2 KLD. Domestic water will be sourced from nearby Kondamanaickenpatti Village and other water will be source from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Source
Drinking Water	1 KLD	Packaged Drinking water vendors available in Kondamanaickenpatti village which is about 0.94 km from the project site

Green belt	0.5 KLD	Other domestic activities through road tankers supply.
Dust suppression	0.5 KLD	From road tankers supply.
Total	2 KLD	

8. Man Power

Total manpower required for the project is approximately 22 persons. Workers will be from nearby villages.

Table 5. Man Power

Management and Supervisor:	
Mines Manager (with valid statutory qualification)	1 No
Mines Foreman (with valid statutory qualification)	1 No
Mines Mate (with valid statutory qualification)	1 No
Blaster	1 No
Labours, Skilled, Semi-Skilled & Un-skilled	
Skilled (Operators- Excavator & Jackhammer)	5 Nos
Semi-skilled (Driver)	3 Nos
Unskilled (Musdoor/ Labours, Cleaners & Watch man)	10 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
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1	Organic	3.96 kg/day	Municipal bin including food waste
2	Inorganic	5.94 kg/day	TNPCB authorized recyclers

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

Table 7 500m Radius Cluster Mine

1) Abandoned Quarries:

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

2) Existing other quarries:

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Lease Period
1.	P.Subbarayan, S/o. Periyanna Gounder, 429, Main Road, Senthamangalam, Namakkal.	Kondamanaickenpatti Senthamangalam	1(Part) (Bit-5)	1.50.0	5 Years (20.01.2018 to 19.01.2023)
2.	V.Sri Balan, S/o. Varadharajan, 3/444, Main Road, Senthamangalam, Senthamangalam Taluk,	Kondamanaickenpatti Senthamangalam	1(Part) (Bit-8)	0.50.0	5 Years (20.01.2018 to 19.01.2023)

	Namakkal District.				
3.	P.Palanisamy, S/o.Perumal, 7/124A, Sakthinagar Colony. Vadukapatty, Kondamanaikanpatty (Po), Namakkal District.	Kondamanaickenpatti Senthamalgalam	1(Part) (Bit-7)	1.29.5	5 Years (20.01.2019 to 19.01.2024)
4.	R.Meenachi, President: Kurinji Mahalir Suya Udavi Gulu, Kondamanaickenpatty, Senthamalgalam Namakkal District.	Kondamanaickenpatti Senthamalgalam	1(Part) (Bit-6)	1.13.5	5 Years (20.01.2016 to 19.01.2021)

3) Proposed Quarries

S. No.	Name of the Owner	Village & Taluk	S.F.Nos.	Extent in Hect.	Distance
1.	Tmt.S.Menaka, W/o. V.Sribalan, No.444, Main Road, Senthamangalam Taluk, Namakkal District.	Kondamanaickenpatti Senthamalgalam	1(Part) (Bit-3A)	1.50.0	Proposed

The Total extent of the Existing / Lease expired / Proposed quarries are 5.93.0 Ha

10. Land Requirement

The total extent area of the project is 1.50.0 Ha, Government land in Kondamanaickenpatti Village of Senthamangalam Taluk, Namakkal 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	Nil	1.04.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	Nil	0.01.0
4.	Green Belt & Dump	Nil	0.10.0
5.	Unutilized Area	1.50.0	0.34.0
	Total	1.50.0Ha	1.50.0Ha

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	Village	Distance in Kms	Direction	Population
1	Kondamanaickenpatti	0.4 Km	South - East	675
2	Akkiyampatti	2.1 Km	North - East	540
3	Veesanam	2.0 Km	South - West	210
4	Rasagoundanur	0.7 Km	North - West	135

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 : 19 °C
- ii) Average Maximum Temperature. : 38 °C
- iii) Average Annual Rainfall of the area : 616 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 (61-38 µg/m³), PM2.5 (30-17 µg/m³), SO₂ (15-5µg/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 June to August 2021.

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 54 dB(A) and 45 dB(A) respectively in Vettambadi Co-op bank and Ration shop. The minimum Day Noise and Night noise were 44 dB(A) and 38 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7.69 – 7.89.
- TDS value varied from 1026 mg/l to 3310 mg/l
- Hardness varied from 696 to 1284 mg/l
- Chloride varied from 88.1 to 1086 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 7.06 to 7.37 with organic matter 0.25 to 0.39 %. 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 60 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area

Table.10 Plantation/ Afforestation Program

Year	Name of species	Place of planted	No of species	Spacing	Survival
2021	Neem/Pungam	North	60	5m	80%
2022	Naval	South	60	5m	80%
2023	Poovarasu/Pungam	East	60	5m	80%
2024	Naval/Pungam	South	60	5m	80%
2025	Neem	West	60	5m	80%
Total			300		

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 85,90,000** 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 .11 Project Cost details

S. No.	Description	Cost
1	Fixed Asset Cost	53,00,000
2	Operational Cost	20,00,000
3	EMP Cost	12,90,000
	Total	85,90,000

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.	Provision of basic amenities such as safe drinking water, Hygienic toilet facilities, furniture's, Solar lights to Kalaimagal Government School, Kondamanaickenpatti. Providing Projectors with internet facilities for enabling the government school children at higher secondary level for online classes and smart classes	1,71,800

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.