JUNE

2024

Executive Summary

Thiru.S.Venkatesan Grey Granite quarry- 3.22.0 Ha

For

PUBLIC HEARING

At

S.F No. 9 (Part) of Jagadevipalayam Village, Bargur taluk (formerly Krishnagiri Taluk), Krishnagiri District, Tamil Nadu.

PROJECT PROPONENT

Thiru.S.Venkatesan,
S/o.Subban,
No.26/1, CB Road,
Bargur Post,
Bargur Taluk (formerly Krishnagiri Taluk),
Krishnagiri District.

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

Prepared By:
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NABET

NABET Accreditated EIA Consultant
No.48, 2nd Main Road,
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EXECUTIVE SUMMARY

1. Project Background:

Thiru.S.Venkatesan had obtained Environmental Clearance from SEIAA for the quarry lease area 3.22.0 Ha in Survey number 9 (Part) of Jagadevipalayam Village, Bargur taluk (formerly Krishnagiri Taluk), Krishnagiri District, Tamil Nadu vide EC Lr. No. SEIAA-TN/F.No.4964/EC/1(a)/2863/2015 dated 15.02.2016 which was expired 13.02.2020.

The Proposed Grey Granite Quarry over an extent of 3.22.0 Ha at S.F.No.9 (Part) of Jagadevipalayam Village, Bargur Taluk, Krishnagiri District, Tamilnadu. Based on the 500m radius letter obtained from geology of mining, Krishnagiri vide letter no Roc.No.1166/2020/Mines dated 05.12.2020 proposal coming under Cluster of mine exceeding more than 5 Ha and the total cluster area is 9.97.5 Ha. We have submitted our fresh application for ToR to SEIAA vide Proposal No: SIA/TN/MIN/71690/2021 on 31.01.2022.

The category of the project is B1 (cluster), the lease area exhibits plain terrain and sloping towards south side covered with Grey 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 15m below ground level. The Total Geological reserve is about 3,82,992 m^3 of Grey Granite. The Mineable and the Recoverable reserves are 2,01,566 m^3 respectively, the proposed Year wise production is carried out 10,240 m^3 of Grey Granite is to be mined for (Sixty months) Five years only.

Mining plan was approved by Commissionerate of Geology and Mining, Guindy vide letter R.c.No.0489/MM4/2021 dated 12.02.2021. 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 Grey Granite Quarry over an extent of 3.22.0 Hectares land is located at Jagadevipalayam Village of Bargur Taluk (formerly Krishnagiri taluk) , Krishnagiri District.

Mineral intends to quarry : Grey Granite
District : Krishnagiri
Taluk : Bargur taluk (formerly Krishnagiri)
Village : Jagadevipalayam
S. F. Nos. : 9 (Part)
Extent : 3.22.0 Hectares

Table 1: Brief Description of the Project

S. No.	Particulars	Details
1	Latitude	12° 29' 25.93" N to 12° 29' 31.58" N
2	Longitude	78° 18' 42.34" E to 78° 18' 44.07" E
3	Site Elevation above MSL	478 m
4	Topography	Plain terrain
5	Land use of the site	Patta land
6	Extent of lease area	3.22.0 Ha
7	Nearest highway	NH 77 (Jagadevipalayam-Krishnagiri Road) – 1.5km, S
8	Nearest railway station	Tirupattur Railway Station – 28 km, E
9	Nearest airport	Bangalore Airport – 96km, NW
10	Nearest town / city	Town - Bargur- 7 Km -NE City - Krishnagiri – 11km, W District - Krishnagiri – 11km, W
11	Rivers / Canal	Nil
12	Lake	Modikuppam Lake – 4km, SW Marudepalli Lake – 4.5 km, W Orappam Lake – 6km, N

		Marachandiram Lake – 9.5 km, W Karadigollapatti Lake – 9km, SE
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	Bargur RF – 9km, NE Varatanapalli RF – 8km, N Thogarapallai RF – 3.5 km, S
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 Grey Granite for domestic market.

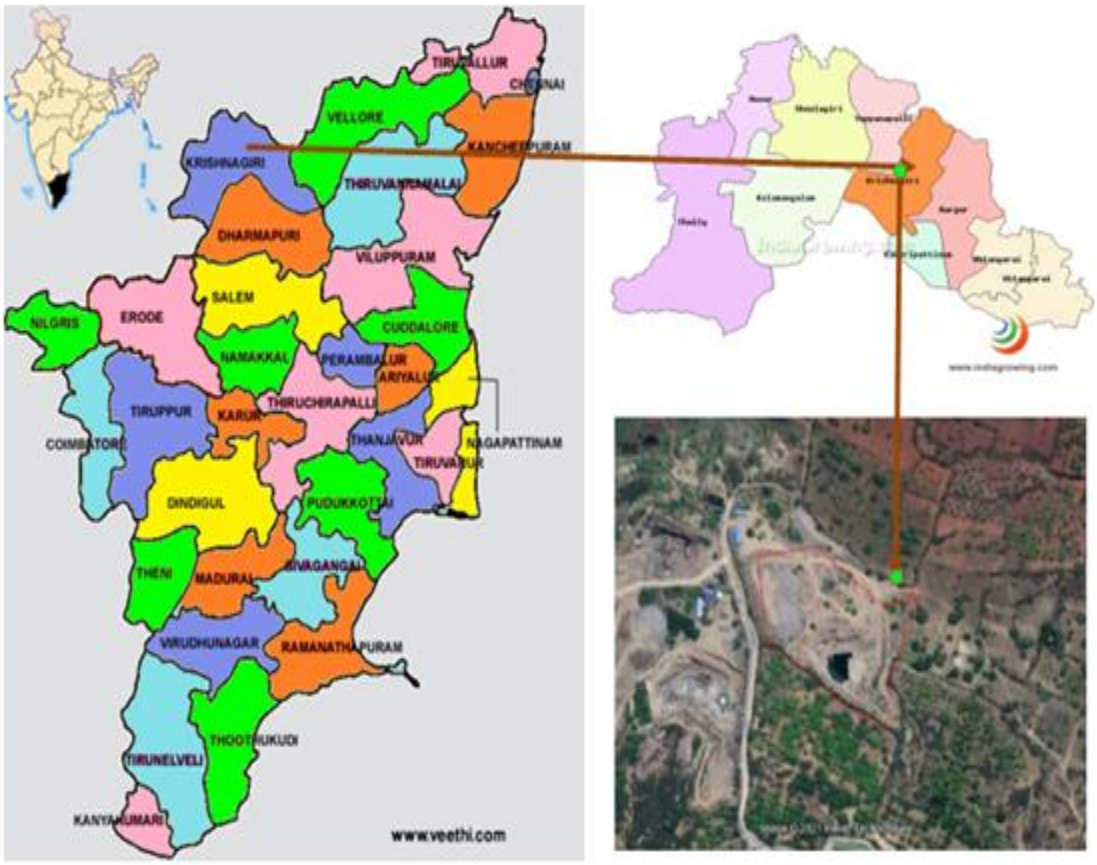

Figure 1: Location Map of the Project Site

Figure 2: Google Image of the Project Site

4. Grey Granite

The Grey 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 reserves have been calculated based on the cross section method.

Table 2. Geological resources

GEOLOGICAL RESERVES								
Section	**Bench**	**Length in (m)**	**Width in (m)**	**Depth in (m)**	**Top Soil in m3**	**Total Reserve m3**	**Recoverable Reserve (Grey Granite) 40% in m3**	**Granite Waste 60% in m3**
TOP SOIL								
XY-A1B1	I	75	120	1	9000			
XY-A2B2	I	42	140	1	5880			
XY-A3B3	I	1	69	1	69			
XY-A4B4	I	28	155	1	4340			
TOTAL					**19289**			
GREY GRANITE								
XY-A1B1	II	75	120	5		45000	18000	27000
	III	75	120	5		45000	18000	27000
	IV	75	120	5		45000	18000	27000

	V	75	120	5		45000	18000	27000
	VI	75	120	5		45000	18000	27000
	VII	75	120	5		45000	18000	27000
XY-A2B2	II	42	140	5		29400	11760	17640
	III	42	140	5		29400	11760	17640
	IV	42	140	5		29400	11760	17640
	V	42	140	5		29400	11760	17640
	VI	42	140	5		29400	11760	17640
	VII	42	140	5		29400	11760	17640
XY-A3B3	II	44	79	5		17380	6952	10428
	III	59	99	5		29205	11682	17523
	IV	59	139	5		41005	16402	24603
	V	59	139	5		41005	16402	24603
	VI	59	139	5		41005	16402	24603
	VII	59	139	5		41005	16402	24603
XY-A4B4	II	28	155	5		21700	8680	13020
	III	63	177	5		55755	22302	33453
	IV	63	177	5		55755	22302	33453
	V	63	177	5		55755	22302	33453
	VI	63	177	5		55755	22302	33453
	VII	63	177	5		55755	22302	33453
TOTAL					**19289**	**957480**	**382992**	**574488**

Table 3. Year wise Production Plan

YEARWISE DEVELOPMENT & PRODUCTION RESERVES								
Year	**Section**	**Bench**	**length in (m)**	**Width in (m)**	**Depth in (m)**	**Total Reserve m3**	**Grey Granite Production Recovery 40% in m3**	**Granite Waste 60% in m3**
04.03.2021 to 03.03.2022	XY-AB	II	8	5	5	200	80	120
		III	50	20	5	5000	2000	3000
		TOTAL				**5200**	**2080**	**3120**
04.03.2022 to 03.03.2023	XY-AB	III	15	20	5	1500	600	900
		IV	13	54	5	3510	1404	2106
		TOTAL				**5010**	**2004**	**3006**
04.03.2023 to 03.03.2024	XY-AB	IV	19	54	5	5130	2052	3078
		TOTAL				**5130**	**2052**	**3078**
04.03.2024 to 03.03.2025	XY-AB	IV	19	54	5	5130	2052	3078
		TOTAL				**5130**	**2052**	**3078**
04.03.2025 to 03.03.2026		IV	19	54	5	5130	2052	3078
		TOTAL				**5130**	**2052**	**3078**
	GRAND TOTAL					**25600**	**10240**	**15360**

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 2.08 KLD. Domestic water will be sourced from nearby Balinayanapalli Village and other water will be source from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Source
Drinking Water	1.08 KLD	Packaged Drinking water vendors available in Balinayanapalli village which is about 1.0 Km north of the area.
Green belt	0.5 KLD	Other domestic activities through road tankers supply.
Dust suppression	0.5 KLD	From road tankers supply.
Total	**2.08 KLD**	

8. Man Power

Total manpower required for the project is approximately 24 persons. Workers will be from nearby villages.

Table 5. Man Power

S.No.	Name of the Employment	No. of Employees
1.	Project Manager	1 No.
2.	Record Clerk	1 No.
3.	Skilled	
	Compressor and Wagon Drill operators	1 No.
	Drillers /Workers	5 No.
	Excavator / Rock Breaker Operators	3 No.
	Vehicle Drivers	2 No.
4.	Semi – skilled	
	Watchman	1No.
5.	Unskilled	
	Dressor/Cutter	10 Nos.
	Total	**24 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	4.32 kg/day	Municipal bin including food waste
2	Inorganic	6.48 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 quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period

1.	Thiru. S. Venkatesan	Jagadeveipalayam Village & Bargur Taluk	9 (Part)	3.22.0	04.03.2016 to 03.03.2036 **Instant Proposal**
2.	Tmt.Mariam Banu	Chendarapalli Village & Krishnagiri Taluk	378/3, 379/7, 379/8	3.90.0	01.03.2016 to 29.02.2036
3.	Thiru.S.Ameed	Chendarapalli Village & Krishnagiri Taluk	377/1B, 378/2, 377/2A, 378/1, 377/2B, 377/1A1B, 377/1A2	2.85.5	03.03.2016 to 02.03.2036

2) Abandoned/Old quarries:

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

3) Details of Proposed quarries:

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

4) Details of applied area:

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

The Total extent of the Existing / Lease expired / Proposed quarries are 9.97.5 Ha

10. Land Requirement

The total extent area of the project is 3.22.0 Ha, Patta land in Jagadevipalayam Village of Bargur taluk (formerly Krishnagiri Taluk), Krishnagiri District.

Table 8 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	0.66.2	0.05.3	2.65.9
Dumps	0.61.2	0.61.2	Backfilling
Stockyard	Nil	Nil	Nil
Infrastructure	Nil	0.02.0	0.02.0
Roads	0.02.0	0.03.0	0.05.0
Green Belt	Nil	0.37.3	0.49.1
Unutilized Area	1.92.6	0.83.8	Nil
Grand Total	**3.22.0**	**1.92.6**	**3.22.0**

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	Name of the Village	Approximate Distance	Approximate population
1	North	Balinayanapalli	1.0km	400
2	West	Soolamalai	3.7km	600
3	East	Kondappanayakempalli	3.6km	150
4	South	Jagadevi	1.2km	600

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 ^{0}C

ii) Average Maximum Temperature. : 40 ^{0}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 (57-33 µg/m³), PM2.5 (27-14 µg/m³), SO2 (11-5µg/m³), NO2 (24-10 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from March to June 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 60 dB(A) and 44 dB(A) respectively in AES Higher Secondary School. The minimum Day Noise and Night noise were 41 dB(A) and 33 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7.21-8.05
- TDS value varied from 415 mg/l to 794 mg/l
- Hardness varied from 176.2 to 526.7 mg/l
- Chloride varied from 48.9 to 137 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 7.25 to 8.50 with organic matter 0.2 % to 3.9 %. 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 Casuarina & Pungan 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 80% in this area

Table 10 Plantation/ Afforestation Program

Year	Name of species	No of species	Spacing	Survival
04.03.2021-03.03.2022	Casuarina & Pungan	80	5m	80%
04.03.2022-03.03.2023	Casuarina & Pungan	80	5m	80%
04.03.2023-03.03.2024	Casuarina & Pungan	80	5m	80%
04.03.2024-03.03.2025	Casuarina & Pungan	80	5m	80%
04.03.2025-03.03.2026	Casuarina & Pungan	80	5m	80%
	Total	**400**		

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.1,37,30,000** 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 11 Project Cost details

S. No.	Description	Cost
1	Fixed Asset Cost	38,50,000
2	Operational Cost	95,00,000
3	EMP Cost	3,80,000
	Total	**1,37,30,000**

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.	Developing the library, Sports/Drinking water facilities in nearby school	**2,74,600**

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.