

July

2023

**Executive Summary for Conducting Public Hearing**

**FOR**

**“Rough Stone Quarry over a total extent of 3.00.0 Ha**

**At**

**S Rough Stone Quarry over a total extent of 3.00.0 Ha at  
S.F. Nos.: 220/1 Part – 2 of Gopanapalli Village, Hosur  
Taluk, and Krishnagiri District, Tamilnadu**

**Project Proponent:**

**Thiru. C.Nithin Reddy,  
S/o. Chandra Reddy,  
No. 83, Avadadenahalli Village,  
Marsur post,  
Anekal Taluk,  
Bangalore district - 562106**

**Project termed under schedule 1(a) Category B<sub>1</sub>**

**Prepared By:**

**Ecotech Labs Pvt. Ltd.**



**NABET Accredited EIA Consultant**

**48, 2<sup>nd</sup> Main road, Ram Nagar South Extension,**

**Pallikarani**

**Chennai -600100**



## EXECUTIVE SUMMARY

### 1. Project Background:

The Proposed project total extent area is 3.00.0 Ha, It is a government Poromboke land in S.F.No.220/1 Part-2 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 5 m and bench width is 5 m. The thickness of topsoil in this area is 3.0 m .

The quarry operation is proposed up to depth of 48 m-topsoil 3.0 m + Rough stone 45 m (surface ground level above height is 5 m and surface ground level below depth is 43 m ). The total Geological Resources is about 1644538 m<sup>3</sup> of Rough stone. The Mineable Reserves and proposed yearwise production is carried out 565895 m<sup>3</sup> of Rough stone to be mined for ten years. The precise area letter and relevant mining laws in force. Mining Plan was approved by The Assistant Director, Dept of Geology and Mining vide Letter Rc.No.536/2022 Mines dated: 04.08.2022. Precise area communication letter was approved by District Collector, Krishnagiri district vide Letter Na.Ka.En.536/2022/Kanimam dated: 06.05.2022.

The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wildlife sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

### 2. NATURE & SIZE OF THE PROJECT

The Rough Stone Quarry over an extent of 3.00.0 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. :220/1 Part-2  
 Extent : 3.00.0 Hectares

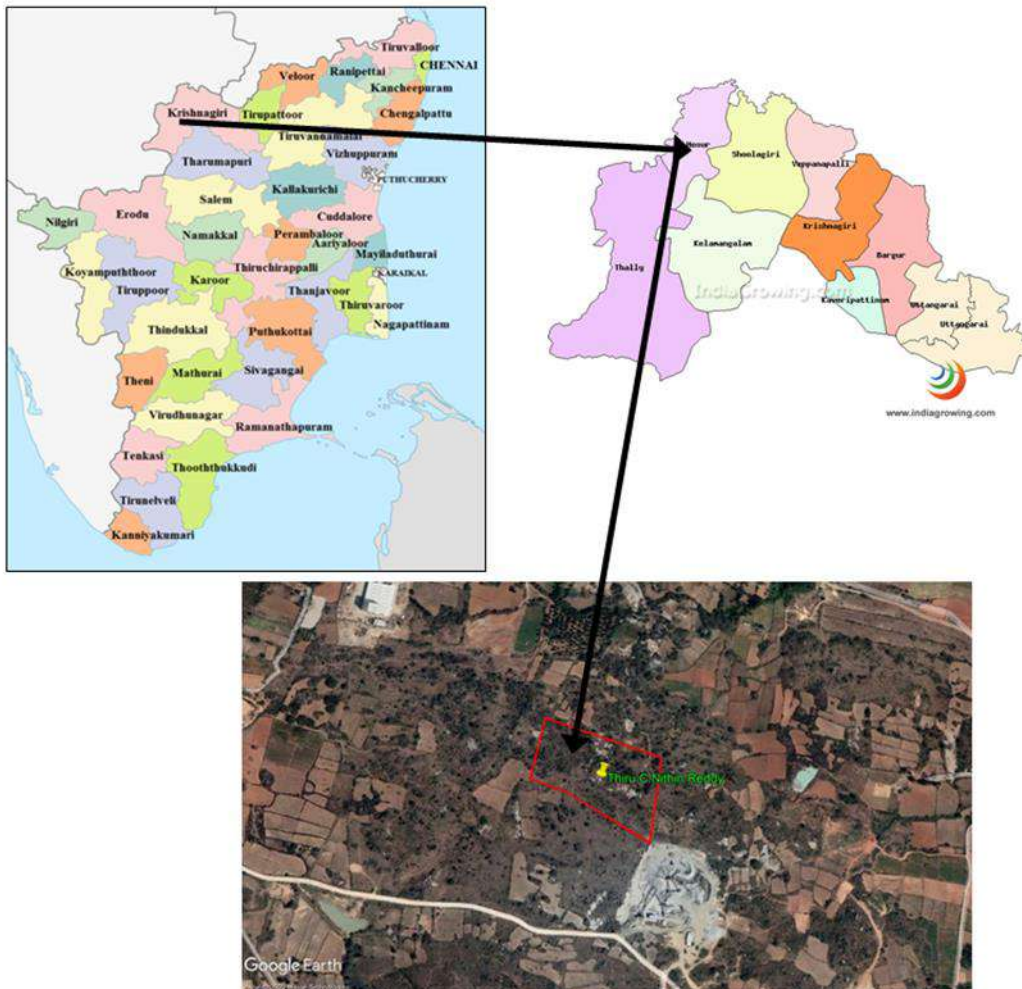
**Table 1: Brief Description of the Project**

S. No	Particulars	Details
1	Latitude	Latitude : 12°37'54.3668"N to 12°37'53.1120"N
2	Longitude	Longitude : 77°48'40.8039"E to 77°48'32.8686"E
3	Site Elevation above MSL	882 m from MSL
4	Topography	Hilly terrain topography
5	Land use of the site	Government Poramboke
6	Extent of lease area	3.00.0 Ha
7	Nearest highway	SH 17A – Hosur - Denkanikottai Road -2.78 km - W
8	Nearest railway station	Hosur Railway Station – 9.64 Km –N
9	Nearest airport	Hosur Airport – 6.12 Km - NW
10	Nearest town / city	<ul style="list-style-type: none"> <li>• Town - Hosur – 12 Km – N</li> <li>• City - Hosur – 12 Km – N</li> <li>• District - Krishnagiri –45.46 Km - SE</li> </ul>
11	Rivers / Canal	<ul style="list-style-type: none"> <li>• Ponnaiyar River, 14.9 km, NE</li> </ul>
12	Lake	<ul style="list-style-type: none"> <li>❖ Devaganapalli Lake, 1.71 km, NW</li> <li>❖ Nagondapalli Lake, 5.08 km, NW</li> <li>❖ Jona Banda Lake – 6.03 km, NE</li> <li>❖ Achettapalli Lake, 6.18 km, N</li> <li>❖ Poonapalli Lake, 7.35 km, NW</li> <li>❖ Mathigiri lake, 6.23 km, N</li> <li>❖ Onnalvadi Lake – 8.59 km, NE</li> <li>❖ Karapalli Lake, 9.62 km, NNE</li> </ul>
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"> <li>❖ Sanamavu Reserve Forest, 7.82 km, E</li> <li>❖ Denkanikottai Reserve Forest, 12.9 km, S</li> <li>❖ Udedurugam R.F. – 13.9 km, SE</li> <li>❖ Perandapalli R.F. – 11.4 km, NE</li> </ul>
17	Seismicity	Proposed Lease area comes under Seismic zone-II

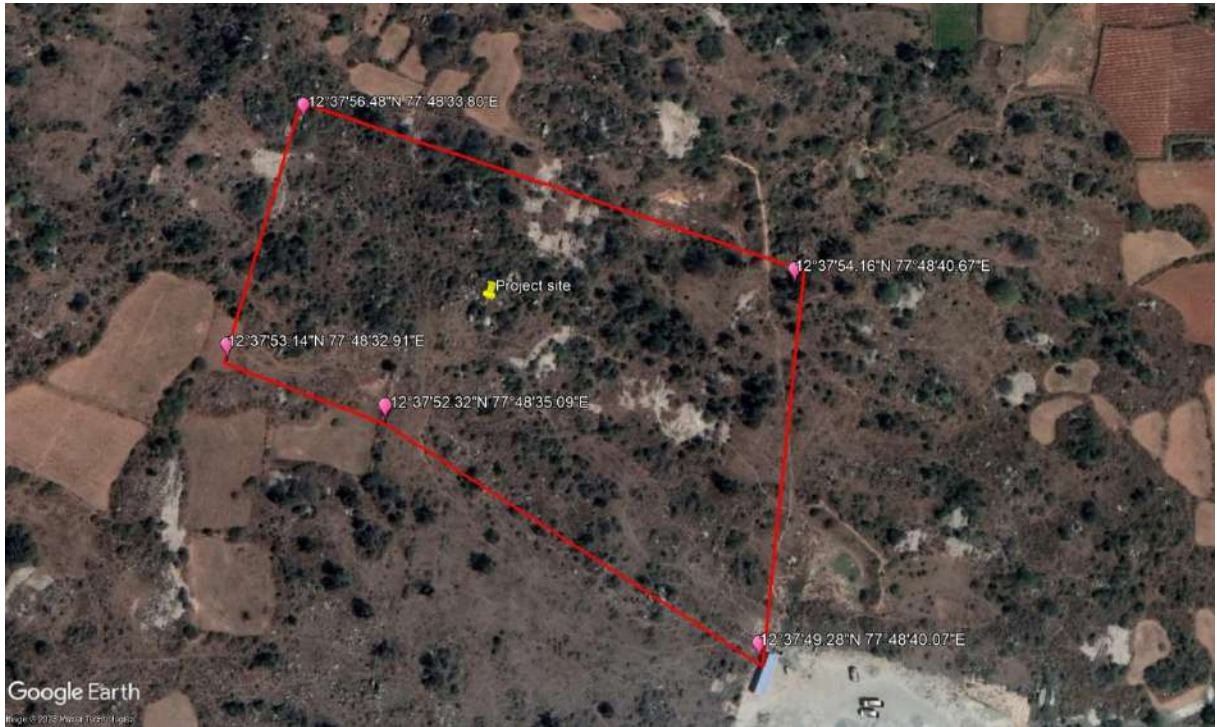
18	Defense Installations	Nil
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## 2.NEED FOR THE PROJECT

- ❖ 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**

<b>Geological Reserves</b>
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Section	Bench	L (m)	W (m)	D (m)	Volume in (Cu.m.)	Geological Reserve in Cu.m(100%)	Topsoil (Gravel) in Cu.m.
XY-AB	I	120	116	3			41760
	II	120	116	5	69600	69600	
	III	120	116	5	69600	69600	
	IV	120	116	5	69600	69600	
	V	120	116	5	69600	69600	
	VI	120	116	5	69600	69600	
	VII	120	116	5	69600	69600	
	VIII	120	116	5	69600	69600	
	IX	120	116	5	69600	69600	
<b>Total=</b>					<b>626400</b>	<b>626400</b>	<b>41760</b>
XY-CD	I	117	137	3			48087
	II	67	137	5	45896	45896	
	III	117	137	5	80145	80145	
	IV	117	137	5	80145	80145	
	V	117	137	5	80145	80145	
	VI	117	137	5	80145	80145	
	VII	117	137	5	80145	80145	
	VIII	117	137	5	80145	80145	
	IX	117	137	5	80145	80145	
<b>Total=</b>					<b>687055</b>	<b>687055</b>	<b>48087</b>
<b>Grand Total=</b>					<b>1313455</b>	<b>1313455</b>	<b>89847</b>

**Table 3. Mineable Resources**

Mineable Reserves							
Section	Bench	L (m)	W (m)	D (m)	Volume in (Cu.m.)	Recoverable Reserve Cu.m(100%)	Topsoil (Gravel) Cu.m.
XY-AB	I	110	98	3			32340
	II	109	97	5	52865	52865	
	III	104	87	5	45240	45240	
	IV	99	77	5	38115	38115	
	V	94	67	5	31490	31490	
	VI	89	57	5	25365	25365	
	VII	84	47	5	19740	19740	
	VIII	79	37	5	14615	14615	
	IX	74	27	5	9990	9990	
	X	69	17	5	5865	5865	
<b>Total=</b>					<b>234285</b>	<b>234285</b>	<b>32340</b>
XY-CD	I	107	119	3			38199
	II	67	118	5	39530	39530	

	III	106	112	5	59360	59360	
	IV	101	102	5	51510	51510	
	V	96	92	5	44160	44160	
	VI	91	82	5	37310	37310	
	VII	86	72	5	30960	30960	
	VIII	81	62	5	25110	25110	
	IX	76	52	5	19760	19760	
	X	71	42	5	14910	14910	
<b>Total=</b>					<b>322610</b>	<b>322610</b>	<b>38199</b>
<b>Grand Total=</b>					<b>565895</b>	<b>565895</b>	<b>70539</b>

**Table 4. Year wise Production Plan**

<b>Year wise Development and Production ( First Five (I-V)Years)</b>								
<b>Year</b>	<b>Section</b>	<b>Bench</b>	<b>L (m)</b>	<b>W (m)</b>	<b>D (m)</b>	<b>Volume in (Cu.m.)</b>	<b>Recoverable Reserve Cu.m(100%)</b>	<b>Topsoil (Gravel) in Cu.m.</b>
I-YEAR	XY-AB	I	110	98	3			32340
		II	109	97	7	52865	52865	
	XY-CD	I	107	119	3			38199
		II	67	118	7	39530	39530	
II-YEAR	XY-AB	III	104	87	7	45240	45240	
III-YEAR	XY-AB	III	106	112	7	59360	59360	
IV-YEAR	XY-AB	IV	99	77	7	38115	38115	
	XY-CD	IV	101	102	7	51510	51510	
V-YEAR	XY-AB	V	94	67	7	31490	31490	
	XY-CD	V	96	92	7	44160	44160	
<b>Total (I-V Years) =</b>						<b>362270</b>	<b>362270</b>	<b>70539</b>

The proposed rate of production of Rough stone is estimated as 362270 m<sup>3</sup> for first five (I-V) years. The average proposed rate of production of Rough stone about 92395 m<sup>3</sup>.

<b>Year wise Development and Production (Second Five (VI-X)Years)</b>							
<b>Year</b>	<b>Section</b>	<b>Bench</b>	<b>L (m)</b>	<b>W (m)</b>	<b>D (m)</b>	<b>Volume (Cu.m.)</b>	<b>Recoverable Reserve Cu.m(100%)</b>
VI-YEAR	XY-AB	VI	89	57	5	25365	25365
	XY-CD	VI	91	82	5	37310	37310
VII-YEAR	XY-AB	VII	84	47	5	19740	19740
	XY-CD	VII	86	72	5	30960	30960
VIII-YEAR	XY-AB	VIII	79	37	5	14615	14615
	XY-CD	VIII	81	62	5	25110	25110
IX-YEAR	XY-AB	IX	74	27	5	9990	9990



	XY-CD	IX	76	52	5	19760	19760
X - YEAR	XY-AB	X	69	71	5	5865	5865
	XY-CD	X	71	42	5	14910	14910
<b>TOTAL (VI-X Years) =</b>						<b>203625</b>	<b>203625</b>

The proposed rate of production of Rough stone is estimated as 203625 m<sup>3</sup> for the next five (VI-X) years. The average proposed rate of production of Rough stone about 62675 m<sup>3</sup>

## 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	0.9 KLD	Packaged Drinking water vendors available in Goolisandram Village which is about 0.37 km from NNW side of the area.
Green belt	0.5 KLD	From Hired Water Tanker.
Dust suppression	0.5 KLD	From Hired Water Tanker.

<b>Total</b>	<b>1.9 KLD</b>	
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### 8. Manpower

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

**Table 6. Man Power**

1.	Skilled	Operators	2 No.
		Mechanic	1 No.
		Blaster	1 No.
2.	Semi – skilled	Drivers	2 Nos
3.	Unskilled	Musdoor / Labors	5 Nos
		Cleaners	3 Nos
		Office boy	1 No
4.	Management & Supervisory		3 Nos
<b>Total</b>			<b>18 Nos</b>

### 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 lessee	Village & Taluk	Mineral	S.F.No	Extent in Ha	GO No. & Date	Lease Period
1.	P.Nagarajareddy, S/o. Pappeireddy, D.No.2/32, Balageri Village, Mudhuganapalli Post, Hosur, Krishnagiri	Hospauram village, Denkanikottai Taluk	Rough stone	457 (Part 1)	2.00.0	Rc. No. 111/2016/ Mines dated: 08.08.2016	17.08.2016 To 16.08.2026
2.	P.Venkata reddy,	Hosapuram village,	Rough stone	457 (Part 2)	3.70.0	Rc.No.112 / 2016/	26.02.2020 to

	S/o Pedha Oul Reddy, 3/213, Periya Kodipalli Village, Kempat, Muttur, Denkanikottai, Krishnagiri	Denkanikottai taluk				Mines dated: 26.02.2020	25.02.2030
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## 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	Gopanapalli village, Hosur taluk	381(Part-1)	1.30.0	Precise area given
2	M/s. Natural stone	Gopanapalli village, Hosur taluk	220/1(Part-1)	3.00.0	Precise area given
3	Thiru. Nithin Reddy	Gopanapalli village, Hosur taluk	220/1(Part-2)	3.00.0	Instant Proposal
4	Thiru. Sri Krish	Gopanapalli village, Hosur taluk	220/1(Part-3)	3.00.0	Precise area given
5	Thiru.Vijayakumar	Gopanapalli village, Hosur taluk	220/1(Part-4)	2.00.0	Precise area given
6	Thiru. Dhivakar	Gopanapalli village, Hosur taluk	381/1(Part-2)	1.50.0	Precise area given

## 10. Land Requirement

The total extent area of the project is 3.00.0 Ha, government Poromboke Land in Village of Gopanapalli, Hosur Taluk, and Krishnagiri District.

**Table 9 Land Use Breakup**

<b>S. No.</b>	<b>Land Use</b>	<b>Present Area (Ha)</b>	<b>Area in use during the quarrying period (Ha)</b>
1.	Quarrying Pit	Nil	2.36.0
2.	Infrastructure	Nil	0.01.0
3.	Roads	Nil	0.01.0
4.	Green Belt	Nil	0.62.0
5.	Unutilized	3.00.0	Nil
	<b>Total</b>	<b>3.00.0</b>	<b>3.00.0</b>

## 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**

<b>S.No</b>	<b>Name of the Village</b>	<b>Approximate distance</b>	<b>Direction from lease applied area</b>	<b>Approximate Habitations</b>
1.	Goolisandram	1.0Km	North	185
2.	Pothasandhira	2.5Km	East	250
3.	Nagappan Agraharam	1.5Km	South	370
4.	Agraharam	3.0Km	West	310

## 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 (SO<sub>2</sub>), and Nitrogen Dioxide (NO<sub>2</sub>) were monitored and the results are summarized below.

The baseline levels of PM<sub>10</sub> (39- 66 µg/m<sup>3</sup>), PM<sub>2.5</sub> ( 15- 34 µg/m<sup>3</sup>), SO<sub>2</sub> (6-21 µg/m<sup>3</sup>), NO<sub>2</sub> (10-37 µg/m<sup>3</sup>), 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**

<b>Name of species proposed</b>	<b>Survival</b>	<b>No of species</b>
Neem, Vilvam, Vaagai, Eachai, Naval, Mantharai, Magizha Maram, Vila Maram, Poo Marudhu, Panai, Marudha maram, Thandri, Sengondrai, Poovarasu, Thethankottai Maram, Pungam	80%	1500
<b>Total</b>		<b>1500</b>

## **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 46390000/-** 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**

<b>S. No.</b>	<b>Description</b>	<b>Cost (Rs.)</b>
1	Fixed cost	Rs.43890000/-
2	Operational cost	Rs.25,00,000/-
3	Total	Rs.46390000

##### **20. Corporate Environmental Responsibility**

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

**Table 13 CER Cost**

<b>S.No.</b>	<b>CER Activity</b>	<b>CER value (Rs)</b>
1.	Provision of basic amenities such as safe drinking water, Hygienic toilet facilities, furniture's, Greenbelt development and Environmental awareness books in library, Solar lights to Govt Middle School, Gopanahalli	5,00,000
<b>Total</b>		<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.