

MAY 2024

# Application Form ( Draft EIA Report)

For

Thiru. S. Chinnanna , Rough Stone Quarry – 2.80.0 Ha  
at

S.F.Nos. 136 (PART-I) of Venkatesapuram Village,  
Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State.

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

Category of the Project: B1

*Baseline Period: October 2023 – December 2023*

Project Termed under schedule 1(a) Category B1

*Environmental Consultant  
& Laboratory details:*  
Ecotech Labs Pvt Ltd,



No 48, 2nd Main road,  
South extension Ram Nagar,  
Pallikaranai,  
Chennai -600100.

*Proponent details:*

Thiru. S. Chinnanna,  
No. 1-39A,

Machinaickanapalli Village,  
Panchakshipuram Post,

Hosur Taluk,  
Krishnagiri District.

Application Form For ToR

**From,**

**Thiru. S. Chinnanna**

S/o. Srinivasan,  
NO.1-39A, Machinaickanapalli Village,  
Panchakshipuram Post,  
Hosur Taluk,  
Krishnagiri District.

**To,**

**The District Environmental Engineer**

Tamilnadu Pollution Control Board,  
Plot No:140A, SIPCOT Industrial Complex,  
Hosur, Krishnagiri – 635 126.

**Sub: Request to Conduct Public Hearing** – Environmental Clearance for the “Thiru. S. Chinnanna Rough Stone Quarry” over a total extent of 2.80.00 Ha at S. F. Nos. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu – Reg

**Ref:** Letter No. SEIAA-TN/F. No. 10429/ ToR-1600/2023 Dated: 07.11.2023.

**Dear Sir,**

Please find enclosed herewith the application of Draft EIA Report along with necessary enclosures towards seeking environmental clearance for the “Thiru. S. Chinnanna Rough Stone Quarry” over a total extent of 2.80.00 Ha at S. F. Nos. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu. In this regard, we had obtained the Terms of Reference from State Environmental Impact Assessment Authority (SEIAA) TamilNadu; vide reference mentioned above for conducting EIA studies. We wish to inform that the draft EIA report complying with all the conditions mentioned in the TOR has been prepared and the copies of the same are enclosed with this letter. With reference to the above, we kindly request the TNPCB to make the necessary arrangements for **Conducting the Public hearing for the Rough Stone Quarry**. With the above, we request the TNPCB to accept and process our application for conducting the Public Hearing at the earliest.

**Thanking you**

**Yours faithfully**

Authorized Signatory

Enclosures: Draft EIA Report

**Thiru. S. Chinnanna**

S/o. Srinivasan,  
NO.1-39A, Machinaickanapalli Village,  
Panchakshipuram Post,  
Hosur Taluk,  
Krishnagiri District.

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## **UNDERTAKING**

We, Thiru.S.Chinnanna, undertaking that the Draft Environmental Impact Assessment (EIA) Report for Rough Stone Quarry over an extent of 2.80.0 Ha at S.F.No. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State under project category B1 and Schedule S.No.1(a).

ToR issued by the State Expert Appraisal Committee, TN vide Letter No. SEIAA-TN/F. No. 10429/ ToR-1600/2023 Dated: 07.11.2023.

I, hereby assure that all the information and data provided in the EIA report is accurate, true and correct and owns responsibility for the same.

Yours Faithfully,  
Thiru. S. Chinnanna

Place: Krishnagiri.

Date:

Plot No.48A, 2nd Main Road,  
Ram Nagar, South Extension,  
Pallikarantal, Chennai - 600 100.  
GST NO. 33AADCE6103A22H  
PAN NO. AADCE6103A



**Eco Tech Labs Pvt Ltd**

Cell No: 98400 87542  
Email : info@ecotechlabs.in  
Website : www.ecotechlabs.in  
CIN : U74900TN2014PTC094895

## **UNDERTAKING**

I, Dr. A. Dhamodharan, Managing Director confirms that this Draft EIA Report of Rough Stone Quarry over an extent of 2.80.0 Ha at S.F.No. 136 (Part-I) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State has been prepared at M/s. Ecotech Labs Pvt. Ltd., Chennai.

I also confirm that I shall be fully accountable for any miss-leading information mentioned in this Report.

Signature:

Name: Dr. A. Dhamodharan

Designation: Managing Director

Name of the EIA Consultant Organization: M/s. Ecotech Labs Pvt Ltd., Chennai.

NABET Certificate No: NABET/EIA/2124/SA 0147.


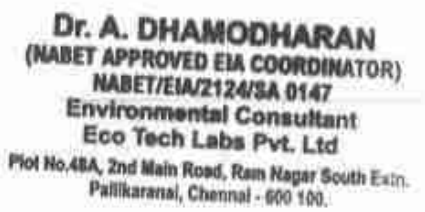
Place: Chennai

Date:

## Declaration of Experts contributing to the EIA




Declaration by experts contributing to the EIA report for Rough Stone Quarry (minor mineral) mining project of Thiru. S. Chinnanna Rough Stone Quarry over a total extent of 2.80.0 Ha at S.F.No. 136 (Part-I) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State.





I, hereby certify that I was a part of the EIA team in the following capacity that developed the above EIA.





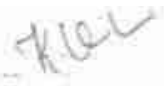
<b>Project</b>	Rough Stone Quarry - 2.80.0 Ha
<b>Type &amp; Category</b>	1 (a) Mining of Minerals
<b>Project Proponent</b>	Thiru. S. Chinnanna
<b>Environment Consultant with their Accreditation Status</b>	M/s. Eco Tech Labs Pvt. Ltd., QCI Accredited
<b>NABET Certificate No.</b>	NABET/ EIA/2124/ SA 0147
<b>EIA Coordinator Name</b>	Dr. A. Dhamodharan (Mining of Minerals)
<b>Signature</b>	 
<b>Period of Involvement</b>	October 2023 to December 2023
<b>Contact Information</b>	<b>M/s. Eco Tech Labs Pvt. Ltd.</b> No. 48, 2nd Main Road, Ram Nagar South Extension Pallikaranai, Chennai - 600 100 Mobile: +91 9789906200 E-mail: dhamo@ecotechlabs.in

### Functional Area Experts

The basic fact division that environment and laboratory are accredited by NABL and Ministry of Environment and Forests, India and by other international bodies, stand testimony to its emphasis.

S. No.	Functional areas	Name of the experts	Involvement (period and task)	Signature and date
1	AP	Mrs. K. Vijayalakshmi	<p>1. Selection of Baseline Monitoring stations based on the wind direction.</p> <p>2. Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area.</p> <p>3. Identification of sources of air pollution and suggesting mitigation measures to minimize impact.</p> <p><b>Period: March 2022 – Till now</b></p>	
2	WP	Dr. A. Dhamodharan	<p>1. Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface water to be studied.</p> <p>2. Interpretation of baseline data collected</p> <p>3. Identification of impacts based on the baseline study conducted and also to the ground water and nearby surface water due to the proposed project</p> <p>4. Preparation of suitable and appropriate mitigation plan.</p> <p><b>Period: March 2022 – Till now</b></p>	
3	SHW	Dr. A. Dhamodharan	<p>1. Identification of nature of solid waste generated</p> <p>2. Categorization of the generated waste and estimating the quantity of waste to be generated based on the per capita basis. Identification of impacts of SHW on Environment</p> <p>3. Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated</p> <p>4. Top soil and refuse management</p> <p><b>Period: March 2022 – Till now</b></p>	

4	SE	Mr. S. Pandian	<p>1. Primary data collection through the census questionnaire</p> <p>2. Obtaining Secondary data from authenticated sources and incorporating the same in EIA report.</p> <p>3. Impact assessment &amp; proposing suitable mitigation plan</p> <p>4. CSR budget allocation by discussing with the local body and allotting the same for need based activity.</p> <p><b>Period: March 2022 – Till now</b></p> <p><b>*INVOLVES PUBLIC HEARING</b></p>	
5	EB	Dr. A. Dhamodharan	<p>1. Primary data collection through field survey and sheet observation for ecology and biodiversity</p> <p>2. Secondary Collection through various authenticated sources</p> <p>3. Prediction of anticipated impacts and suggesting appropriate mitigation measures.</p> <p><b>Period: March 2022 – Till now</b></p>	
6	HG	Dr. T. P. Natesan	<p>1. Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures</p> <p>2. Determination of groundwater use pattern, development of rainwater harvesting program. Storm water management through garland drainage system.</p> <p><b>Period: March 2022 – Till now</b></p>	
7	GEO	Dr. T. P. Natesan	<p>1. Field survey for assessing regional and local geology, aquifer distribution, Determination of groundwater use pattern, development of rainwater harvesting program.</p> <p><b>Period: March 2022 – Till now</b></p>	

8	SC	Dr. A. Dhamodharan	<p>1. Interpretation of baseline report</p> <p>2. Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures.</p> <p><b>Period: March 2022 – Till now</b></p>	
9	AQ	Mrs. K. Vijayalakshmi	<p>1. Collection of Meteorological data for the baseline study period</p> <p>2. Plotting wind rose plot and thereby selecting the monitoring locations based on the wind pattern</p> <p>3. Estimation of sources of air emissions and air quality modeling is done</p> <p>4. Interpretation of the results obtained</p> <p>5. Identification of the impacts and suggesting suitable mitigation measures.</p> <p><b>Period: March 2022 – Till now</b></p>	
10	NV	Mrs. K. Vijayalakshmi	<p>1. Selection of monitoring locations</p> <p>2. Interpretation of baseline data</p> <p>3. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures</p> <p><b>Period: May 2022 – Till now</b></p>	
11	LU	Dr. T. P. Natesan	<p>1. Collection of Remote sensing satellite data to study the land use pattern.</p> <p>2. Primary field survey and limited field verification for land categorization in the study area</p> <p>3. Preparation of Land use map using Satellite data for 10km radius around the project site.</p> <p><b>Period: March 2022 – Till now</b></p>	
12	RH	Mrs. K. Vijayalakshmi	<p>1. Identification of the risk</p> <p>2. Interpreting consequence contours</p> <p>3. Suggesting risk mitigation measures</p> <p><b>Period: March 2022 – Till now</b></p>	



**Declaration by the Head of the accredited consultant organization/ authorized person**

I, Dr. A. Dhamodharan, hereby confirm that the above-mentioned experts prepared the EIA report of mining project at S.F.No. 136 (Part-I) of Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamilnadu State

I also confirm that the consultant organization shall be fully accountable for any misleading information mentioned in this statement.

**Signature:**

The image shows a handwritten signature in black ink, which appears to be 'A. Dhamodharan'. To the right of the signature is a circular stamp. The stamp has a double-line border. The outer ring contains the text 'ECO TECH LABS PRIVATE LIMITED' at the top and 'CHENNAI 600 100' at the bottom. In the center of the stamp, there is a small star symbol.

**Name:** Dr. A. Dhamodharan

**Designation:** Managing Director

**Name of the EIA consultant organization:** M/s. Eco Tech Labs Private Limited

**NABET Certificate No:** NABET/ EIA/2124/ SA 0147

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

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<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

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<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

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<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

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## **ABBREVIATION**

LU –Land use

AP – Air Pollution monitoring, prevention and control

AQ- Meteorology, Air quality modeling and prediction

WP – Water pollution monitoring, prevention and control

EB- Ecology and Biodiversity

NV- Noise & Vibration

SE- Socio-economics

HG- Hydrology, ground water and water conservation

GEO –Geology

RH – Risk assessment and hazards management

SHW –Solid and Hazardous waste management

SC- Soil conservation

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<i>Project Location</i>	<i>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

## EXECUTIVE SUMMARY

### 1. Project Background:

The Proposed project is a Rough Stone Quarry, having an extent of 2.80.0 hectares of Government Poramboke Land in S.F.No. 136 (PART-1) of Venkatesapuram village, Shoolagiri Taluk , Krishnagiri district, Tamil Nadu State. The proposed mining project comes under Category B1. The lease area sloping towards the South side is covered with rough stone. It is a Hilly terrain.

The quarry operation is proposed to be carried out with conventional open-cast mechanized mining with a 5.0-meter vertical bench with a bench width of 5.0 meters. Quarrying operation is carried out by splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the rough stone from the pithead to the needy crusher/other buyers. Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting.

The Water table is noticed at a depth of 50 m from below the surface in the adjacent open wells of the area. The quarry operation is proposed up to a depth of 43 m below ground level (BGL) for 5 (Five) Years. The total Geological Resources is about 9,56,180 m<sup>3</sup> of rough stone. The Mineable Reserve is about 3,30,347 m<sup>3</sup> of rough stone. The year-wise production/recoverable resources of rough stone and topsoil/gravel for 5 years is about 3,30,344 m<sup>3</sup> of rough stone. The Mining Plan was approved by The Deputy Director (i/c), of Geology and Mining, Krishnagiri Vides Roc. No.72/2016/Mines-1 dated 29.04.2016. 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 the Wildlife Protection Act 1972, within the radius of 15km.

The project does not require a huge amount of water for quarry operation. The total water requirement is 1.810 KLD which will be sourced from the water tanker supply and packaged drinking water from Usthalapalli – 0.32 km, North of the project site.

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
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<b>Project Location</b>	<b>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

## 2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 2.80.00 Hectares land is located Venkatesapuram village, Shoolagiri Taluk , Krishnagiri district.

Mineral intends to quarry	: Rough Stone
District	: krishnagiri
Taluk	: Shoolagiri Taluk
Village	: Venkatesapuram
S. F. Nos	: 136 (PART-I)
Extent	: 2.80.0 hectares

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

Sl. No	Particulars	Details
1	Latitude	12° 44' 50.98"N - 12° 44' 44.25"N
2	Longitude	77° 56' 52.56"E - 77° 56' 43.81" E
3	Site Elevation above MSL	s848 m
4	Topography	Hilly terrain
5	Land use of the site	Government Poramboke land
6	The extent of the lease area	2.80.0 Ha
7	Nearest highway	NH-48-6.45 Km-SW
8	Nearest railway station	Hosur Railway station-13.67 km-WSW
9	Nearest airport	Hosur airport-20.19 km-WSW
10	Nearest town/city	Town: hosur-7.46 km-SW City: Hosur-7.46 km-SW District: Krishnagiri-30.56 km-SE
11	Rivers / Canal	Ponnaiayr River 4.86 km, WNW Gobasandram River 7.58 km, SSW

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12	Lake	Bukkasagaram Lake	2.52 km SSE
		Doripalli Lake	4.16 km SSE
		Muthali Lake	4.40 km NW
		Thummanapalli Lake	4.63 km SSW
		Chinna Muthali	4.90 km NW
		Peddakullu Lake	5.10 km WNW
		Lake 1	5.49 km SW
		Lake 2	6.08 km SSE
		Kamandoddi New Lake	6.14 km SSW
		Lake 3	6.26 km SSW
		Kamandoddi lake	6.90 km SSE
		Konerapalli Lake	7.86 km SSE
		Konerapalli Lake	7.86 km SSE
		Kumudapalli Lake	7.99 km WSW
		Chappadi lake	8.71 km SSE
		Moranapalli Lake	8.90 km WSW
		Guruparathapalli Well	9.52 km SSE
		Bathlapalli lake	9.83 km WSW
		Chennathur Lake	10.07 km WSW
		Anachandiram Lake	10.10 km SE
		Lake 4	10.18 km SSE
		Alasantham Lake	10.57 km WSW
		Karapalli Lake	11.06 km WSW
		Basthi lake	11.26 km WNW
		Vasanth Nagar Lake	11.70 km WSW
		Alasanatham Lake	11.80 km WSW
		TheppaKulam	12.24 km WSW
		Nallur Lake	12.49 km NW
		NB Agraharam Lake	12.62 km WNW
		Gokul Nagar Lake	12.63 km WSW
		Shanthapuram Lake	13.51 km WNW
		Rama Naicken Lake	13.52 km WSW

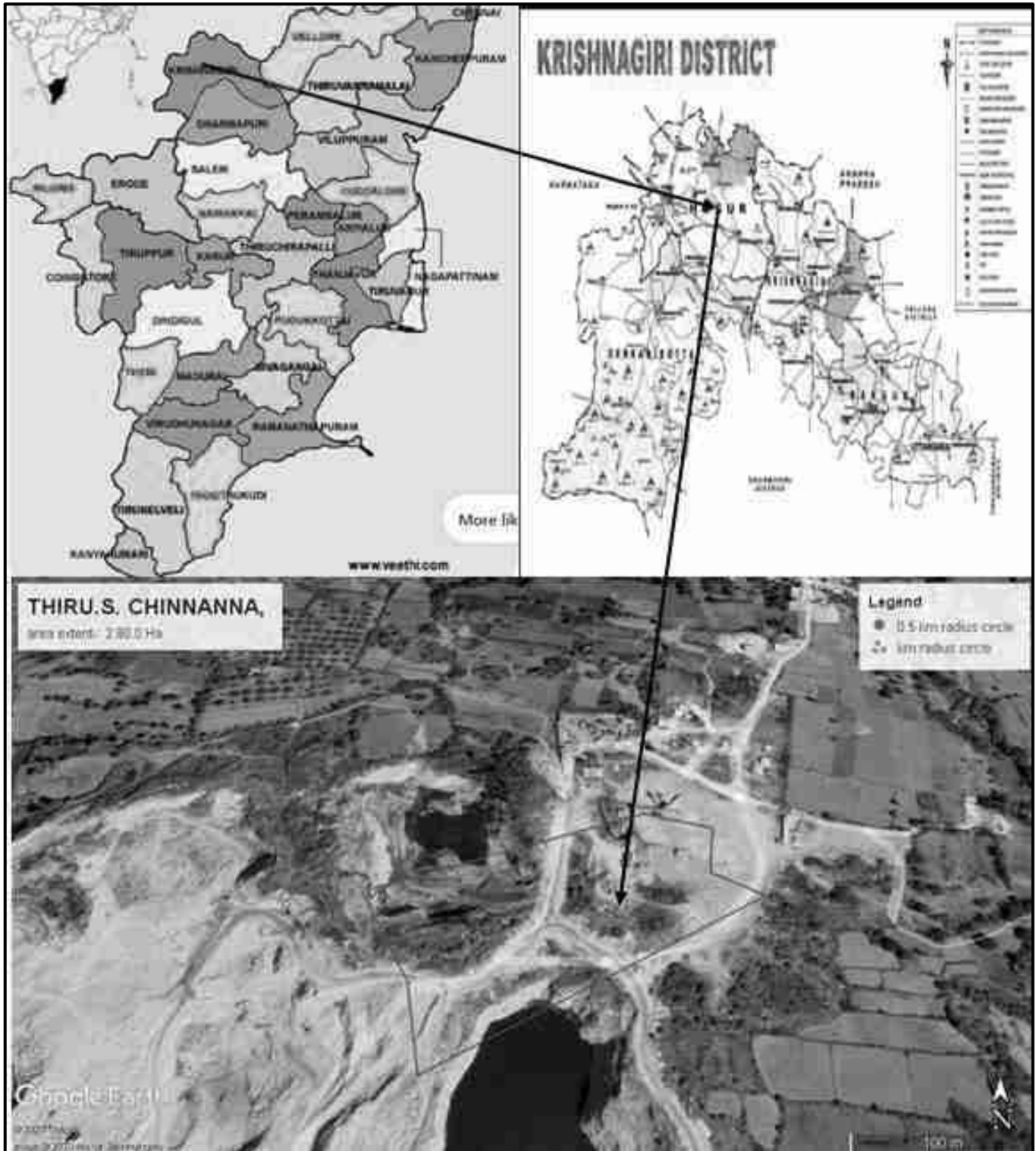
<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
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		Rangopanditha Agraharam Lake	13.62 km WSW
		Bedrapalli Lake	14.29 km WNW
		Nalluru Agrahara Lake	14.30 km NW
		Govindhan lake	14.49 km SW
		Bennikkal waterfalls	14.69 km SW
		Achettapalli Lake	14.72 km WSW
13	Dam / Reservoir	Kelavarapalli Dam – 8.70 km - NW	
14	Hills/valleys	Anjenaya hill Shoolagiri-11.89 km-SE Brahmma Hills-12.15 km-WSW	
15	Archaeologically places	Nil within a 15 km radius circle	
16	National parks / Wildlife Sanctuaries	Cauvery Wildlife Sanctuary-22.89 km-SSW	
17	Reserved / Protected Forests	Nil within 15 km Radius	
18	Seismicity	The proposed lease area comes under Seismic Zone II and III.	

### 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.

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<b>Project Location</b>	<b>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	



**Figure 1: Location Map of the Project Site**

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	



**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 color, medium to coarse grained, composed quartz, feldspar and orthopyroxene. At places, metamorphic gneissic banding (alternate dark and black color) in charnockite is noticed. Since the rough stone is seen from the surface itself and noticed in the already quarried pit, no exploration is needed.

#### **5. Geological resources**

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

**Table 2. Geological resources**

<b>Geological Reserve</b>
---------------------------



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<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

Section	Bench	Length (m)	Width (m)	Depth (m)	Volume m <sup>3</sup>	Geological Reserves m <sup>3</sup>	Topsoil m <sup>3</sup>
XY-AB	I	17	87	3			4437
	II	17	87	5	7395	7025	
	III	121	131	5	79255	75292	
	IV	121	131	5	79255	75292	
	V	121	131	5	79255	75292	
	VI	121	131	5	79255	75292	
	VII	121	131	5	79255	75292	
	VIII	121	131	5	79255	75292	
	IX	121	131	5	79255	75292	
	<b>TOTAL</b>					<b>562180</b>	<b>534071</b>
XY-CD	I	122	100	3			36600
	II	62	100	5	31000	29450	
	III	121	100	5	60500	57475	
	IV	121	100	5	60500	57475	
	V	121	100	5	60500	57475	
	VI	121	100	5	60500	57475	
	VII	121	100	5	60500	57475	
	VIII	121	100	5	60500	57475	
	<b>TOTAL</b>					<b>394000</b>	<b>374300</b>
<b>GRAND TOTAL</b>					<b>956180</b>	<b>908371</b>	<b>41037</b>

**Table 3. Mineable Reserves**

Mineable Reserve							
Section	Bench	Length (m)	Width (m)	Depth (m)	Volume m <sup>3</sup>	Mineable Reserves m <sup>3</sup>	Topsoil m <sup>3</sup>
XY-AB	I	5	75	3			1125
	II	4	74	3	1480	1406	
	III	103	95	5	48925	46479	
	IV	98	85	5	41650	39568	
	V	93	75	5	34875	33131	
	VI	88	65	5	28600	27170	
	VII	83	55	5	22825	21684	
	VIII	78	45	5	17550	16673	

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	IX	73	35	5	12775	12136	
	<b>TOTAL</b>				<b>208680</b>	<b>298248</b>	<b>1125</b>
XY-CD	I	202	77	3			23331
	II	62	74	5	22940	21793	
	III	108	64	5	34560	32832	
	IV	103	54	5	27810	26420	
	V	98	44	5	21560	20482	
	VI	93	34	5	15810	15020	
	VII	88	24	5	10560	10032	
	VIII	83	14	5	5810	5520	
	<b>TOTAL</b>				<b>139050</b>	<b>132099</b>	<b>23331</b>
<b>GRAND TOTAL</b>					<b>347730</b>	<b>330347</b>	<b>24456</b>

**Table 4. Year wise Production Plan**

Yearwise Reserve								
Year	Section	Bench	Length (m)	Width (m)	Depth (m)	Volume m <sup>3</sup>	Recoverable reserves m <sup>3</sup>	Topsoil m <sup>3</sup>
I YEAR	XY-AB	I	5	75	3			1125
		II	4	74	5	1480	1406	
		III	103	95	5	48925	46479	
II YEAR		IV	98	85	5	41650	39568	
V		93	75	5	34875	33131		
III YEAR	XY-CD	I	101	77	3			2331
		II	62	74	5	22940	21793	
		III	108	64	5	34650	32832	
IV YEAR	XY-AB	VI	88	65	5	28600	27170	
	XY-CD	IV	103	54	5	27810	26420	
		V	98	44	5	21560	20482	
V YEAR	XY-AB	VII	83	55	5	22825	21684	
		VIII	78	45	5	17550	16673	
		IX	73	35	5	12775	12136	
	XY-CD	VI	93	34	5	15810	15020	
		VII	88	24	5	10560	10032	
		VIII	83	14	5	5810	5520	
<b>TOTAL</b>						<b>347730</b>	<b>330344</b>	<b>24456</b>

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

## 6. Mining

### Opencast mining

The quarry operation is proposed to be carried 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 resources 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 1.81 KLD. Domestic water will be sourced from nearby Usthalapalli Village and other water will be sourced from nearby road tankers supply.

**Table 5. Water Balance**

<b>Purpose</b>	<b>Quantity</b>	<b>Source</b>
Drinking Water	0.81 KLD	Packaged Drinking water vendors available in Usthalapalli Village which is about 0.32 - N 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
<b>Total</b>	<b>1.81 KLD</b>	

## 8. Manpower

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

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**Table 6. Man Power**

<b>S.No</b>	<b>Skill Level</b>	<b>Position</b>	<b>Nos.</b>
1.	Management & Supervisory Staff		3
2.	Skilled	Operator	2
		Mechanic	1
		Blaster/mate	1
3.	Semi – skilled	Driver	2
4.	Unskilled	Musdoor / Labours	5
		Cleaners	3
		Office Boy	1
<b>Total</b>			<b>18 Nos.</b>

### 9. Solid Waste Management

**Table 7 Solid Waste Management**

<b>S. No</b>	<b>Type</b>	<b>Quantity</b>	<b>Disposal Method</b>
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) Details of Existing quarries:

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

<b>Sl. No</b>	<b>Name of the lessee</b>	<b>Village &amp; Taluk</b>	<b>S.F No.</b>	<b>Extent in Hect</b>	<b>GO Date</b>	<b>Lease period.</b>
1	Thiru Y. Jagadesh, Annaidoddi, Jigini Hobbli, Anekal Taluk, Bangalore 560 083	Venkatesapuram, Shoolagiri Taluk	136 (Part - VII)	3.50.0	Roc.76/2016 /Mines. Dt:02.07.201 8	13.07.2018 - 12.07.2023
2	Thiru Manjunaika, S/o ShamaNaik, Sevanayakana	Venkatesapuram, Shoolagiri Taluk	136 (Part - III)	4.10.0	Roc.219/201 8/Mines. Dt:08.03.201 9	08.03.2019 - 07.03.2024
3	Thiru P. Selvaraju, S/o Periyasamy, NO. 57-B1, Kalliyannan Nagar, Kumarapalayam, Thiruchengodu, Namakkal District	Venkatesapuram, Shoolagiri Taluk	86 (Part - VI)	2.50.0	Roc.69/2016 /Mines. Dt:13.10.201 6	17.10.2016 - 16.10.2021
4	J. Shanmugam, S/o Jaganathan, S.S. Blue Metals, No. 4 Pillaiyar Koil Street, Marandapalli Post, Palacode Taluk, Dharmapuri Dist.	Venkatesapuram, Shoolagiri Taluk	86 (Part - VII)	2.50.0	Roc.70/2016 /Mines. Dt:28.09.201 6	03.10.2016 - 02.10.2026

## 2) Details of other Proposed / Applied quarries.

<b>Sl. No</b>	<b>Name of the lessee</b>	<b>Village Taluk</b>	<b>S.F No.</b>	<b>Extent in Hect</b>	<b>GO Date</b>	<b>Lease period.</b>
1	Thiru. S. Chinnanna No. 1-39 Masinaickenapalli Village, Hosur Taluk, Krishnagiri District	Venkatesapuram, Shoolagiri Taluk	136 (Part 1)	2.80.0	Roc.72/2016/Mines. Dt:29.02.2016	
2	Tvl. S. V Blue Metals, Prop. V. Nagarajan,	Venkatesapuram, Shoolagiri Taluk	136 (Part 1)	2.70.0		Precise area given.

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<b>Project Location</b>	<b>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

	Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District					
3	M/s. Sri Vinayaka Enterprises, Beggli Village, Shoolagiri Taluk, Krishnagiri	Venkatesapuram, Shoolagiri Taluk	136 (Part 1)	2.85.0	1263/2018/Mines .dt:02.11.2018.	Precise area given.

### 3) Details of Abandoned/Old Quarries

Sl. No	Name of the lessee	Village Taluk	S.F No.	Extent in Hect	GO Date	Lease period.
1	Thiru A.D. Mohan, S/o Late, A.C. Devaiah, Koppa Gate, Jigani Hobli, Anekal Taluk, Bangalore, Karnataka State.	Venkatesapuram, Shoolagiri Taluk	136 (Part - II)	4.00.0	Roc.78/12/ Mines. Dt:21.05.2012	13.07.2012 - 12.07.2017
2	Thiru V. Jayaprakash, S/o Venkatesappa, No. 488 B. Singiripalli Village, B. Gurubarapalli Post, Hosur Taluk, Kishnagiri District.	Venkatesapuram, Shoolagiri Taluk	136 (Part - IV)	2.00.0	Roc.73/2016 /Mines. Dt:08.08.2016	24.08.2016 - 23.08.2021
3	Thiru. T. Muniraj, Koppa Village, Gigini, Annekal Taluk, Bangalore	Venkatesapuram, Shoolagiri Taluk	136 (Part - V)	1.30.0	Roc.74/2016 /Mines. Dt:08.08.2016	22.08.2016 - 21.08.2021
4	Thiru. N. Haries Koppa Village, Gigini Annekal Taluk, Bangalore	Venkatesapuram, Shoolagiri Taluk	136 (Part - VI)	3.00.0	Roc.75/2016 /Mines. Dt:09.08.2016	24.08.2016 - 23.08.2021
5	Thiru. V. Madesh, No.1/271, Vannapalli Village,	Venkatesapuram, Shoolagiri Taluk	136 (Part - IX)	3.00.0	Roc.77/2016 /Mines. Dt:09.08.2016	24.08.2016 - 23.08.2021

<b>Project</b>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<b>Draft EIA Report</b>
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<b>Project Location</b>	<i>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

	Mugalur Post, Hosur Taluk.					
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The Total extent of the Existing / Lease expired / Proposed quarries are 34.25.0 Ha.

## 10. Land Requirement

The total extent area of the project is 2.80.00 Ha, Government Poramboke land in Venkatesapuram Village of Shoolagiri Taluk , Krishnagiri District.

**Table 9 Land Use Breakup**

<b>S. No.</b>	<b>Land Use</b>	<b>Present Area (Hect)</b>	<b>Area in use during the quarrying period (Hect)</b>
1.	Quarrying Pit	0.53.5	2.22.7
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.02.0
4.	Green Belt & Dump	Nil	0.10.0
5.	Unutilized Area	2.25.5	0.44.3
<b>Total</b>		<b>2.80.0</b>	<b>2.80.0</b>

## 11. Human Settlement

There are 5 Habitation & 4 Workers Shed in Nearby quarry area within 300m radius. There are villages located in this area within a 5km radius of the quarry.

**Table 10 Habitation**

<b>SL. NO.</b>	<b>DIRECTION</b>	<b>VILLAGE</b>	<b>POPULATION</b>	<b>DISTANCE</b>
1	N	Usthalapalli village	969	0.32 km
2	NW	Gollapalli Village	5196	0.96 km
3	NNW	Dhasapalli village	100	2.4 km
4	ENE	Athimugam village	4540	2.86 km
5	WSW	Sukkasagaram village	2126	3.34 km
6	SSE	Deripalli village	3681	3.56 km

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7	N	Nariganapuram	928	4.45 km
8	SE	Nallaganakothapalli village	968	4.96 km
9	SSW	Kamandoddi village	6524	5.75 km
10	SW	Upparathamandrapalli	500	11.68 km

## 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 scenarios 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 : 39° C
- iii) Average Annual Rainfall of the area : 968 mm

### 13.2 Air Environment



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Ambient air monitoring was carried out on a 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, an air quality survey has been conducted at 7 locations. Major air pollutants like Particulate Matter (PM10), 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> (67 - 41 µg/m<sup>3</sup>), PM<sub>2.5</sub> (33 - 16 µg/m<sup>3</sup>), SO<sub>2</sub> (20 - 5 µg/m<sup>3</sup>), NO<sub>2</sub> (32 9µg/m<sup>3</sup>), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from Oct 2023 to Dec 2023.

### **13.3 Noise Environment**

The maximum Day noise and Night noise were found to be 58 dB(A) and 47 dB(A) respectively in Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli. The minimum Day Noise and Night noise were 39 dB(A) and 32 dB(A) respectively which was observed in project site. The observed values are all well within the Standards prescribed by CPCB.

### **13.4 Water Environment**

- The average pH ranges from 7.11 – 7.83.
- TDS value varied from 319 mg/l to 1385 mg/l.
- Hardness as CaCO<sub>3</sub> varied from 158 to 858 mg/l.
- Chloride varied from 38.5 to 410 mg/l.

### **13.5 Land Environment**

The analysis results show that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 6.83 – 8.64 with organic matter 0.08 to 0.24 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

### **13.6 Biological Environment**

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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 Poramboke land. There is 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. The Green belt has been recommended as one of the major components of the Environmental Management Plan, which will improve ecology, the 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 280 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, Pungam, Poovarasu, Naval, Mantharai, Arasa Maram, Magizham, Vilvam, vaagai, Marudha maram, Thandri, Poovarasu, Manjadi, Usil, Aathi, Panai, Uzha, Illuppai, Eachai, Vanni Maram.	80%	1400
<b>Total</b>		<b>1400</b>

#### **16. Anticipated Environmental Impacts**

##### **16.1 Air Environment and Mitigation Measures**

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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.1,71,42,000/-** 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.

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**Table 12 Project Cost details**

Proposed Financial Estimate / Budget for (EMP) Environment Management.	
<b>Fixed Asset Cost:</b>	<b>: Rs.64,10,000/-</b>
<b>Operational Cost:</b>	
<u>Machinery cost</u>	<b>: Rs.20,00,000/-</b>
<b>EMP Cost:</b>	<b>: Rs.87,32,000/-</b>
<b>Total Project Cost</b>	<b>: Rs.1,71,42,000/-</b>

## 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.	P.U.P School, Venkatesapuram Village, Shoolagiri Taluk , Krishnagiri District.	5,00,000
2.	P.U.P School, Menasanadoddi Village, Shoolagiri Taluk , Krishnagiri District. Providing facilities are: ✓ Furnitures (Table, Chairs & Bench for School Students) ✓ Construction of Classrooms for Students ✓ Xerox Machine for School Students ✓ R.O Water Facility ✓ Smart Classroom facility ✓ Greenbelt Development inside and around the campus – 50 No's. ✓ Environmental, Social Awareness and General Knowledge Books in Tamil Language	

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	✓ Hygienic Toilet Facility and maintenance upto lease period	
<b>Total</b>		<b>5,00,000</b>

## 21. Benefits of the Project

- There is a 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 the 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 nearby vicinity.

# 1 Introduction

## 1.1 PREAMBLE

Environment Impact Assessment (EIA) is a process used to identify the environmental, social & economic impacts of a project prior to decision making. It aims to predict environmental impacts at an early stage of project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the prediction options to the

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proponent. By using EIA, both environmental & economic benefits can be achieved. By considering environmental effects - prediction & mitigation, early benefits in project planning, protection of the environment, optimum utilization of resources, thus saving overall time & cost of the project.

## **1.2 GENERAL INFORMATION ON MINING OF MINERALS**

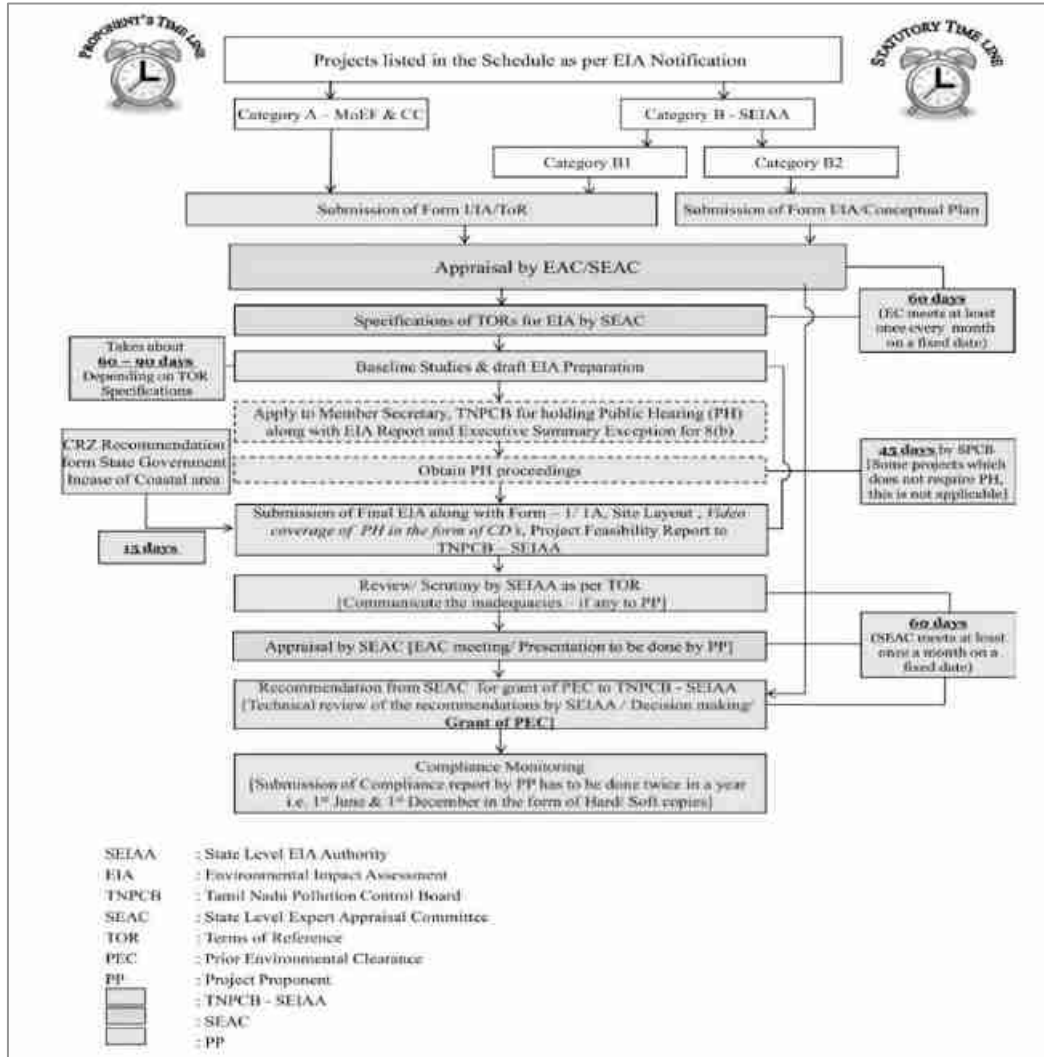
The Entire district is underlain by the rocks belonging to hard crystalline rock masses of Archaean age. The Archaean rocks in this area are represented by rocks of eastern Ghat complex comprising charnockite, Migmatite complex of composite gneiss. The district is covered by metamorphic crystalline rocks of charnockite, composite gneiss of Archaean age. These rocks are highly metamorphosed and have been subjected to sever folding, crushing and faulting. Charnockite group is occupied by the North and Southern part of the basin. The other rock type is encountered by composite granitic gneiss of Epidote hornblende biotite gneiss and hornblende biotite gneiss are occupy in the middle portion of the basin. Charnockite group occupies the high ground as well as plain and it is poorly weathered and jointed. They are generally black, grey to dark grey in Colour medium to coarse grained texture, and generally massive and un-foliated. A gneissic rock occurs as linear bands in the middle portion of the area and is highly migmatite. Mostly, micaceous with bands of granites, pegmatites, quartz veins the rock is well foliated. The Hornblende biotite gneiss forms the country rock of the area and epidote hornblende gneiss (Proterozoic age) occurs as small, isolated outcrops. The crystalline formations are charnockite, granitic gneiss of Archean age have been intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting. The crystalline rocks are subjected to tectonic activities under various orogenic cycles resulting in the development of secondary structures such as joints. fissures and cleavages. The intensity of weathering varies from place to place.

## **1.3 ENVIRONMENTAL CLEARANCE**

As per EIA Notification, 2006 and its subsequent amendments (O.M vide No.F.No.L-11011/175/2018-IA-II(M) Govt of India MOEF&CC on December 12th, 2018) project comes under category B1 cluster & schedule 1(a) under item 1.

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The proposed project is categorized under Category “B1” 1(a) (Cluster) - {Mining of Minerals} as the 500m radius area is more than 5 Ha including the mine lease area. Hence, the project will be considered at SEAC, Tamil Nadu.



#### 1.4 TERMS OF REFERENCE (TOR)

The terms of Reference have been issued by SEAC TN vide Letter No. SEIAA-TN/F. No. 10429/ ToR-1600/2023 Dated: 07.11.2023. 43 additional ToR points were recommended by SEAC TN in addition to the Standard ToR Points. The replies for the same were addressed in this report.

#### 1.5 POST ENVIRONMENTAL CLEARANCE MONITORING

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### 1.5.1 Methodology adopted

Post project monitoring will be carried out as per conditions stipulated in environmental clearance letter issued by SEIAA, consent issued by SPCB as well as according to CPCB guidelines. The lease area is considered as core zone and the area lying within 10 km radius from the lease boundary is considered as buffer zone, where some impacts may be observed on physical and biological environment. In the buffer zone slight impact may be observed and that too is occasional.

**Table 1-1: Post Environmental Clearance Monitoring**

<b>S. No.</b>	<b>Description</b>	<b>Frequency of Monitoring</b>
1.	Ambient Air Quality Monitoring	Quarterly/ Half Yearly
2.	Water level & Quality Monitoring	Quarterly/ Half Yearly
3.	Noise Level Monitoring	Quarterly/ Half Yearly
4.	Soil Quality Monitoring	Yearly
5.	Medical Check-up	Yearly

## 1.6 GENERIC STRUCTURE OF THE EIA DOCUMENT

**Chapter 1:** Introduction. This chapter contains general information on the mining of minerals, major sources of environmental impacts in respect of mining projects and details of the environmental clearance process.

**Chapter 2:** Project Description. In this chapter the proponent should also furnish detailed description of the proposed project, such as the type of the project, need for the project, project location, layout, project activities during construction and operational phases, capacity of the project, project operation i.e., land availability, utilities (power and water supply) and infrastructure facilities such as roads, railways, housing and other requirements. If the project site is near a sensitive area, it is to be mentioned clearly why an alternative site could not be considered. The project implementation schedule estimated cost of development as well as operation etc. should also be included.



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<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

**Chapter 3:** Analysis of Alternatives (Technology and Site). This chapter gives details of various alternatives both in respect of location of site and technologies to be deployed in case the initial scoping exercise considers such a need.

**Chapter 4:** Description of Environment. This chapter should cover baseline data in the project area and study area.

**Chapter 5:** Impact Analysis and mitigation measures. This chapter describes the anticipated impacts on the environment and mitigation measures. The method of assessment of impacts including studies carried out, modelling techniques adopted to assess the impacts where pertinent should be elaborated in this chapter. It should give the details of the impacts on the baseline parameters, both during the construction and operational phases and suggests the mitigation measures to be implemented by the proponent.

**Chapter 6:** Environmental Monitoring Program. This chapter should cover the planned environmental monitoring program. It should also include the technical aspects of monitoring the effectiveness of mitigation measures.

**Chapter 7:** Additional Studies. This chapter should cover the details of the additional studies required in addition to those specified in the ToR and which are necessary to cater to more specific issues applicable to the particular project.

**Chapter 8:** Project Benefits. This chapter should cover the benefits accruing to the locality, neighborhood, region and nation as a whole. It should bring out details of benefits by way of improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits.

**Chapter 9:** Environmental Cost Benefit Analysis. This chapter should cover on Environmental Cost Benefit Analysis of the project.

**Chapter 10:** Environmental Management Plan. This chapter should comprehensively present the Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, the cost involved to implement the EMP, both during the construction and operational phase and provisions made towards the same in the cost estimates of project construction and operation. This chapter should also describe the proposed post-monitoring scheme as well as inter-organizational arrangements for effective implementation of the mitigation measures.

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**Chapter 11:** Summary and Conclusions. This chapter gives the summary of the full EIA report condensed to ten A-4 size pages at the maximum. It should provide the overall justification for implementation of the project and should explain how the adverse effects have been mitigated.

**Chapter 12:** Disclosure of Consultants. This chapter should include the names of the consultants engaged with their brief resume and the nature of consultancy rendered.

## **1.7 DETAILS OF PROJECT PROPONENT**

Project Proponent	: Thiru. S. Chinnanna
Status of the Proponent	: Government Poramboke land
Proponent's name & address	: Thiru. S. Chinnanna, S/o. Srinivasappa, NO.1-39A, Machinaickanapalli Village, Panchakshipuram Post, Hosur Taluk, Krishnagiri District.

## **1.8 BRIEF DESCRIPTION OF THE PROJECT**

### **1.8.1 *Project Nature, Size & Location***

As per EIA Notification, 2006 and its subsequent amendments (O.M vide No.F.No.L-11011/175/2018-IA-II(M) Govt of India MOEF&CC on December 12<sup>th</sup>, 2018) project comes under category B1 cluster & schedule 1(a) under item 1.

Proposed proposal pertains to Rough stone mining project by mechanized open cast method on allotted mine lease area at Venkatesapuram Village, Shoolagiri Taluk of Krishnagiri District, Tamil Nadu. It is an elevated terrain. The total allotted mine lease for the proposed project is 2.80.00 Ha with their maximum production capacity i.e., 3,30,344 m<sup>3</sup> of Rough Stone and 24,456 m<sup>3</sup> of Topsoil.



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<i>Project Location</i>	<i>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

## 2 Project Description

This chapter furnishes detailed description of the proposed project, such as the type of the project, need for the project, project location, layout, project activities during mining, capacity of the project, project operation i.e., land availability, utilities (power and water supply) and infrastructure facilities such as roads, railways, housing and other requirements. The project implementation schedule estimated cost for carrying out entire mining activity is included.

### 2.1 GENERAL

Proposed proposal pertains to Rough stone mining project by open cast mechanized method on allotted mine lease area at Venkatesapuram Village, Shoolagiri Taluk of Krishnagiri District, Tamil Nadu. It is a hilly terrain. We have obtained a Scheme of mining plan from the Department of Geology and Mining, Krishnagiri District for 2.80.00 Ha land area in the S.F.Nos. 136 (Part I) for a proposed mining depth of 43 m Topsoil 3m + Rough stone 40m (Including 5 m Existing Depth) From General Ground Profile. and five years production of 3,30,344 m<sup>3</sup> of Rough Stone and 24,456 m<sup>3</sup> of Topsoil.

#### **Type of the project:**

As per EIA Notification, 2006 and its subsequent amendments (O.M vide No.F.No. L-11011/175/2018-IA-II(M) Govt of India MOEF&CC on December 12<sup>th</sup>, 2018) project comes under category B1 cluster & schedule 1(a) under item 1. The project required to be appraised at state level by State Environment Impact Assessment Authority, Tamil Nadu. Environment Clearance study will involve preparation of draft EIA report on the basis of baseline & impact assessment study is carried out. Also, before appraisal, under 7(III) of EIA notification 2006, the project involves the Public Consultation and the same will be conducted under SPCB (TN) in Krishnagiri District. The proceedings of the same will be incorporated in the Final EIA Report.

The mines within 500m radius from the project site are listed below.

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<b>Project Location</b>	<b>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	

**Table 2-1: Quarry within 500m Radius**

**1) Details of Existing quarries:**

<b>Sl. No</b>	<b>Name of the lessee</b>	<b>Village &amp; Taluk</b>	<b>S.F No.</b>	<b>Extent in Hect</b>	<b>GO Date</b>	<b>Lease period.</b>
1	Thiru Y. Jagadesh, Annaidoddi, Jigini Hobbli, Anekal Taluk, Bangalore 560 083	Venkatesapuram, Shoologiri Taluk	136 (Part - VII)	3.50 .0	Roc.76/2016 /Mines. Dt:02.07.2018	13.07.2018 - 12.07.2023
2	Thiru Manjunaika, S/o ShamaNaik, Sevanayakana	Venkatesapuram, Shoologiri Taluk	136 (Part - III)	4.10 .0	Roc.219/2018/Mines. Dt:08.03.2019	08.03.2019 - 07.03.2024
3	Thiru P. Selvaraju, S/o Periyasamy, NO. 57-B1, Kalliyannan Nagar, Kumarapalayam, Thiruchengodu, Namakkal District	Venkatesapuram, Shoologiri Taluk	86 (Part - VI)	2.50 .0	Roc.69/2016 /Mines. Dt:13.10.2016	17.10.2016 - 16.10.2021
4	J. Shanmugam, S/o Jaganathan, S.S. Blue Metals, No. 4 Pillaiyar Koil Street, Marandapalli Post, Palacode Taluk, Dharmapuri Dist.	Venkatesapuram, Shoologiri Taluk	86 (Part - VII)	2.50 .0	Roc.70/2016 /Mines. Dt:28.09.2016	03.10.2016 - 02.10.2026

**2) Details of other Proposed / Applied quarries.**

<b>Sl. No</b>	<b>Name of the lessee</b>	<b>Village Taluk</b>	<b>S.F No.</b>	<b>Extent in Hect</b>	<b>GO Date</b>	<b>Lease period.</b>
1	Thiru. S. Chinnanna No. 1-39 Masinaickenapalli Village, Hosur Taluk, Krishnagiri District	Venkatesapuram, Shoologiri Taluk	136 (Part 1)	2.80.0	Roc.72/2016/Mines. Dt:29.02.2016	

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<b>Project Location</b>	<b>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

2	Tvl. S. V Blue Metals, Prop. V. Nagarajan, Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District	Venkatesapuram, Shoolagiri Taluk	136 (Part 1)	2.70.0		Precise area given.
3	M/s. Sri Vinayaka Enterprises, Beggli Village, Shoolagiri Taluk, Krishnagiri	Venkatesapuram, Shoolagiri Taluk	136 (Part 1)	2.85.0	1263/2018 /Mines .dt:02.11.2018.	Precise area given.

### 3) Details of Abandoned/Old Quarries

Sl. No	Name of the lessee	Village Taluk	S.F No.	Extent in Hect	GO Date	Lease period.
1	Thiru A.D. Mohan, S/o Late, A.C. Devaiah, Koppa Gate, Jigani Hobli, Anekal Taluk, Bangalore, Karnataka State.	Venkatesapuram, Shoolagiri Taluk	136 (Part - II)	4.00.0	Roc.78/12 /Mines. Dt:21.05.2012	13.07.2012 - 12.07.2017
2	Thiru V. Jayaprakash, S/o Venkatesappa, No. 488 B. Singiripalli Village, B. Gurubarapalli Post, Hosur Taluk, Kishnagiri District.	Venkatesapuram, Shoolagiri Taluk	136 (Part - IV)	2.00.0	Roc.73/2016/Mines. Dt:08.08.2016	24.08.2016 - 23.08.2021
3	Thiru. T. Muniraj, Koppa Village, Gigini, Annekal Taluk, Bangalore	Venkatesapuram, Shoolagiri Taluk	136 (Part - V)	1.30.0	Roc.74/2016/Mines. Dt:08.08.2016	22.08.2016 - 21.08.2021
4	Thiru. N. Haries Koppa Village, Gigini Annekal Taluk, Bangalore	Venkatesapuram, Shoolagiri Taluk	136 (Part - VI)	3.00.0	Roc.75/2016/Mines. Dt:09.08.2016	24.08.2016 - 23.08.2021
5	Thiru. V. Madesh, No.1/271, Vannapalli Village, Mugalur Post, Hosur Taluk.	Venkatesapuram, Shoolagiri Taluk	136 (Part - IX)	3.00.0	Roc.77/2016/Mines. Dt:09.08.2016	24.08.2016 - 23.08.2021

The Total extent of the Existing / Lease expired / Proposed quarries are 34.25.0 Ha.

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

### 2.1.1 Need for the project:

The Entire district is underlain by the rocks belonging to hard crystalline rock masses of Archaean age. The Archaean rocks in this area are represented by rocks of eastern Ghat complex comprising charnockites, Migmatite complex of composite gneiss. The district is covered by metamorphic crystalline rocks of charnockite, composite gneiss of Archaean age. These rocks are highly metamorphosed and have been subjected to sever folding, crushing and faulting. Charnockites group is occupied by the North and Southern part of the basin. The other rock type is encountered by composite granitic gneiss of Epidote hornblende biotite gneiss and hornblende biotite gneiss are occupy in the middle portion of the basin. Charnockite group occupies the high ground as well as plain and it is poorly weathered and jointed. They are generally black, grey to dark grey in colour medium to coarse grained texture, and generally massive and un-foliated. A gneissic rock occurs as linear bands in the middle portion of the area and is highly migmatite. Mostly, micaceous with bands of granites, pegmatites, quartz veins the rock is well foliated. The Hornblende biotite gneiss forms the country rock of the area and epidote hornblende gneiss (Proterozoic age) occurs as small, isolated outcrops. The crystalline formations are charnockite, granitic gneiss of Archean age have been intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting. The crystalline rocks are subjected to tectonic activities under various orogenic cycles resulting in the development of secondary structures such as joints. fissures and cleavages. The intensity of weathering varies from place to place.

## 2.2 BRIEF DESCRIPTION OF THE PROJECT

**Table 2-2 Salient Features of the Project**

<b>S. No.</b>	<b>Description</b>	<b>Details</b>
1	Project Name	Rough Stone Quarry-2.80.00 ha
2	Proponent	Thiru. S. Chinnanna
3	Mining Lease Area Extent	2.80.00 Ha

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Vengatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

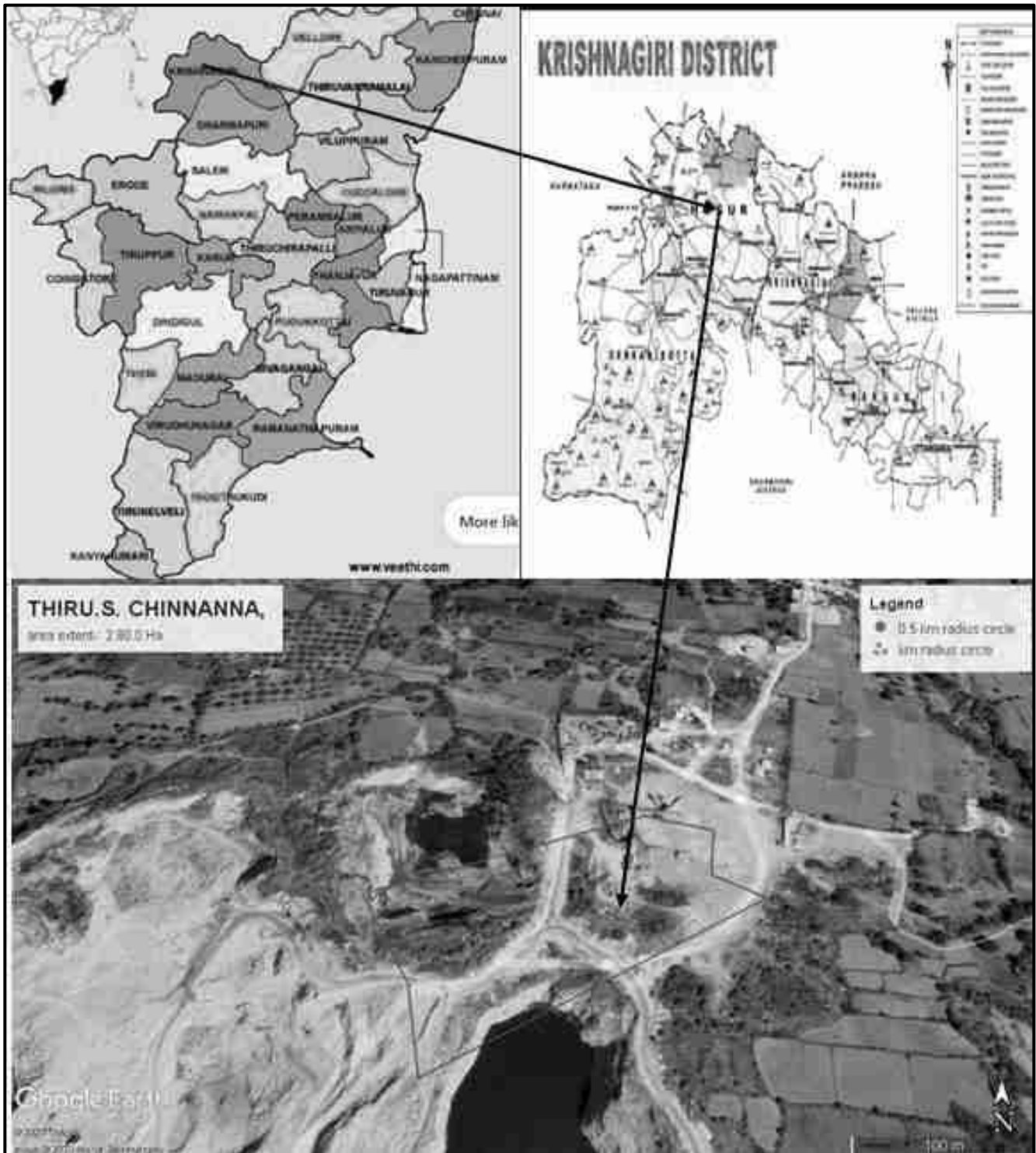
4	Location	S.F.Nos. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk , Krishnagiri District.
5	Latitude	12° 44' 50.98"N - 12° 44' 44.25"N
6	Longitude	77° 56' 52.56"E - 77° 56' 43.81" E
7	Topography	Hilly terrain
8	Site Elevation above MSL	The altitude of the area is 848 m above MSL.
9	Topo sheet No.	57- H/14
10	Minerals of Mine	Rough Stone Quarry
11	Proposed production of Mine	3,30,344 m <sup>3</sup> of Rough Stone & 24,456 m <sup>3</sup> of Topsoil
12	Ultimate depth of Mining	43 m (3m Topsoil + 40 Rough stone BGL) Including 5m Existing Depth
13	Method of Mining	Open cast, mechanized mining
14	Water demand	1.81 KLD
15	Source of water	Water will be supplied through tankers supply
16	Manpower	18 Nos.
17	Mining Lease	Proceedings Letter received from The District Collector, Krishnagiri District vide letter RC.72/2016/Mines, Dated: 29.02.2016.



<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

18	Mining Plan Approval	Mining Plan was approved by the Deputy Director, Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.72/2016/Mines, Dated:29.04.2016.
19	Production details	Geological resources: 9,56,180 m <sup>3</sup> of Rough stone & Proposed year wise recoverable reserves: 3,30,344 m <sup>3</sup> of Rough Stone
20	Boundary Fencing	7.5 m & 10 m barrier all along the boundary Fencing will be provided.
21	Disposal of overburden	The entire lease area covers 3.0 m of Topsoil and estimated quantity of Topsoil is 24,456 m <sup>3</sup> . Topsoil formation will be removed and used for Green Belt areas.
22	Ground water	The ground Water Level is noticed at the depth of 50m below Ground Level by monitoring nearby bore hole, Mining depth taken as 43m BGL(Including 5 m Existing Depth). Now, the proposed quarry depth is above the water table. Hence, quarrying may not affect the ground water.
23	Habitations within 300m radius of the Project Site	There are 5 Habitation & 4 Workers Shed in nearby quarry area within 300m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Usthalapalli village which is 0.32 Km of the project area

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Vengatesapuram Village, Shoalagiri Taluk, Krishnagiri District</b>	



**Figure 2.1: Location Map of the Project Site**

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	



**Figure 2.2: Google Earth Image and Coordinates of the Project Site**

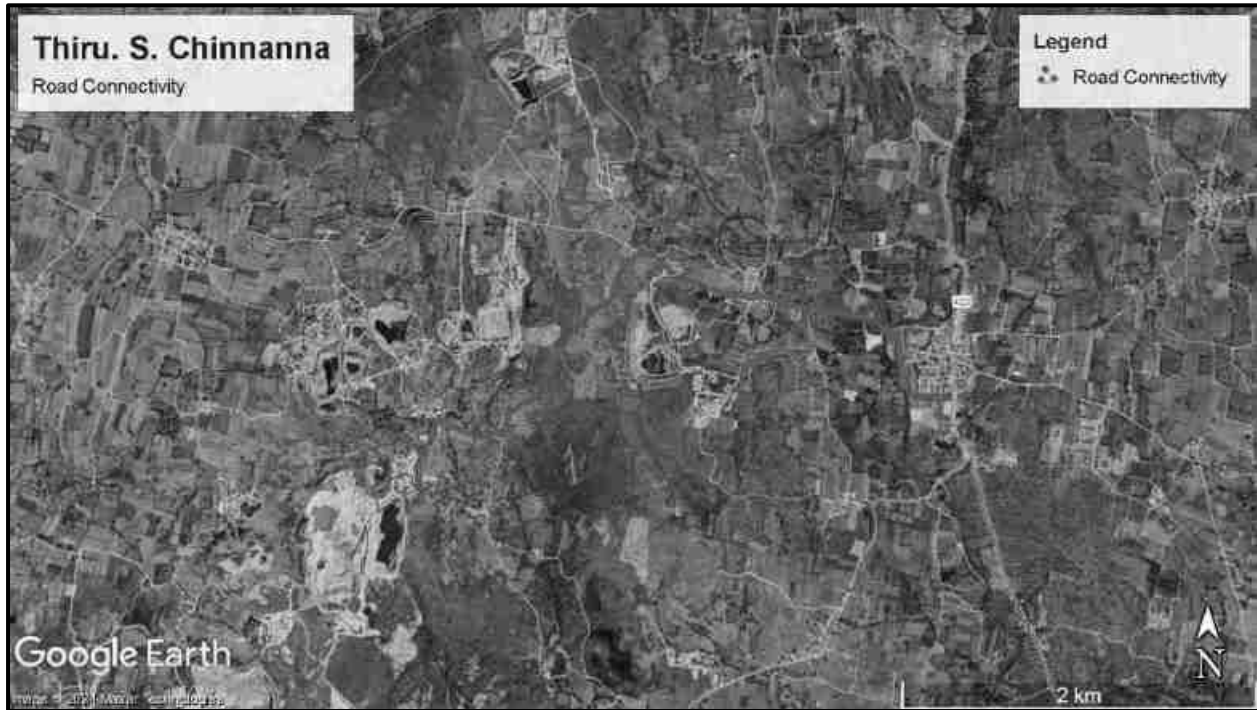
**2.2.1 Site Connectivity:**

The site is connected to MDR 422 Road.

Project Site to MDR 422 – 4.34 km - E

NH - 44 – Thoppur to Salem Road – 6.70 Km - S

<b>Project</b>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<i>Thiru. S. Chinnanna</i>	
<b>Project Location</b>	<i>Vengatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	



**Figure 2.3: Site Connectivity**

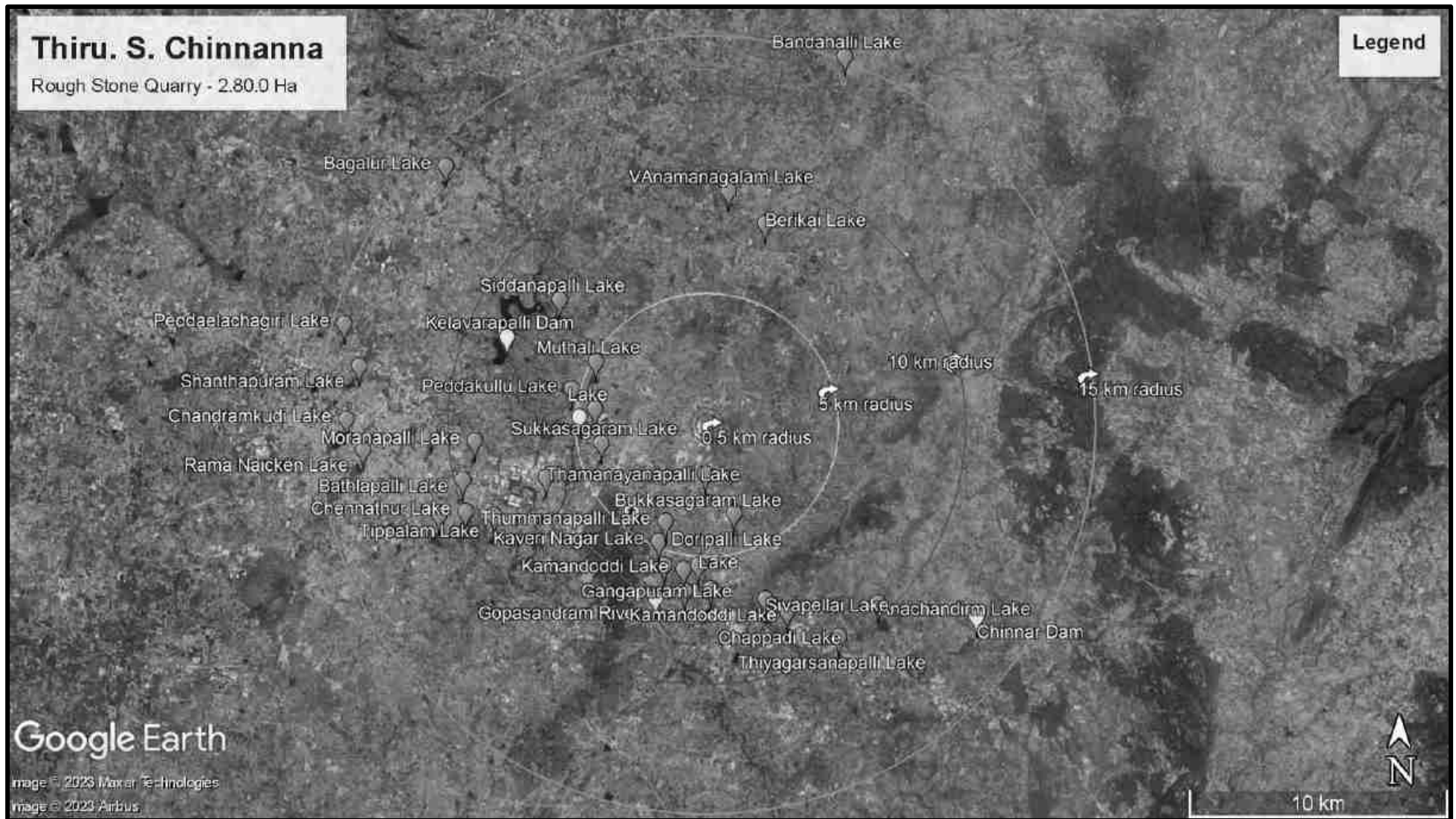
**2.3 LOCATION DETAILS:**

**Table 2-3: Location Details**

<b>S. No</b>	<b>Particulars</b>	<b>Details</b>
1.	Latitude	12°44' 50.98" N - 12°44' 44.25" N
2.	Longitude	77°56' 52.56" E - 77°56' 43.81" E
3.	Site Elevation above MSL	The altitude of the area is 848 m above MSL.
4.	Topography	Hilly terrain
5.	Land use of the site	Government Poramboke land
6.	Extent of lease area	2.80.00 Ha



<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village, Shoalagiri taluk, Krishnagiri District</b>	



**Figure 2.5: Environmental Sensitivity within 15km radius**



<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</b>	

### 2.3.1 Site Photographs

The site photographs of the project site are as follows.



**Figure 2.6: Site Photographs**

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

### 2.3.2 Land Use Breakup of the Mine Lease Area

The Mine Lease area is Elevated terrain. The land use pattern of the mine lease area is as follows.

**Table 2-4: Land use pattern**

S. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)
1.	Quarrying Pit	0.53.5	2.22.7
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.02.0
4.	Green Belt & Dump	Nil	0.10.0
5.	Unutilized Area	2.25.5	0.44.3
<b>Total</b>		<b>2.80.0</b>	<b>2.80.0</b>

### 2.3.3 Human Settlement

There are 5 habitations & 4 Workers Shed in nearby quarry area within the radius of 300m. The nearby habitations are as follows.

**Table 2-5: Habitation**

SL. NO.	DIRECTION	VILLAGE	POPULATION	DISTANCE
1	N	Usthalapalli village	969	0.32 km
2	NW	Gollapalli Village	5196	0.96 km
3	NNW	Dhasapalli village	100	2.4 km
4	ENE	Athimugam village	4540	2.86 km
5	WSW	Sukkasagaram village	2126	3.34 km
6	SSE	Deripalli village	3681	3.56 km
7	N	Nariganapuram	928	4.45 km
8	SE	Nallaganakothapalli village	968	4.96 km
9	SSW	Kamandoddi village	6524	5.75 km
10	SW	Upparathamandrapalli	500	11.68 km



<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

## 2.4 LEASEHOLD AREA

The Rough Stone Quarry mine of 2.80.00 Ha is a Government Poramboke land. The lease area falls on S.F No: 136 (Part-I) of Venkatesapuram Village, Shoolagiri Taluk , Krishnagiri District. There is no reserve forest or protected forest land within the lease area. There is a human settlement within 300m radius from the lease area.

## 2.5 GEOLOGY

Krishnagiri District is underlain by crystalline metamorphic complex in the western parts of district and sedimentary tract in eastern side. An area of 4551 Sq.km is covered by crystalline rocks (63%) and 2671 Sq.km is covered by sediments (37%).

The general geological sequence of formation is given below:

- Quaternary - Laterites, Sands and Clays
- Tertiary - Sandstone, Gravels and Clays
- Cretaceous - Limestone,
- Calcareous Sandstone and Clay unconformity.
- Archaean - Charnockites, Gneisses, Granites, Dolerites and Pegmatite

A major part of the area is covered by metamorphic crystalline rocks of charnockite, granitic gneiss of Archaean age intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting. Ground Water occurs under phreatic conditions and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.

The occurrence of Ground Water in hard rock depends upon the intensity and depth of weathering, fractures and fissures present in the rocks. Granites and gneisses yield moderately compared to the yield in Charnockites. The depth of well in hard rock generally ranges between 8 and 15m below ground level. Generally, yield in open wells ranges from 30 to 250m<sup>3</sup> /day and in bore well between 260 and 430 m<sup>3</sup> /day. The weathered thickness varies from 2.5 m to 42m in general. There are 3 to 5 fracture zones within 100 m and 1 to 4 fracture zones between 100 and 200 m.

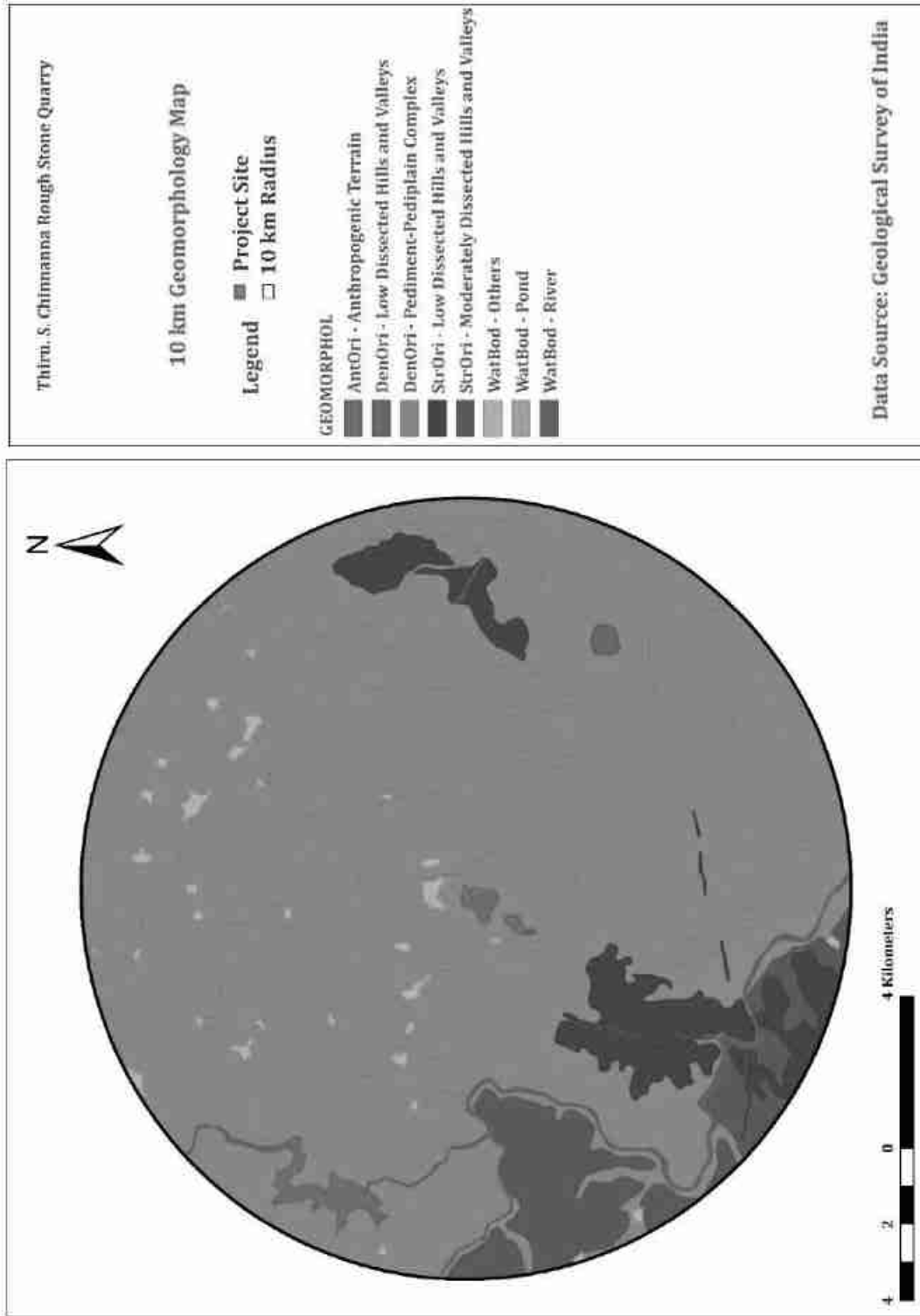
The Cretaceous formation is represented by Arenaceous Limestone, Calcareous sand - stone and marl. The Tertiary formation is an argillaceous comprising of Silty clay stones, argillaceous Limestone. The Quaternary deposits represented by the river deposits of Ponnaiyar and

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

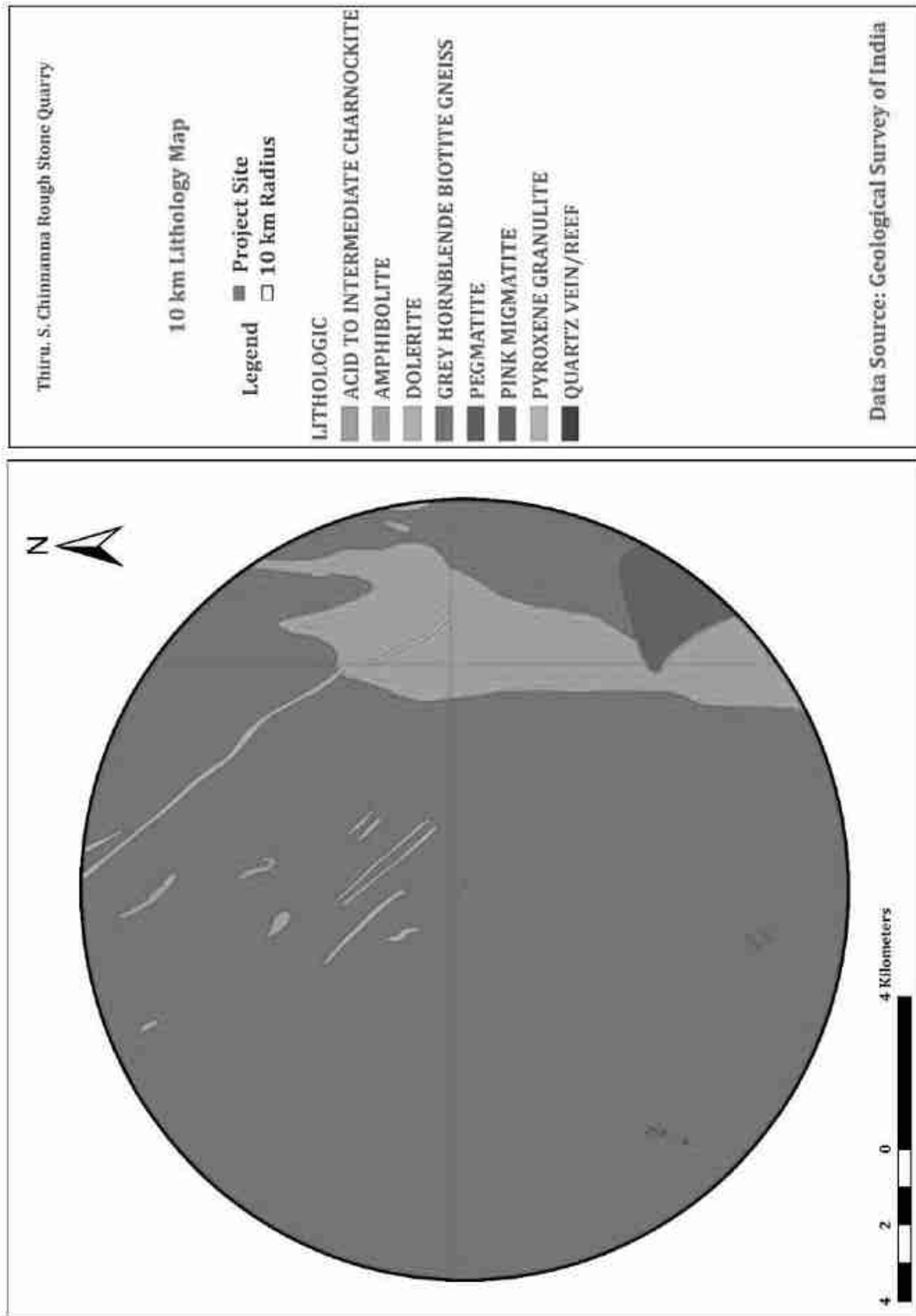
Varahanadhi spread over as patches in Villupuram District. The alluvium consists of unconsolidated sands, gravelly sands, clays and clayey sands. The thickness of the sands ranges between 15 and 25 m in the alluvial formation which also form potential aquifers. In some areas, sandstone of tertiary formation are potential groundwater reservoirs.

<b>Project</b>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<i>Thiru. S. Chinnanna</i>	
<b>Project Location</b>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

**Figure 2.7: Geomorphology**



<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</b>	



**Figure 2.8 Lithology**

**2.6 QUALITY OF RESERVES:**

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

The mining lease area is 2.80.00 Ha, with production capacity of 3,30,344 m<sup>3</sup> of Rough Stone and 24,456 m<sup>3</sup> of Topsoil. Due to its significant role in the domestic as well as infrastructural market, making the mining of Stone along with associated minor minerals is economically viable.

**Table 2-6: Details of Mining**

<b>S. No</b>	<b>Particulars</b>	<b>Details</b>
1	Method of Mining	Open Cast mechanized
2	Geological resources	9,56,180 m <sup>3</sup> of Rough Stone.
3	Recoverable Reserves	3,30,347 m <sup>3</sup> of Rough Stone.
4	Proposed Production	3,30,344 m <sup>3</sup> of Rough Stone.
5	Elevation Range of the Mine Site	The altitude of the area is 848 m above MSL

#### 2.6.1 Estimation of Reserves

The practical method of the systematic geological mapping and delineation of rough stone (Charnockite) within the field was done and careful evaluation of body luster, physical properties, engineering properties, commercial aspects, etc., The Topographical, Geological plan and sections demarcated the commercial marketable rough stone (Charnockite) deposit has been prepared in 1:1000 scale and the estimated balance Geological resources as 3,30,344 m<sup>3</sup> of Rough Stone.

#### 2.6.2 Geological resources

##### **Rough Stone:**

Geological resources is estimated at **9,56,180 m<sup>3</sup>** of Rough Stone up to a depth of 43.0m - 3m Topsoil + 40m Rough stone BGL.

**Table 2-7: Geological resources.**

<b>Geological Reserve</b>							
<b>Section</b>	<b>Bench</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>	<b>Volume m<sup>3</sup></b>	<b>Geological Reserves m<sup>3</sup></b>	<b>Topsoil m<sup>3</sup></b>
XY-AB	I	17	87	3			4437
	II	17	87	5	7395	7025	
	III	121	131	5	79255	75292	

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

	IV	121	131	5	79255	75292	
	V	121	131	5	79255	75292	
	VI	121	131	5	79255	75292	
	VII	121	131	5	79255	75292	
	VIII	121	131	5	79255	75292	
	IX	121	131	5	79255	75292	
	<b>TOTAL</b>				<b>562180</b>	<b>534071</b>	<b>4437</b>
XY-CD	I	122	100	3			36600
	II	62	100	5	31000	29450	
	III	121	100	5	60500	57475	
	IV	121	100	5	60500	57475	
	V	121	100	5	60500	57475	
	VI	121	100	5	60500	57475	
	VII	121	100	5	60500	57475	
	VIII	121	100	5	60500	57475	
		<b>TOTAL</b>				<b>394000</b>	<b>374300</b>
<b>GRAND TOTAL</b>					<b>956180</b>	<b>908371</b>	<b>41037</b>

### 2.6.3 Mineable Reserves

The available mineable reserves are calculated by deducting 10m Safety distance and bench loss. In this regard, since the adjacent also to be under the new lease area necessary action will be taken to get permission from DGMS in future comply regulation under 111(3) of MMR.1961.

**Table 2-8: Mineable Reserves.**

Mineable Reserve							
Section	Bench	Length (m)	Width (m)	Depth (m)	Volume m <sup>3</sup>	Mineable Reserves m <sup>3</sup>	Topsoil m <sup>3</sup>
XY-AB	I	5	75	3			1125
	II	4	74	3	1480	1406	
	III	103	95	5	48925	46479	
	IV	98	85	5	41650	39568	
	V	93	75	5	34875	33131	
	VI	88	65	5	28600	27170	
	VII	83	55	5	22825	21684	
	VIII	78	45	5	17550	16673	
	IX	73	35	5	12775	12136	

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

	<b>TOTAL</b>				<b>208680</b>	<b>298248</b>	<b>1125</b>
XY-CD	I	202	77	3			23331
	II	62	74	5	22940	21793	
	III	108	64	5	34560	32832	
	IV	103	54	5	27810	26420	
	V	98	44	5	21560	20482	
	VI	93	34	5	15810	15020	
	VII	88	24	5	10560	10032	
	VIII	83	14	5	5810	5520	
	<b>TOTAL</b>				<b>139050</b>	<b>132099</b>	<b>23331</b>
<b>GRAND TOTAL</b>					<b>347730</b>	<b>330347</b>	<b>24456</b>

#### 2.6.4 Year wise Production Plan

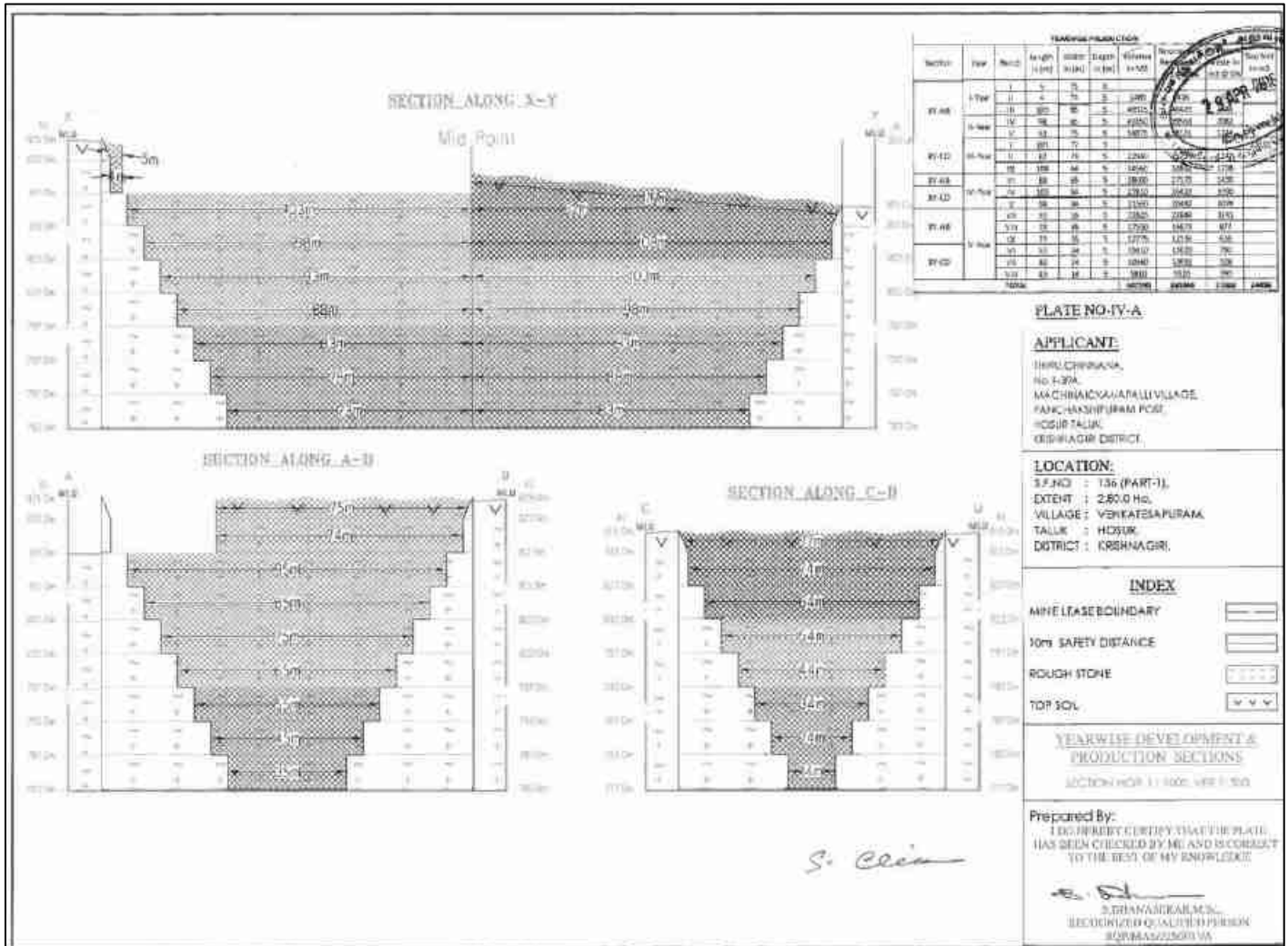
The year wise production to be carry out 3,30,344 m<sup>3</sup> of Rough Stone for the period of five years.

**Table 2-9: Year wise Production Plan.**

<b>Yearwise Reserve</b>								
<b>Year</b>	<b>Section</b>	<b>Bench</b>	<b>Length (m)</b>	<b>Width (m)</b>	<b>Depth (m)</b>	<b>Volume m<sup>3</sup></b>	<b>Recoverable reserves m<sup>3</sup></b>	<b>Topsoil m<sup>3</sup></b>
I YEAR	XY-AB	I	5	75	3			1125
		II	4	74	5	1480	1406	
		III	103	95	5	48925	46479	
II YEAR	XY-AB	IV	98	85	5	41650	39568	
		V	93	75	5	34875	33131	
III YEAR	XY-CD	I	101	77	3			2331
		II	62	74	5	22940	21793	
		III	108	64	5	34650	32832	
IV YEAR	XY-AB	VI	88	65	5	28600	27170	
	XY-CD	IV	103	54	5	27810	26420	
		V	98	44	5	21560	20482	
V YEAR	XY-AB	VII	83	55	5	22825	21684	
		VIII	78	45	5	17550	16673	
		IX	73	35	5	12775	12136	
	XY-CD	VI	93	34	5	15810	15020	
		VII	88	24	5	10560	10032	
		VIII	83	14	5	5810	5520	

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</b>	

<b>TOTAL</b>	<b>347730</b>	<b>330344</b>	<b>24456</b>
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**Figure 2.9 Year wise Production Plan.**



<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

## 2.7 TYPE OF MINING

The proposed project is an open cast mechanized mining with one 3.0 m bench for Topsoil followed by a 5.0m vertical bench with a bench width not less than the bench height. However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of regulations 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 Mines Act- 1952.

### 2.7.1 *Method of Working:*

The Rough stone are proposed to quarry at 5m bench height & 5m bench width with conventional Open cast mechanized method. The quarry operation involves Shallow jack hammer drilling, Blasting, Loading & transportation of Rough Stone to the nearby crusher units/road formation works. The production of Rough Stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rocks by jackhammer drilling and blasting by manually braking and loading the Rough Stone from pit head to the needy crushing units/civil works for the needy sectors.

### 2.7.2 *Overburden*

The entire lease area covers 3.0m of Topsoil and estimated quantity of Topsoil is 24,456 m<sup>3</sup>. Topsoil formation will be removed and transported to the needy users, only after obtaining permission and paying necessary seigniorage fees to the Government.

### 2.7.3 *Machineries to be used*

The type of machinery proposed for quarrying operation for the entire project is listed below.

**Table 2-10: List of Machineries used**

For Mining operation and Loading Equipment	Excavator of 1.2 Cu.m bucket capacity Jack Hammer (25.5 mm dia) Tractor mounted compressor
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<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

Transportation	Tipper 2 Nos. of 10 M.T capacity
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#### 2.7.4 *Blasting:*

##### 2.7.4.1 **Blasting Pattern:**

The quarrying operation will be carried out by Mechanized Opencast method in conjunction with conventional method of mining using jack hammer drilling and blasting for shattering effect and loosen the rough stone.

##### 2.7.4.2 **Drilling & Blasting:**

Drilling and Blasting Parameters are as follows.

**Table 2-11: Drilling and Blasting Parameters**

1	Diameter of the hole	32-36 mm
2	Spacing	60 Cms
3	Depth	1 to 1.5 m
4	Charge / Hole	D. Cord with water or 70gms of gun powder or Gelatine.
5	Pattern of hole	Zig Zag
6	Inclination of hole	70° from the horizontal.
7	Quantity of rock broken	0.45 MT x 2.6 = 1.17 MT
8	Quantity of rock broken per day	362.8m <sup>3</sup>
9	Control Blasting efficiency @90%	1.17 x 90% = 1.05 MT / hole
10	Charge per hole	140 gms of 25mm dia cartridge

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#### **2.7.4.3 Types of Explosives to be used:**

A small diameter of 25 mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling or primary blasting is proposed.

#### **2.7.4.4 Measures to minimize ground vibration due to blasting:**

The quarry is situated more than 1 km from the nearby villages. Controlled blasting measures will be adopted for minimizing the ground vibration and fly of rocks. Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give shattering effect in rough stone for easy excavation and to control fly of rock.

**Table 2-12: Blasting Details**

<b>Parameters</b>	<b>Details</b>
Diameter of holes	32-36mm
Spacing	60 cms
Powder factor	6 to 7 tons/kg of explosives
Pattern of hole	Zig Zag
Charge/hole	D.Cord with water or 70gms of gun powder or Gelatine.
Blasted at daytime	5 to 6 pm

#### **2.7.4.5 Storage & Safety measures taken during blasting:**

The project proponent “Thiru. S. Chinnanna” will engage an authorized explosive agency to carry out the small amount of blasting and it will be supervised by Permit Mines Manager. The copy of the explosive certificate is attached as *Annexure*.

## **2.8 MAN POWER REQUIREMENTS**

The manpower requirement to meet out the production Schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations is as follows.

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**Table 2-13: Man Power Requirements**

<b>S.No</b>	<b>Skill Level</b>	<b>Position</b>	<b>Nos.</b>
1.	Management & Supervisory Staff		3
2.	Skilled	Operator	2
		Mechanic	1
		Blaster/mate	1
3.	Semi – skilled	Driver	2
4.	Unskilled	Musdoor / Labours	5
		Cleaners	3
		Office Boy	1
<b>Total</b>			<b>18 Nos.</b>

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

### 2.8.1 Water Requirement

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

**Table 2-14: Water Requirement**

<b>Purpose</b>	<b>Quantity</b>	<b>Source</b>
Drinking Water	0.81 KLD	Packaged Drinking water vendors available in Usthalapalli Village which is about 0.32 - N 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
<b>Total</b>	<b>1.81 KLD</b>	

## 2.9 PROJECT IMPLEMENTATION SCHEDULE

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
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The implementation schedule of the proposed Mine Lease of Thiru. S. Chinnanna (2.80.00 ha) is as follows.

**Table 2-15: Mining Schedule**

<b>MINING SCHEDULE</b>					
Activity	Mar-24	Mar-25	Mar-26	Mar-27	Mar-28
Site Clearance					
Excavation - Top Soil.					
I Year Production – 47,885 Cum - Rough Stone & 1,125 m <sup>3</sup> Topsoil					
II Year Production – 72,699 Cum - Rough Stone					
III Year Production – 54,625 Cum - Rough Stone & 2,331 m <sup>3</sup> Topsoil					
IV Year Production – 74,072 Cum - Rough Stone					
V Year Production – 81,065 Cum - Rough Stone					

## 2.10 SOLID WASTE MANAGEMENT

**Table 2-15: 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

## 2.11 MINE DRAINAGE

The quarry operation is proposed up to a depth of 43 m BGL. The water table is below 50m from the ground level which is observed from the nearby bore wells and bore wells of this area. Hence the ground water will not be affected in any manner due to the quarrying operation during the entire lease period.

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## 2.12 POWER REQUIREMENT

This 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.

## 2.13 PROJECT COST

Proposed Financial Estimate / Budget for (EMP) Environment Management.	
<b>Fixed Asset Cost:</b>	<b>Rs.64,10,000/-</b>
<b>Operational Cost:</b> <b>Machinery cost</b>	<b>Rs.20,00,000/-</b>
<b>EMP Cost:</b>	<b>Rs.87,32,000/-</b>
<b>Total Project Cost</b>	<b>Rs.1,71,42,000/-</b>

## 2.14 GREENBELT

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. The Green belt has been recommended as one of the major components of the Environmental Management plan, which will improve ecology, the environment and the 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 280 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area

**Table. 2-17 Plantation/ Afforestation Program.**

<b>Name of species proposed</b>	<b>Survival</b>	<b>No of species</b>
Neem, Pungam, Poovarasu, Naval, Mantharai, Arasa Maram, Magizham, Vilvam, vaagai, Marudha maram, Thandri,	80%	1400

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Poovarasu, Manjadi, Usil, Aathi, Panai, Uzha, Illuppai, Eachai, Vanni Maram.		
<b>Total</b>		<b>1400</b>

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### 3 Description of the Environment

#### 3.1 GENERAL:

The method of mining for extracting rough stone quarry is required to be selected in such a manner to ensure sustainable development. Mining activities invariably affect the existing environmental status of the site. It has both adverse and beneficial effects. In order to maintain the environmental commensuration with the mining operation, it is essential to undertake studies on the existing environmental scenario and assess the impact on different environmental components. This would help in formulating suitable management plans and sustainable resource extraction.

To understand the existing environmental scenario, Baseline data helps in identification, prediction and evaluation of impacts in Environmental Impact assessment. Through field study, baseline data are collected considering various factors of the project. This includes-

- Physical- the area, the soil properties, the geological characteristics, the topography, etc
- Chemical- water, air, noise and soil pollution levels, etc.
- Biological- the biodiversity of the area, types of flora and fauna, species richness, species distribution, types of ecosystems, presence or absence of endangered species and/or sensitive ecosystems etc.
- Socioeconomic- demography, social structure, economic conditions, developmental capabilities, displacement of locals, etc.

#### 3.1.1 *Study Area:*

The study area for the mining projects is as follows:

- Mine lease area as the “core zone”
- A study area of 10 km radius from the project boundary is designated as buffer Zone and for the study of Socio-economic status, 10 km radius from the boundary limits of the mine lease area has been selected.

We have obtained Terms of Reference from SEIAA vide Letter No. SEIAA-TN vide Letter No. SEIAA-TN/F. No. 10429/ ToR-1600/2023 Dated: 07.11.2023. The baseline monitoring is carried out from Oct 2023 to Dec 2023 and the analysis is briefed in the EIA report. The proponent has engaged M/s. Ecotech labs Pvt. Ltd for carrying out the existing baseline study.



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### 3.1.2 Instruments Used

The following instruments were used at the site for baseline data collection.

1. Respirable Dust Sampler with attachment for gaseous Pollutants, Envirotech APM 460, APM411.
2. Fine Particulate Matter (FPM) Sampler, APM 550
3. Sound Level Meter Model SL-4010
4. 2000 series watchdog automatic weathering monitoring station

### 3.1.3 Baseline Data Collection Period:

The baseline data is collected in accordance with the CPCB Guidelines. The Baseline study is carried out from Oct 2023 to Dec 2023.

### 3.1.4 Frequency of Monitoring

**Table 3-1: Frequency of Sampling and Analysis**

<b>Attributes</b>	<b>Sampling</b>	<b>Frequency</b>
Air environment – Meteorological (wind speed, wind direction, rainfall, humidity, temperature)	Project site	1 hourly continuous
Air environment – Pollutants PM 10 PM 2.5 SO <sub>2</sub> NO <sub>x</sub>	7 locations	24 hourly twice a week 4 hourly. Twice a week, One non-monsoon season 8 hourly, twice a week 24 hourly, twice a week
Noise	7 locations	24 hourly Once in 7 locations
Water (Ground water) pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate, Fluoride, Nitrate, Sodium, Potassium, Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms	7 locations	Once in 7 locations
Water (surface water)	Sample from	One-time Sampling

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pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate, Fluoride, Nitrate, Sodium, Potassium, Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms	nearby lakes/river	
Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	7 locations	Once in 7 locations
Ecology and biodiversity Study	Study area covering 10 km radius	One-time Sampling
Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 10 km radius	One-time Sampling

### 3.1.5 Secondary data Collection

Apart from the primary data, Secondary data is also used for the collection; collation; synthesis and interpretation.

- Flora & Faunal Study
- Land use study
- Demography and socio-economic analysis
- Meteorological data, from Indian Meteorological Department (IMD)

### 3.1.6 Study area details

**Table 3-2 Study area details**

S. No	Description	Details	Source
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<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

1.	Project Location	S.F.Nos. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk , Krishnagiri District.			Field Study
2.	Latitude & Longitude	12° 44' 50.98"N - 12° 44' 44.25"N 77° 56' 52.56"E - 77° 56' 43.81" E			Topo Sheet
3.	Topo Sheet No.	57- H/14			Survey of India Toposheet
4.	Mine Lease Area	2.80.00 Ha			--
Demography in the study area (as per Census 2011)					
5.	Total Population	7,884			Census Survey of India
6.	Total Number of Households	1807			
7.	Maximum Temperature (°C)	18			IMD
8.	Minimum Temperature (°C)	34			
9.	Ecological Sensitive Areas - Wetlands, watercourses or other waterbodies, coastal zone, biospheres, mountains, forests	Bukkasagaram Lake	2.52 km	SSE	Google Earth/Field Study
		Doripalli Lake	4.16 km	SSE	
		Muthali Lake	4.40 km	NW	
		Thummanapalli Lake	4.63 km	SSW	
		Chinna Muthali	4.90 km	NW	
		Peddakullu Lake	5.10 km	WNW	
		Lake 1	5.49 km	SW	
		Lake 2	6.08 km	SSE	
		Kamandoddi New Lake	6.14 km	SSW	
		Lake 3	6.26 km	SSW	
		Kamandoddi lake	6.90 km	SSE	
		Konerapalli Lake	7.86 km	SSE	
		Konerapalli Lake	7.86 km	SSE	
		Kumudapalli Lake	7.99 km	WSW	
		Chappadi lake	8.71 km	SSE	
		Moranapalli Lake	8.90 km	WSW	
		Guruparathapalli Well	9.52 km	SSE	
		Bathlapalli lake	9.83 km	WSW	
		Chennathur Lake	10.07 km	WSW	

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		Anachandiram Lake	10.10 km	SE	
		Lake 4	10.18 km	SSE	
		Alasantham Lake	10.57 km	WSW	
		Karapalli Lake	11.06 km	WSW	
		Basthi lake	11.26 km	WNW	
		Vasanth Nagar Lake	11.70 km	WSW	
		Alasanatham Lake	11.80 km	WSW	
		TheppaKulam	12.24 km	WSW	
		Nallur Lake	12.49 km	NW	
		NB Agraharam Lake	12.62 km	WNW	
		Gokul Nagar Lake	12.63 km	WSW	
		Shanthapuram Lake	13.51 km	WNW	
		Rama Naicken Lake	13.52 km	WSW	
		Rangopanditha Agraharam Lake	13.62 km	WSW	
		Bedrapalli Lake	14.29 km	WNW	
		Nalluru Agrahara Lake	14.30 km	NW	
		Govindhan lake	14.49 km	SW	
		Bennikkal waterfalls	14.69 km	SW	
		Achettapalli Lake	14.72 km	WSW	
10.	Densely Populated area	Berigai Village - 6.40 Km -NNE			
11.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	<b>Places</b>	<b>Dist. From Project Site</b>		
		<b>Schools</b>			
		Government Boys Higher Secondary School Bagalur.	12.69 km-NW		
		Rv Government High School PlayGround.	12.60km-WNW		
		Government High School.	11.02km-West		

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<b>Places</b>	<b>Dist. From Project Site</b>	<b>Google Earth/ Field Study</b>
<b>Colleges</b>		
Hosur Govt. Arts and Science College.	12.12 km-WSW	
St. Joseph's ITI.	12.19 km-WSW	
Adhiyamaan College of Engineering.	8.88 km-WSW	
<b>Hospitals</b>		
Government Hospital.	3.75 km-ENE	
Govt Primary Health Center.	6.61 km-NNE	
Bagalur Primary Health Centre.	12.85 km-SW	

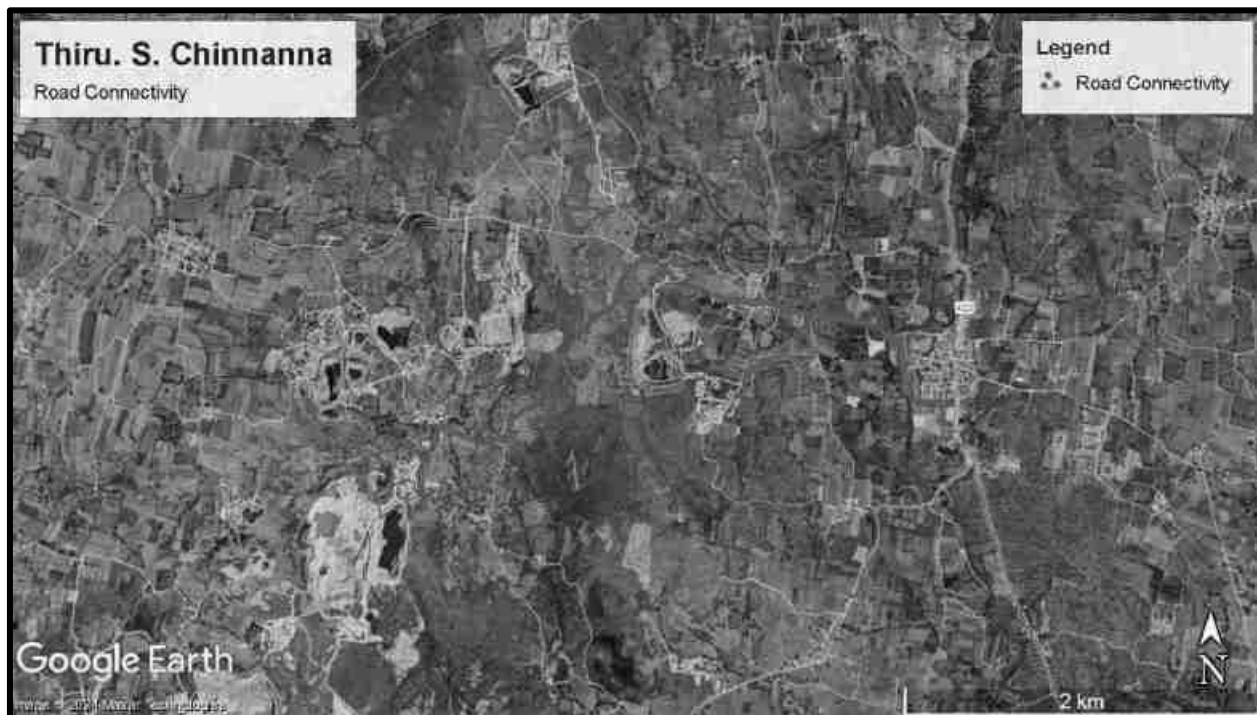
### 3.1.7 Site Connectivity:

The site is connected to MDR 422 Road.

Project Site to MDR 422 – 4.34 km - E

NH - 44 – Thoppur to Salem Road – 6.70 Km - S

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**Figure 3.1: Site Connectivity**

## 3.2 LAND USE ANALYSIS

### 3.2.1 *Land Use Classification*

Land Use / Land Cover - Land Use refers to man's activity and the various uses, which are carried out on land. Land Cover refers to natural vegetation, water bodies, rock/soil, artificial cover and others, resulting due to land transformation. The present Land Use/Land Classification map is developed with the following objectives. The main objective of the study is to classify the different land use within 10 km from the project boundary.

### 3.2.2 *Methodology*

Information of land use and land cover is important for many planning and management activities concerning the surface of the earth (Agarwal and Garg, 2000). Land use refers to man's activities on land, which are directly related to land (Anderson et al., 1976). The land use and the land cover determine the infiltration capacity. Barren surfaces are poor retainers of water as compared to grasslands and forests, which not only hold water for longer periods on the surface, but at the same time allow it to percolate down.

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The terms ‘land use’ and ‘land cover’ (LULC) are often used to describe maps that provide information about the types of features found on the earth’s surface (land cover) and the human activity that is associated with them (land use). Satellite remote sensing is being used for determining different types of land use classes as it provides a means of assessing a large area with limited time and resources. However, satellite images do not record land cover details directly and they are measured based on the solar energy reflected from each area on the land. The amount of multi spectral energy in multi wavelengths depends on the type of material at the earth’s surface and the objective is to associate particular land cover with each of these reflected energies, which is achieved using either visual or digital interpretation. In the present study the task is to study in detail the land use and land cover in and around the project site. The study envisages different LULC around the proposed project area and the procedure adopted is as below.

### *3.2.3 Satellite Data*

Sentinal 2 multispectral satellite data of 2020 was utilized for the present study. Details of satellite data is given below. The rectification of imagery was carried out to bring the digital data on the earth coordinate system by means of ground control point (GCP) assignments/SOI topo sheets.

### *3.2.4 Scale of mapping*

Considering the user defined scale of mapping, 1:50000 Sentinal 2 data was used for Land use / Land cover mapping of 10 km radius for proposed site. The description of the land use categories for 10 km radius and the statistics are given for 10 km radius.

### *3.2.5 Interpretation Technique*

Standard on screen visual interpretation procedure was followed. The various Land use / Land cover classes interpreted along with the SOI topographical maps during the initial rapid reconnaissance of the study area. The physiognomic expressions conceived by image elements of color, tone, texture, size, shape, pattern, shadow, location and associated features are used to interpret the FCC imagery. Image interpretation keys were developed for each of the LU/LC classes in terms of image elements.

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June 2016 FCC imagery (Digital data) of the study area was interpreted for the relevant land use classes. On screen visual interpretation coupled with supervised image classification techniques are used to prepare the land use classification.

1. Digitization of the study area (10 km radius from the proposed site) from the topo maps
2. In the present study the sentinel satellite image and SOI topo sheets of 57-H/14 have been procured and interpreted using the ERDAS imaging and ARC-GIS software adopting the necessary interpretation techniques.
3. Satellite data interpretation and vectorization of the resulting units
4. Adopting the available guidelines from manual of LULC mapping using Satellite imagery (NRSA, 1989)
5. Field checking and ground truth validation
6. Composition of final LULC map

The LULC Classification has been done at three levels where level - 1 being the broad classification about the land covers that is Built-up land, agriculture land, waste land, wetlands, and water bodies. These are followed by level –II where built-up land is divided into towns/cities as well as villages. The agriculture land is divided into different classes such as cropland, Fallow, Plantation, while wastelands are broadly divided into, Land with scrub and without Scrub and Mining and Industrial wasteland. The wetlands are classified into inland wetlands, coastal wetlands and islands. The water bodies are classified further into River/stream, Canal, Tanks and bay. In the present study level II classification has been undertaken. The SOI Topo map is presented in Annexure and Satellite imagery of 10 km radius from the project site is presented Annexure.

### ***3.2.6 Field Verification***

Field verification involved collection, verification and record of the different surface features that create specific spectral signatures / image expressions on FCC. In the study area, doubtful areas identified in course of interpretation of imagery is systematically listed and transferred on to the corresponding SOI topographical maps for ground verification. In addition to these, traverse routes were planned with reference to SOI topographical maps to verify interpreted



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LU/LC classes in such a manner that all the different classes are covered by at least 7 sampling areas, evenly distributed in the area. Ground truth details involving LU/LC classes and other ancillary information about crop growth stage, exposed soils, landform, nature and type of land degradation are recorded and the different land use classes are taken the Land use map is presented in Annexure.

### *3.2.7 Description of the Land Use / land cover classes*

#### **3.2.7.1 Water**

Areas where water was predominantly present throughout the year; may not cover areas with sporadic or ephemeral water; contains little to no sparse vegetation, no rock outcrop nor built up features like docks; examples: rivers, ponds, lakes, oceans, flooded salt plains.

#### **3.2.7.2 Trees**

Any significant clustering of tall (~15-m or higher) dense vegetation, typically with a closed or dense canopy; examples: wooded vegetation, clusters of dense tall vegetation within savannas, plantations, swamp or mangroves (dense/tall vegetation with ephemeral water or canopy too thick to detect water underneath).

#### **3.2.7.3 Grass**

Open areas covered in homogenous grasses with little to no taller vegetation; wild cereals and grasses with no obvious human plotting (i.e., not a plotted field); examples: natural meadows and fields with sparse to no tree cover, open savanna with few to no trees, parks/golf courses/lawns,pastures.

#### **3.2.7.4 Flooded vegetation**

Mix of small clusters of plants or single plants dispersed on a landscape that shows exposed soil or rock; scrub-filled clearings within dense forests that are clearly not taller than trees; examples: moderate to sparse cover of bushes, shrubs and tufts of grass, savannas with very sparse grasses, trees or other plants.

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### **3.2.7.5 Crops**

Humans planted/plotted cereals, grasses, and crops not at tree height; examples: corn, wheat, soy, fallow plots of structured land.

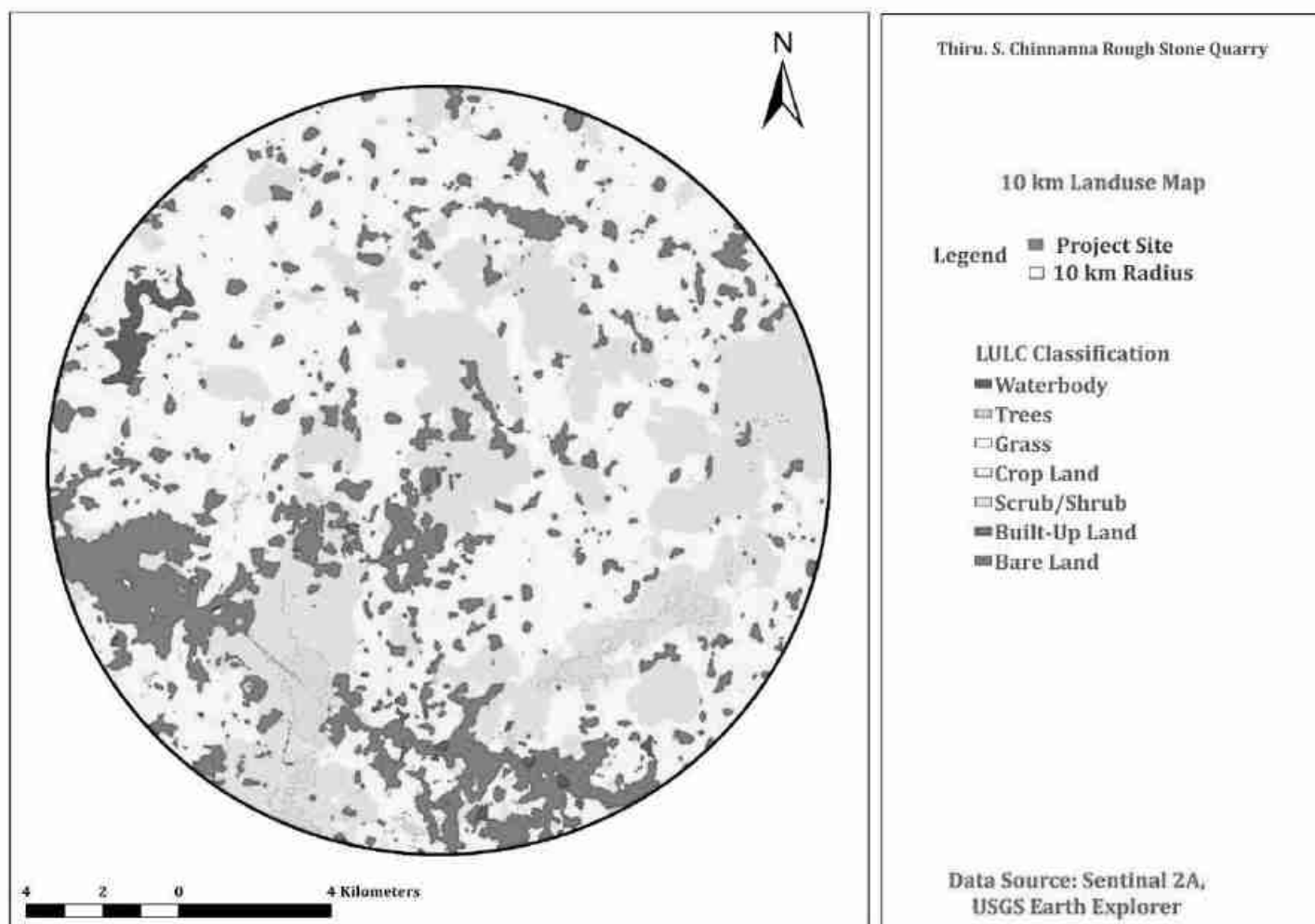
### **3.2.7.6 Scrub/Shrub**

Mix of small clusters of plants or single plants dispersed on a landscape that shows exposed soil or rock; scrub-filled clearings within dense forests that are clearly not taller than trees; examples: moderate to sparse cover of bushes, shrubs and tufts of grass, savannas with very sparse grasses, trees or other plants.

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<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

### 3.2.7.7 Built Area

Human made structures; major road and rail networks; large homogenous impervious surfaces including parking structures, office buildings and residential housing; examples: houses, dense villages / towns / cities, paved roads, asphalt.



**Figure 3.2 Land use classes around 10 km radius from the project site**

### 3.2.7.8 Different Land use classes around 10 km radius from the project site

**Table 3-3 Land use pattern**

Sl.No	Categories	Area in Sq.m	Percentage
1	Water Body	3.34	1.06%
2	Trees	7.75	2.45%

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3	Grass	0.09	0.03%
4	Crops	171	54.12%
5	Scrub/Shrub	80.18	25.38%
6	Built-up Area	53.06	16.79%
7	Barren Land	0.54	0.17%

### 3.3 WATER ENVIRONMENT

#### 3.3.1 *Contour & Drainage*

The altitude of the area is 848 m above MSL.

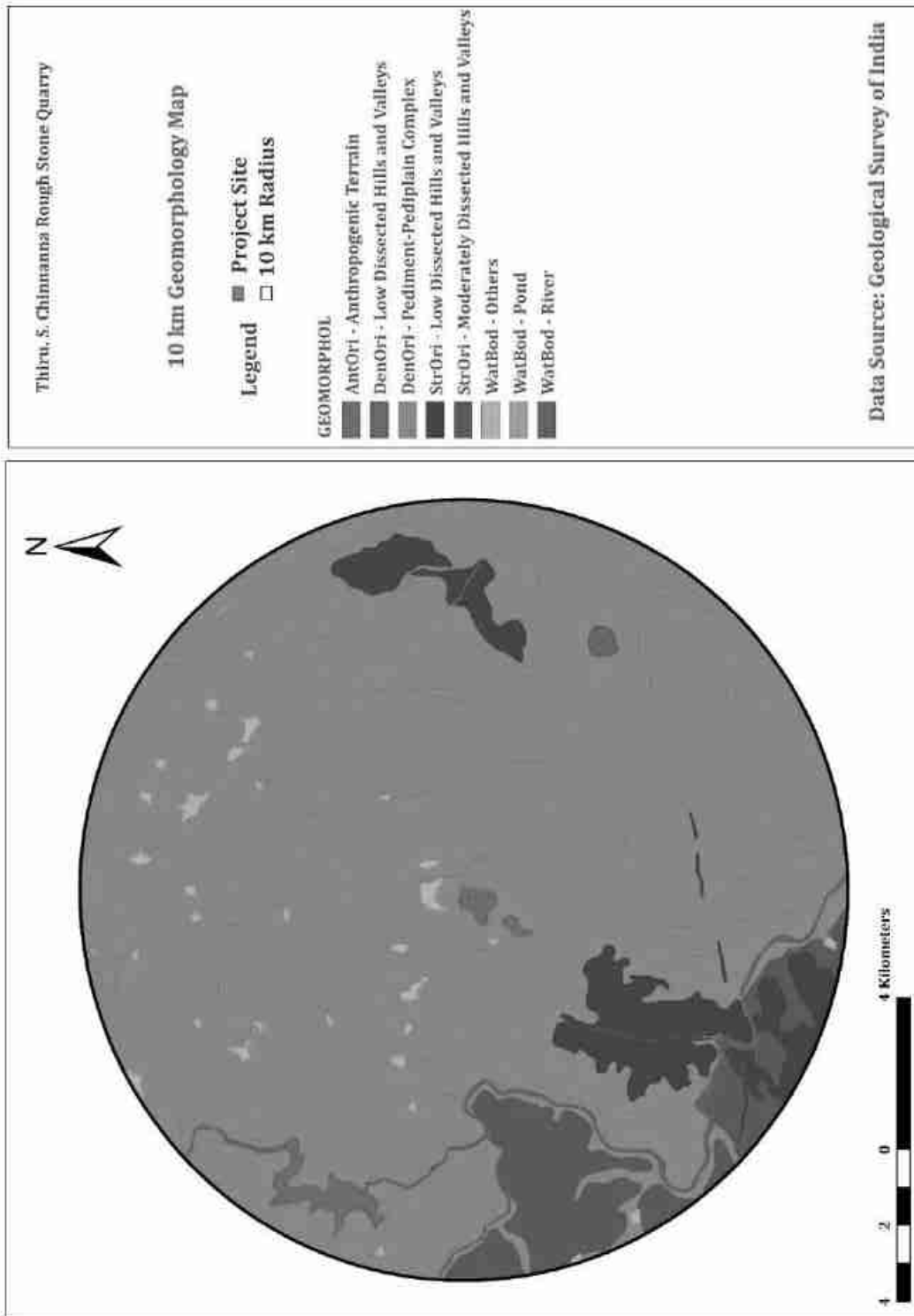
#### 3.3.2 *Geomorphology*

The prominent geomorphic units identified in the district through interpretation of satellite imagery are structural hills in the southwestern part of the district, denudational landforms like buried pediments in the plains and inselbergs and plateaus represented by conical hills aligned with major lineaments. Krishnagiri district forms part of the upland plateau region with many hill ranges and undulating plains. The western part of the district has hill ranges of Mysore plateau with a chain of undulating hills and deep valleys extending in NNE-SSW direction. The plains of the district have an average elevation of 488 m amsl. The plateau region along the western boundary and the northwestern part of the district has an average elevation of 914 m amsl. The Guthrayan Durg with an elevation of 1395 m amsl is the highest peak in the district.

#### **Soils**

Soils have been classified into Black soil, mixed soil, red loamy soil, gravelly and sandy soils. Red loamy and sandy soils are predominant in Shoolagiri taluk. Vast stretches of loam soil and black soils occur in Krishnagiri district.

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**Figure 3.3 Geomorphology within 10km from the project site**

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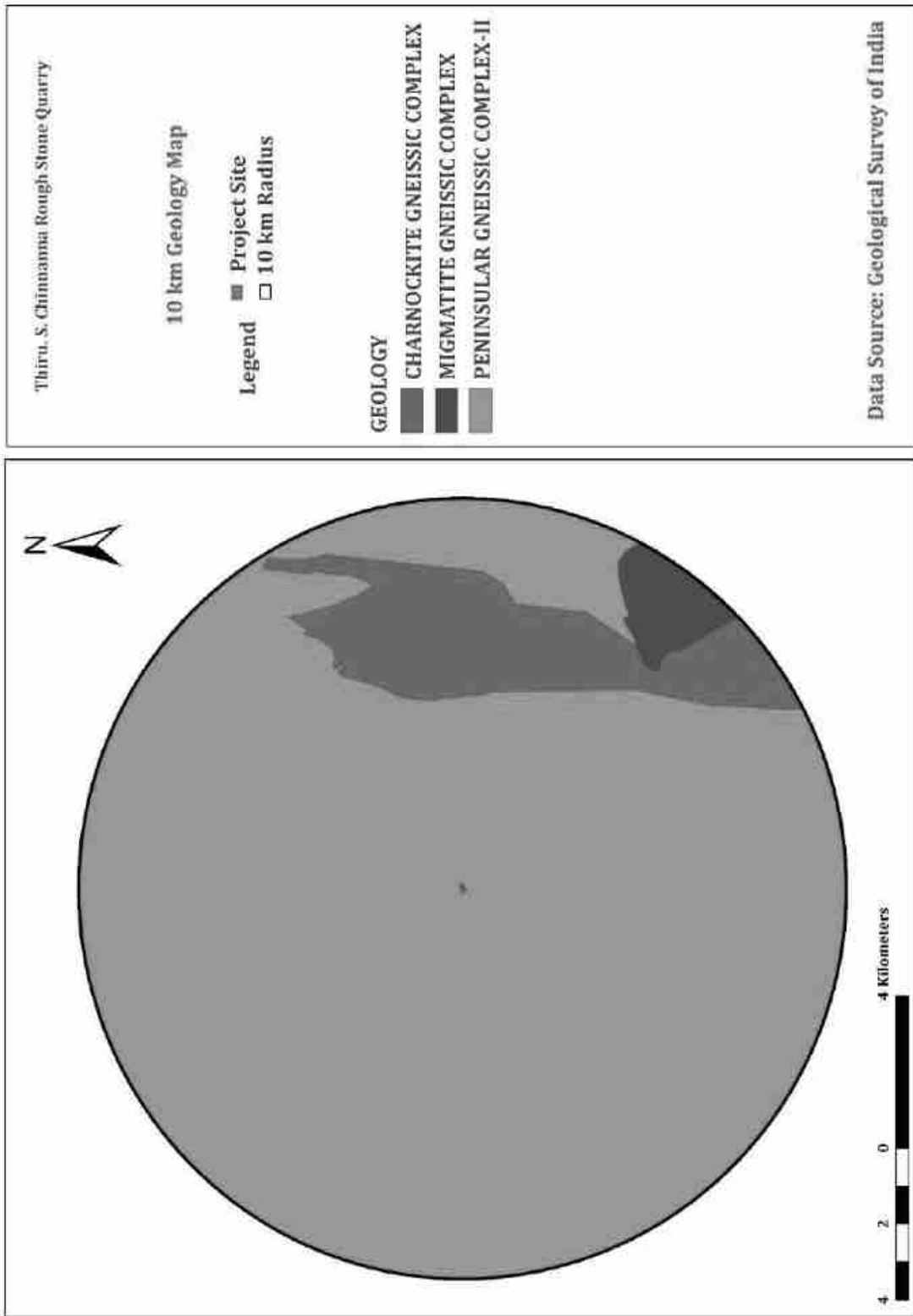
### 3.3.3 *Geology:*

The geological formations of the district belong mainly to Archaean age along with rock of Proterozoic age. The former is represented by Khondalite Group of rocks, Charnockite Group of rocks, Migmatites Complex, Santhymangalam Group of rocks, while the latter is represented by Alkaline rocks. The Khondalite Group includes garnet sillimanite gneiss and quartzite which occur as small patches. The migmatite complex includes garnet ferrous quartz of elds pathic gneiss and horn blends biotite gneiss, the former exposed on the western part of the district. The Santhymangalam Group includes fuchsite quartzite, sillimanite mica schist and amphibolites. The Bhavani Group in this area includes fissile hornblende-biotite gneiss, granitoid gneiss and pink migmatite. Amphibolites with barbed ferruginous quartzite and associated quartzofeldspathic rocks (Champion Gneiss) represent the Kolar group and are found west and southwest of Veppanapalli. Following this there are basic intrusions occurring as dykes.

The Charnockite Group occupies a major part of the south-west portion of this district with small bands of garnetiferous quartzofeldspathicgneiss, Granite gneiss and dolerite dykes. The North-East and Northern part of the District mainly consist of granite gneiss with small patches of Pink Migmatite, hornblende-biotite gneiss and dolerite dykes. The Eastern part of the district consists of Epidote-Hornblende Gneiss, Ultra Mafics, Syenite and Carbonatite.

The Alkaline Complex is represented by epidote-horn blende gneiss, ultramafics, syenite and carbonatite and these are distributed in the eastern part of the district. Innumerable basic dykes and felsites, quartz, barites and pegmatite veins form part of the Alkali Complex.

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<b>Project Location</b>	<b>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</b>	



**Figure 3.4 Geology within 10km from the project site**

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### 3.3.4 *Hydrogeology*

Krishnagiri district is underlined by Archaean crystalline formations with Recent alluvial deposits of limited areal extent and thickness along the courses of major rivers (Plate-II). The occurrence and movement of ground water are controlled by various factors such as physiography, climate, geology and structural features. Weathered, and fractured crystalline rocks constitute the important aquifer systems in the district.

Ground water generally occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fractured zones at deeper levels. The thickness of weathered zones in the district ranges from less than a meter to more than 15 m. The yield of large diameter dug wells in the district, tapping the weathered mantle of crystalline rocks ranges from 100 to 500 lpm. These wells normally sustain in pumping for 2 to 6 hours per day, depending upon the local topography and characteristics of the weathered mantle.

The depth to water level (DTW) during pre-monsoon (May 2006) ranged between 0.5 and 9.9 m bgl (Plate-III) in the district. In major part of the district the DTW is more than 5mbgl. Whereas it ranged between 2 and 9.9 m bgl (Plate-IV) during post monsoon, in the district and the DTW is in the range of 5 – 10 m bgl in the entire district except a few isolated pockets.

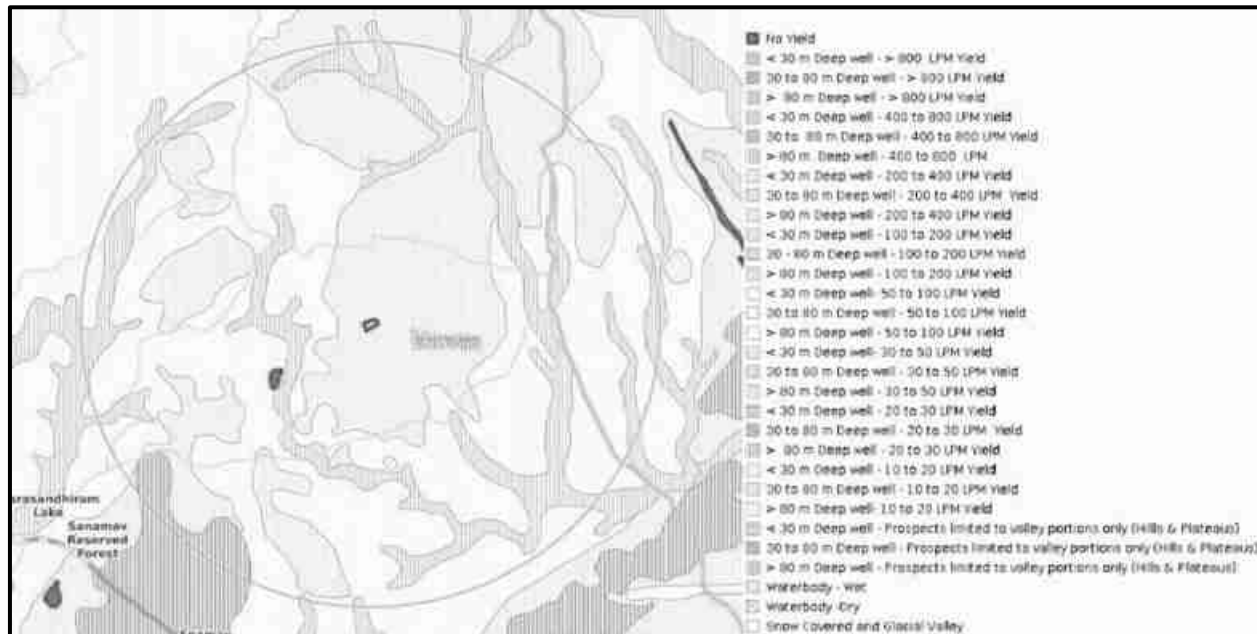
The yield of successful exploratory wells drilled in the district ranged from 0.78 lps to 26 lps. As per the studies the wells drilled in granitic gneiss have higher yields than the wells drilled in charnockites. The specific capacity of the wells ranged from 1.2 to 118.0 lpm/m/dd. The piezometric head of fracture zones varied between 0.50 and 18.45 m bgl.

#### **Aquifer Parameters:**

The transmissivity values of fracture zones ranged from 1 to 188 m<sup>2</sup> /day with low to very low permeability values.



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<b>Project Location</b>	<b>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</b>	



**Figure 3.5 Ground water prospects within 5 km radius of the project site**

### 3.3.5 Ground water quality monitoring

Ground water quality monitoring is done in the following locations and analysis will be done for physical, chemical & Biological parameters.

**Table 3-4 Ground water Quality Analysis**

Environmental Parameters: Ground water Quality Analysis	
Monitoring Period	Oct 2023 to Dec 2023
Design Criteria	Based on the Environmental settings in the study area
Monitoring Locations	<p>Project site – GW 1</p> <p>Adhiyamaan College Of Agriculture and Research, Athimugam – GW 2</p> <p>Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – GW 3</p> <p>Dasarapalli Dinna School – GW 4</p> <p>Village Municipal Society Center – GW 5</p> <p>Sri Hanuman Temple, Chinthaladoddi – GW 6</p> <p>Chowdeshwari Devi Temple, Sivapellai - GW 7</p>

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<i>Project Location</i>	<i>Venkatesapuram Village,Shoolagiri Taluk,Krishnagiri District</i>	

Methodology	Water Samples were collected in 5 Litre fresh cans as per IS 3025 Part I and transported to the laboratory in Iceboxes
Frequency of Monitoring	Once in a season

### 3.3.5.1 Sampling Procedure

Quality of ground water was compared with IS: 10500: 1991 (Reaffirmed 1993 With Amendment NO-3 July 2010) for drinking purposes. Water samples were collected as Grab sample from five sampling locations in a 5-liter plastic jerry can and 250 ml sterilized clean glass/pet bottle for complete physico-chemical and bacteriological tests respectively. The samples were analyzed as per standard procedure / method given in IS: 3025 (Revised Part) and standard method for examination of water and wastewater Ed. 21st, published jointly by APHA.

**Table 3-5: Standard Procedure**

<b>S. No</b>	<b>Parameters</b>	<b>Test Method</b>
1	pH (at 25°C)	IS:3025(P -11)1983 RA: 2012
2	Electrical Conductivity	IS:3025(P -14) 2013
3	Colour	IS:3025 (P -4)1983 RA: 2012
4	Turbidity	IS:3025(P -10)1984 RA: 2012
5	Total Dissolved Solids	APHA 23rd Edn.2017-2540-C
6	Total Suspended Solids	IS:3025(P-17)-1984 RA:2012
7	Total Hardness as CaCO <sub>3</sub>	APHA 23rd Edn.2017-2340-C
8	Calcium Hardness as CaCO <sub>3</sub>	APHA 23rd Edn2017.3500 Ca-B
9	Magnesium Hardness as CaCO <sub>3</sub>	APHA 23rd Edn.2017-3500 Mg-B
10	Calcium as Ca	APHA 23rd Edn2017.3500 Ca-B
11	Magnesium as Mg	APHA 23rd Edn.2017-3500 Mg-B
12	Chloride as Cl	IS:3025(P -32)-1988 RA: 2014
13	Sulphate as SO <sub>4</sub>	APHA 23rd Edn.2017-4500 SO <sub>4</sub> --E
14	Total Alkalinity as CaCO <sub>3</sub>	APHA 23nd Edn.2017-2320-B
15	Iron as Fe	IS:3025(P -53):2003 RA: 2014
16	Silica as SiO <sub>2</sub>	IS:3025(P -35)1988 RA: 2014
17	Fluoride as F	APHA 23rd Edn.2012-4500-F-D
18	Nitrate as NO <sub>3</sub>	IS:3025(P -34):1988 RA: 2014
19	Sodium as Na	IS:3025(P -45):1993 RA: 2014

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20	Potassium as K	IS:3025(P -45):1993 RA: 2014
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**Table 3-6 Ground water sampling results**

S. No	Parameters	Units	GW 1	GW 2	GW 3	GW 4	GW 5	GW 6	GW 7
1	pH (at 25°C)	-	7.29	7.46	7.54	7.11	7.11	7.13	7.83
2	Electrical Conductivity	µS/cm	940	1250	795	2330	1630	958	1300
3	Colour	Hazen Unit	4	3	3	3	4	3	4
4	Turbidity	NTU	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)	BQL (LOQ:1)
5	Total Dissolved Solids	mg/L	557	728	448	1385	1035	529	745
6	Total Suspended Solids	mg/L	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)	BQL (LOQ:2)
7	Total Hardness as CaCO <sub>3</sub>	mg/L	400	420	202	858	828	395	368
8	Calcium Hardness as CaCO <sub>3</sub>	mg/L	255	267	133	464	465	250	210
9	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	145	153	68.6	394	363	145	158
10	Calcium as Ca	mg/L	102	107	53.4	186	186	100	84.2
11	Magnesium as Mg	mg/L	35.3	37.3	16.7	95.8	88.4	35.3	38.3
12	Chloride as Cl	mg/L	108	175	38.5	410	254	52.1	177
13	Sulphate as SO <sub>4</sub>	mg/L	62.7	23.79	38.4	80.6	58.32	4.629	85.3
14	Total Alkalinity as CaCO <sub>3</sub>	mg/L	196	273	386	422	238	388	283
15	Iron as Fe	mg/L	BQL (LOQ: 0.1)	BQL (LOQ: 0.1)	BQL (LOQ: 0.1)	BQL (LOQ: 0.1)	BQL (LOQ: 0.1)	BQL (LOQ: 0.1)	BQL (LOQ: 0.1)

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16	Silica as SiO <sub>2</sub>	mg/L	15.7	25.4	15.2	29.4	45.6	25.4	21.7
17	Fluoride as F	mg/L	0.526	0.814	0.312	0.91	0.742	0.519	0.654
18	Nitrate as NO <sub>3</sub>	mg/L	15.549	20.317	10.345	25.659	30.479	21.504	9.326
19	Sodium as Na	mg/L	94.5	159	35.1	285	205	44.5	152
20	Potassium as K	mg/L	5.2	10.5	2.3	25.3	25.1	5.8	15.1

### 3.3.6 Interpretation of results:

#### 3.3.6.1 Physical parameters of water:

The basic physical parameters of water include

##### **Colour:**

Value observed in Project Site (True/Apparent Color): 4 Hazen unit.

Acceptable and permissible limits: 5 Hazen units and 15 Hazen units respectively. The value in the project site is as similar as the acceptable limits prescribed by IS 10500: 2012 (referred as “Standards” from herein).

##### **Odour & Taste:**

The water is odorless. The taste of the water is slightly salty which is due to the presence of hardness in water, which is attributed to the presence of calcium and magnesium in the water.

As per the standards, the odour and taste should be agreeable.

##### **pH:**

Value observed in the Project Site: 7.29

Acceptable and permissible limits: 6.5 - 8.5. The pH value is the measure of acid – base equilibrium. The value of pH in the project site clearly indicates that water is slightly neutral in nature.

##### **Turbidity:**

Value observed in the Project Site: BQL (LOQ:1)

Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplankton and other sediments.

##### **Total Dissolved Solids:**

Value observed in the Project Site: 557 mg/L.

Acceptable and permissible limits: 500 mg/L and 2000 mg/L respectively.

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TDS is the presence of inorganic salts and small amounts of organic matter present in the water. This is mainly due to the result of surface runoff as the cations and anions in the topsoil is carried away by the water.

### **3.3.6.2 Chemical parameters of water:**

The chemical parameters of the drinking water include,

#### **Calcium:**

Value observed in the Project Site : 102 mg/L.

Acceptable and permissible limits : 75mg/L and 200 mg/L respectively.

Calcium is an essential macronutrient. The value of the calcium is within the prescribed permissible standards. The higher level of calcium may cause hardening in domestic equipment and will also reduce the detergent efficiency. Higher levels of calcium will lead to constipation, gas, and bloating. Apart from that, extra calcium may also increase the risk of kidney stones. If the calcium deposit in blood is high, it may lead to hypercalcemia.

#### **Magnesium:**

Value observed in the Project Site: 35.3 mg/L.

Acceptable and permissible limits: 30 mg/L and 100 mg/L respectively.

The value of Magnesium in the project site is higher than the acceptable limit and less than the permissible limit. The increase in the level of magnesium will cause diarrhea and vomiting in children.

#### **Chloride**

Value observed in the project site: 108 mg/L.

Acceptable and permissible limits: 250 mg/L and 1000 mg/L respectively.

The chloride level in the project site is within the acceptable and permissible limit. If the level of chloride is more, it may cause galvanic and pitting corrosion, increases level of metals. It imparts bitter taste to the water.

#### **Total Alkalinity as CaCO<sub>3</sub>:**

Value observed in the project site: 196 mg/L.

Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

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Total Alkalinity is the measure of the concentration of all alkaline substances dissolved in the water which includes carbonates, bicarbonates and hydroxides. The value of the total alkalinity is slightly greater in the project site, which will impart soda taste to the water.

#### **Hardness:**

Value observed in the Project Site: 400 mg/L.

Acceptable and permissible limits: 200 mg/L and 600 mg/L respectively.

The value of Hardness in the project site is lesser than acceptable and Permissible. The increase in the level of hardness may cause corrosion and scaling problems, increased soap consumption and it also contributes to the salty taste of water.

#### **3.3.7 Surface Water Analysis**

Surface water samples were taken from **Bukkasagaram and Muthali lake**. The results are summarized below.

**Table 3-7 Surface Water Sample Results**

<b>S. No</b>	<b>Parameters</b>	<b>Units</b>	<b>Bukkasagaram Lake</b>	<b>Muthali Lake</b>
1	pH (at 25°C)	-	7.23	7.29
2	Electrical Conductivity	µS/cm	1120	490
3	Colour	Hazen Unit	20	10
4	Turbidity	NTU	10.2	5.7
5	Total Dissolved Solids	mg/L	616	319
6	Total Suspended Solids	mg/L	15.8	17.6
7	Total Hardness as CaCO <sub>3</sub>	mg/L	182	158
8	Calcium Hardness as CaCO <sub>3</sub>	mg/L	60.61	48.4
9	Magnesium Hardness as CaCO <sub>3</sub>	mg/L	121	109
10	Calcium as Ca	mg/L	24.2	19.4
11	Magnesium as Mg	mg/L	29.4	26.5
12	Chloride as Cl	mg/L	164	42.6
13	Sulphate as SO <sub>4</sub>	mg/L	114	43.5
14	Total Alkalinity as CaCO <sub>3</sub>	mg/L	175	172

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15	Iron as Fe	mg/L	0.64	0.144
16	Silica as SiO <sub>2</sub>	mg/L	10.3	21.7
17	Fluoride as F	mg/l	0.263	0.314
18	Nitrate as NO <sub>2</sub>	mg/l	10.514	19.327
19	Sodium as Na	mg/L	135	38.5
20	Potassium as K	mg/L	15.1	4.8
21	Total Kjeldahl Nitrogen as N	mg/L	28.5	18.1
22	Biochemical oxygen Demand @ 27c	mg/L	8.11	39.5
23	Chemical Oxygen Demand	mg/L	28.4	140
24	Dissolved Oxygen	mg/L	5.5	4.27

**Inference:** The surface water quality is compared with the CPCB Water Quality Criteria against A, B, C, D & E class of water. From the test result, it is found that both the water does not fit Class A (Drinking Water Source without conventional treatment but after disinfection). But they can be used for outdoor bathing as it meets the requirements shown for class B water.

### 3.3.8 *Climatology & Meteorology:*

Climate and meteorology of a place can play an important role in the implementation of any developmental project. Meteorology is also the key to understand local air quality as there is an essential relationship between meteorology and atmospheric dispersion involving wind in the broadest sense of the term.

The year may broadly be divided into four seasons:

Winter season : December to February

Pre-monsoon season : March to May

Monsoon season : July to September

Post-monsoon season : October to November

#### i) **Climate**

Eastern part of the district experiences hot climate and Western part has a contrasting pleasant cold climate. The district is hot and dry in summer i.e., from March to June. From July to

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November is the rainy season and between December to February winter prevails with very cold and misty weather.

## ii) Temperature

The maximum temperature is around 36°C and minimum temperature is 28°C.

## iii) Rainfall:

Krishnagiri receives rainfall from both the northeast and the southwest monsoons. Monsoon season is from the months of July to November. During this time, temperature is mild and pleasant. Heavy rainfall is expected in short intervals during this period. December to February are winter months.

This district gets maximum rainfall in July of Previous Year (7.62 Inch).

### **KRISHNAGIRI DISTRICT -NORMAL AND ACTUAL RAINFALL**

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F
<b>2019</b>	2.03	0.6	3.03	4.46	11.34	5.67	0.18	6.61	3.11	4.92	2.09	0.58
<b>2020</b>	3.63	0.99	4.58	2.91	4.25	2.19	2.65	5.15	2.36	5	1.26	3.25
<b>2021</b>	1.86	0.8	2.51	5.19	6.82	6.54	2.7	1.46	0.43	4.48	0.41	0.22
<b>2022</b>	0.71	1.55	2.65	2.43	7.39	5.39	1.19	0.84	1.64	2.43	1.9	3.14
<b>2023</b>	1.27	2.19	3.41	3.87	3.47	5.13	7.62	0.59	2.57	5.47	0.64	2.03

Source: IMD

**Unit in Inch.**

## Metrological Data

The meteorological data – Temperature, rainfall, Wind Speed, Wind direction are recorded through AWS by setting it up in the site.

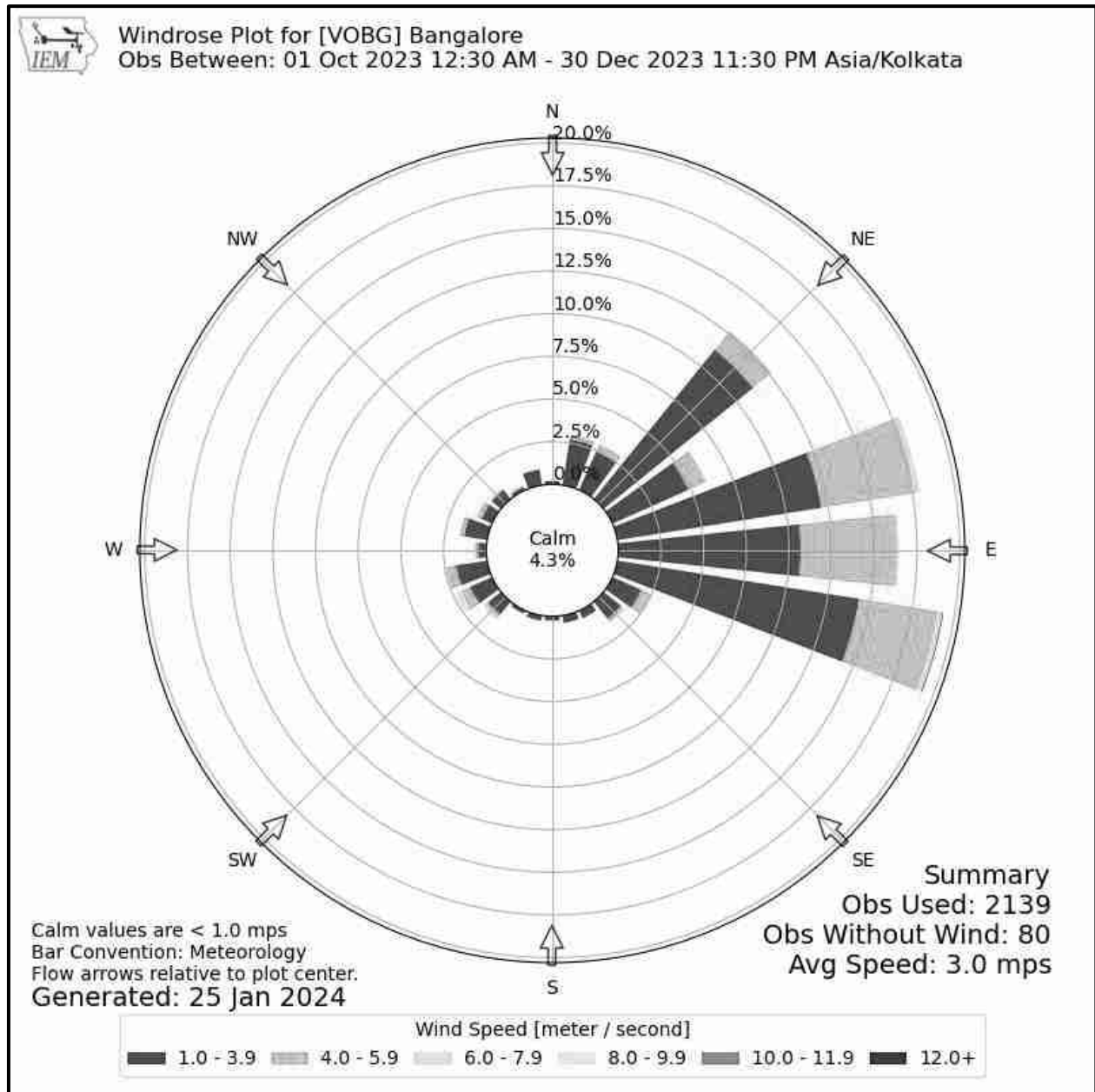
## vi) Wind Rose Diagram

The wind rose denotes a class of diagrams designed to display the distribution of wind direction at a given location over a period of time. Wind roses are also useful as they project a large quantity of data in a simple graphical plot.



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The wind speed & wind direction data are taken and wind rose is plotted for Oct 2023 to Dec 2023.



**Figure 3.6 Wind Rose.**

**3.3.9 Selection of Sampling Locations:**

Four Monitoring locations along with the project site is selected based on Wind Direction & Wind Speed. All the monitoring locations are chosen in the downwind direction.

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### 3.4 AMBIENT AIR QUALITY

**Table 3-8: Selection of Sampling Location**

Environmental Parameters: <i>Ambient Air</i>			
Monitoring Period	Oct 2023 to Dec 2023		
Design Criteria	The monitoring stations are selected based on factors like topography/terrain, prevailing meteorological conditions like predominant wind direction (Oct 2023 to Dec 2023), etc., play a vital role in the selection of air sampling stations. Based on these criteria, 5 air sampling station were selected in the area as shown below.		
Monitoring Locations	<b>Location &amp; Code</b>	<b>Distance (km)</b>	<b>Direction</b>
	Project site – AAQ 1	-	-
	Adhiyamaan College Of Agriculture and Research, Athimugam – AAQ 2	3.85 km, E	E-Upwind
	Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – AAQ 3	8.23 km, E	E-Upwind
	Dasarapalli Dinna School – AAQ 4	2.31 km, W	W-Downwind
	Village Municipal Society Center – AAQ 5	8.52 km, W	W-Downwind
	Sri Hanuman Temple, Chinthladoddi – AAQ 6	4.82 km, N	N- Crosswind
	Chowdeshwari Devi Temple, Sivapellai – AAQ 7	7.46 km, S	S-Crosswind
Methodology	Respirable Particulate Matter (PM10) - Gravimetric (IS 5182: Part 23:2006) Particulate Matter PM2.5 - Gravimetric (Fine particulate matter) Sulphur Dioxide - Calorimetric (West & Gaeke Method) (IS 5182: Part 02: 2001) Nitrogen Dioxide - Calorimetric (Modified Jacob & Hocheiser Method) (IS 5182: Part 06:2006)		
Frequency of Monitoring	2 days in a week, 4 weeks in a month for 3 months in a season.		

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### 3.4.1 Ambient Air Quality: Results & Discussion

The test results of the ambient air quality monitored in project site and other four locations is summarized below.

**Table 3-9 Ambient Air Quality.**

Code	Location	PM 10 ( $\mu\text{g}/\text{m}^3$ )				PM 2.5 ( $\mu\text{g}/\text{m}^3$ )				SO <sub>2</sub> ( $\mu\text{g}/\text{m}^3$ )				NO <sub>x</sub> ( $\mu\text{g}/\text{m}^3$ )			
		Min	Max	Avg	98 percentiles	Min	Max	Avg	98 percentiles	Min	Max	Avg	98 percentiles	Min	Max	Avg	98 percentiles
AAQ 1	Project site – AAQ 1	41	55	47.79	54.08	16	23	19.83	23.00	5	8	6.5	8	9	18	13.08	17.54
AAQ 2	Adhiyamaan College Of Agriculture and Research, Athimugam – AAQ 2	59	67	63.08	67.00	25	33	28.67	32.08	6	13	8.7	12.0 8	21	32	25.92	31.54
AAQ 3	Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – AAQ 3	56	64	60.67	64.00	25	31	27.67	30.54	10	19	13.4	18.5 4	19	31	24.96	30.54

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</i>	<i>Draft EIA Report</i>
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AAQ 4	Dasarapalli Dinna School – AAQ 4	54	63	58.50	62.08	24	33	28.29	32.08	8	14	10.5	13.5 4	20	31	24.17	31.00
AAQ 5	Village Municipal Society Center – AAQ 5	48	57	52.83	56.08	21	27	23.92	26.54	12	18	14.2	18	18	25	18.50	24.54
AAQ 6	Sri Hanuman Temple, Chinthaladoddi – AAQ 6	46	55	51.17	55.00	19	26	22.67	26.00	10	18	15.2	18	12	25	16.75	23.62
AAQ 7	Chowdeshwari Devi Temple, Sivapellai – AAQ 7	53	61	56.46	60.08	21	31	25.33	30.08	14	20	17.5	20	15	29	21.92	28.08
<b>NAAQ Standards - Residential Area</b>		<b>100 (µg/m<sup>3</sup>)</b>				<b>60(µg/m<sup>3</sup>)</b>				<b>80 (µg/m<sup>3</sup>)</b>				<b>80 (µg/m<sup>3</sup>)</b>			

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
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<b>Project Location</b>	<b>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	

### 3.4.2 Interpretation of ambient air quality:

To assess the impact, AAQ were monitored in project site and six locations.

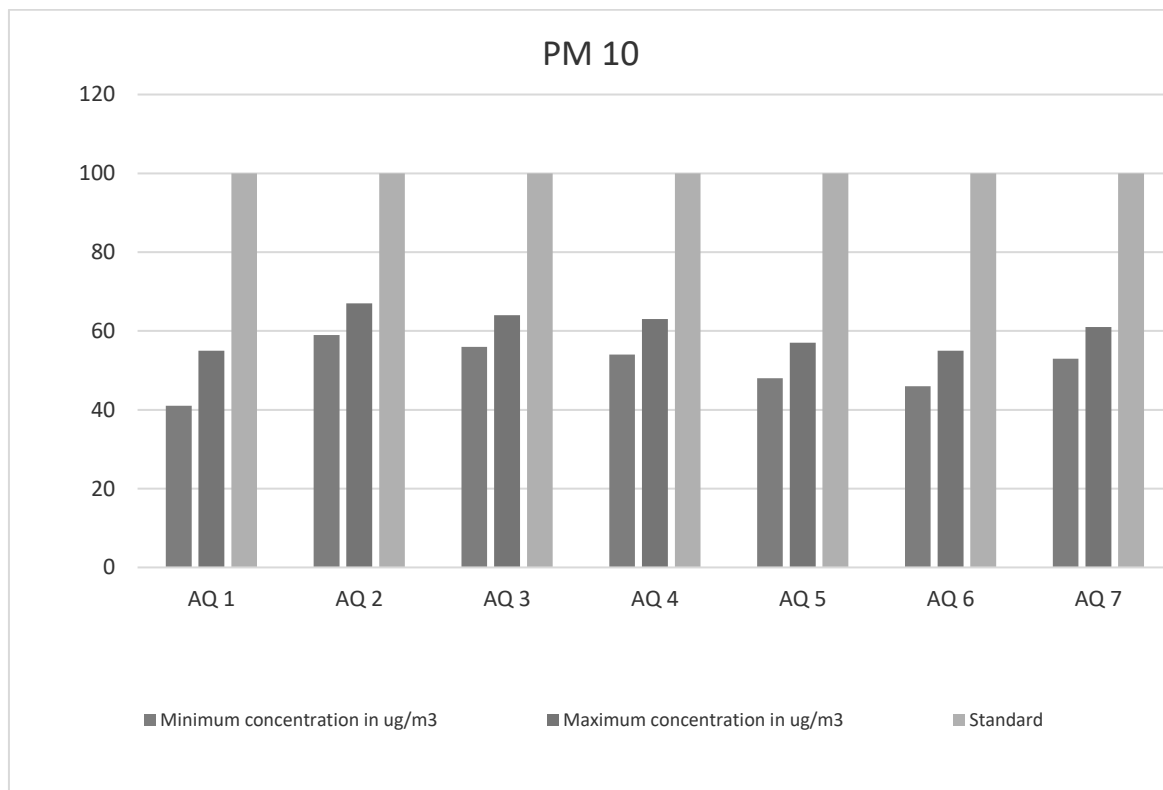
#### Observation:

The Maximum value of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, NO<sub>x</sub> obtained in different places are 67 µg/m<sup>3</sup>, 33µg/m<sup>3</sup>, 20 µg/m<sup>3</sup>, 32 µg/m<sup>3</sup> respectively.

#### Inference:

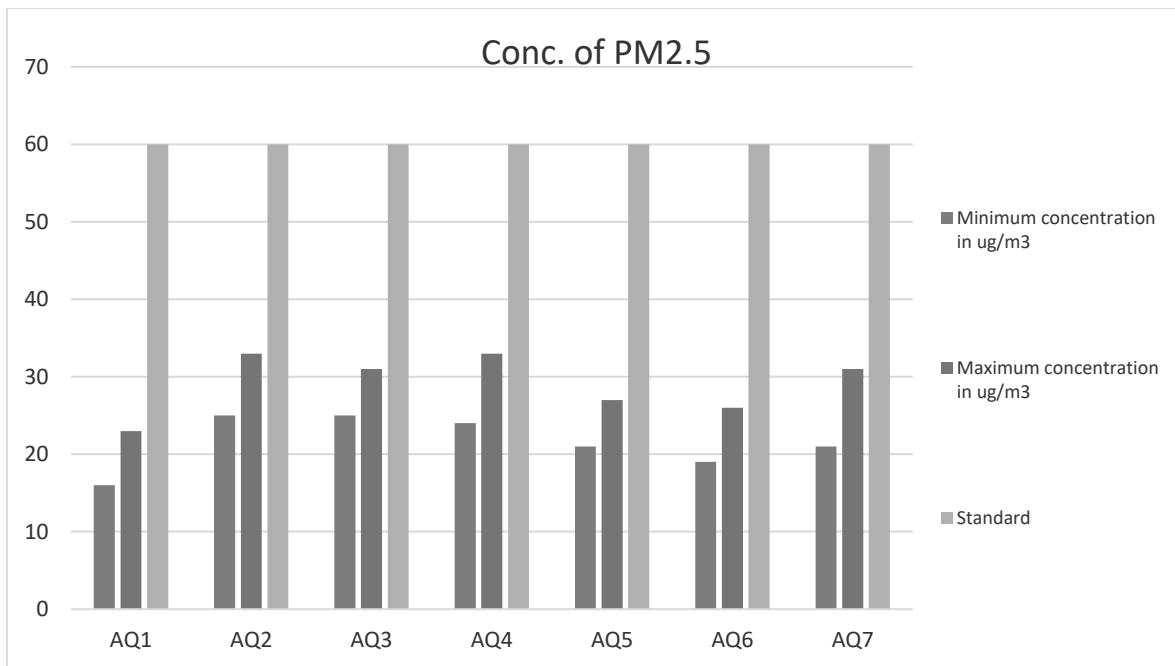
The monitoring results for PM<sub>10</sub>, PM<sub>2.5</sub>, Sox, NO<sub>x</sub> was found to be high in Adhiyamaan College Of Agriculture and Research, Athimugam. The observed values are all well within the Standards prescribed by NAAQ.

**Figure 3.7 Concentration of PM<sub>10</sub> (µg/m<sup>3</sup>) in Study Area.**

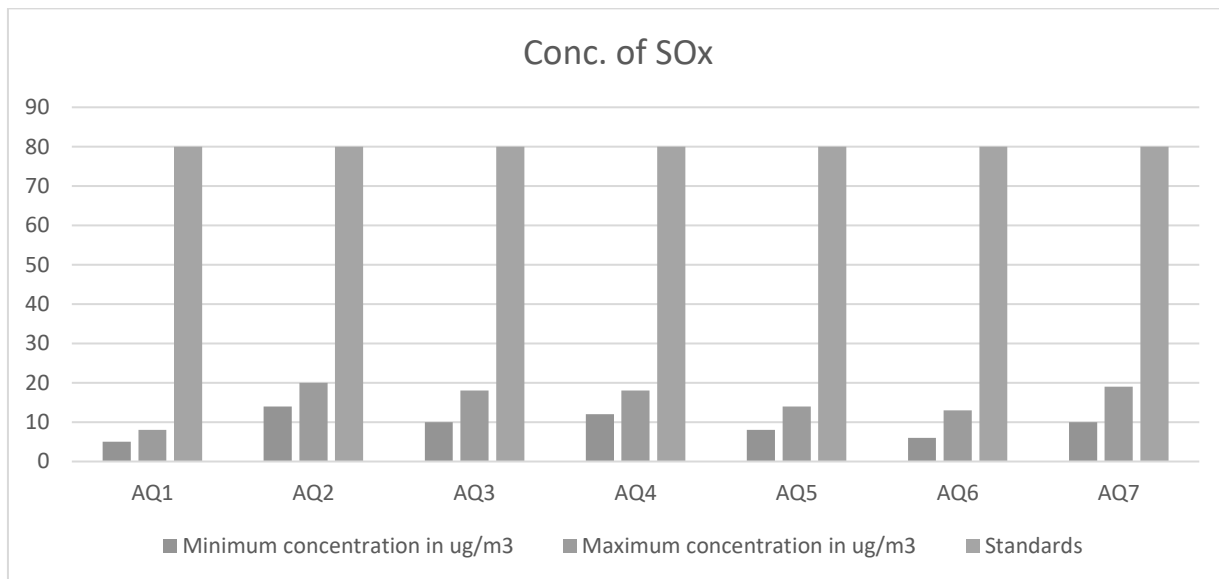


<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
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**Figure 3.8 Concentration of PM2.5 ( $\mu\text{g}/\text{m}^3$ ) in Study Area.**

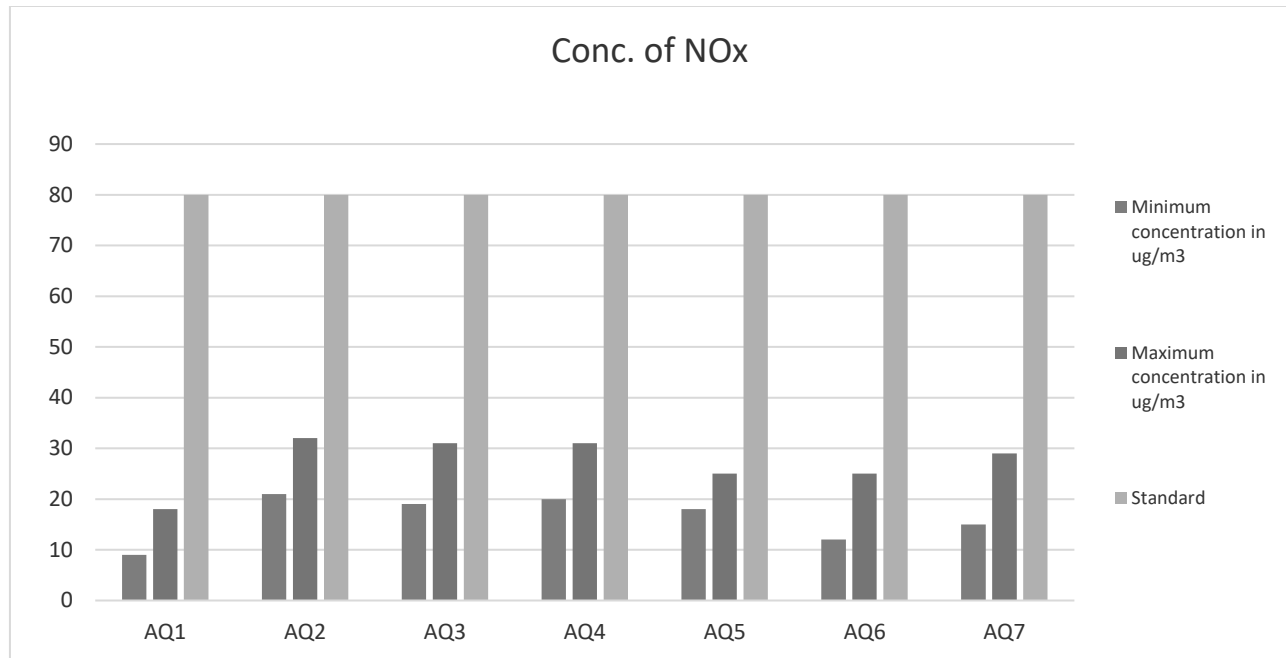


**Figure 3.9 Concentration of SOx ( $\mu\text{g}/\text{m}^3$ ) in Study Area.**



<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
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<b>Project Location</b>	<b>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	

**Figure 3.10 Concentration of NOx ( $\mu\text{g}/\text{m}^3$ ) in Study Area.**



### 3.5 NOISE ENVIRONMENT:

**Table 3-10 Noise Analysis**

<b>Environmental Parameters: Noise Analysis</b>	
<b>Monitoring Period</b>	Oct 2023 to Dec 2023
<b>Design Criteria</b>	Based on the Sensitivity of the area
<b>Monitoring Locations</b>	Project site – N 1 Adhiyamaan College Of Agriculture and Research, Athimugam N 2 Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – N 3 Dasarapalli Dinna School – N 4 Village Municipal Society Center – N 5 Sri Hanuman Temple, Chinthladoddi – N 6 Chowdeshwari Devi Temple, Sivapellai – N 7

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	

Methodology	Noise level measurements were taken at the selected locations using noise level meter both during day and night time. Noise level measurements were taken continuously for 24 hours at hourly intervals.
Frequency of Monitoring	Noise samples were collected from 7 locations - Once in a season

Ambient Noise Levels are monitored in the chosen 7 Locations including the project Site and the monitoring results are summarized below

### 3.5.1 Day Noise Level (Leq day)

**Table 3-11 Day Noise Level (Leq day).**

Location	Leq day in dB(A)		
	Max	Min	Average
Project site – N 1	48	39	43.8
Adhiyamaan College Of Agriculture and Research, Athimugam – N 2	57	46	52.4
Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – N 3	58	46	53.9
Dasarapalli Dinna School – N 4	55	46	51.0
Village Municipal Society Center – N 5	52	42	47.6
Sri Hanuman Temple, Chinthaladoddi – N 6	50	40	46.0
Chowdeshwari Devi Temple, Sivapellai – N 7	53	44	49.1

### 3.5.2 Night Noise Level (Leq Night)

**Table 3-12 Night Noise Level (Leq Night).**

Location	Leq Night in dB(A)		
	Max	Min	Average
Project site – N 1	38	32	34.9
Adhiyamaan College Of Agriculture and Research, Athimugam – N 2	47	39	42.6



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<i>Project Location</i>	<i>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – N 3	47	36	40.1
Dasarapalli Dinna School – N 4	45	38	40.5
Village Municipal Society Center – N 5	43	35	38.9
Sri Hanuman Temple, Chinthaladoddi – N 6	40	32	35.9
Chowdeshwari Devi Temple, Sivapellai – N 7	42	32	36.6

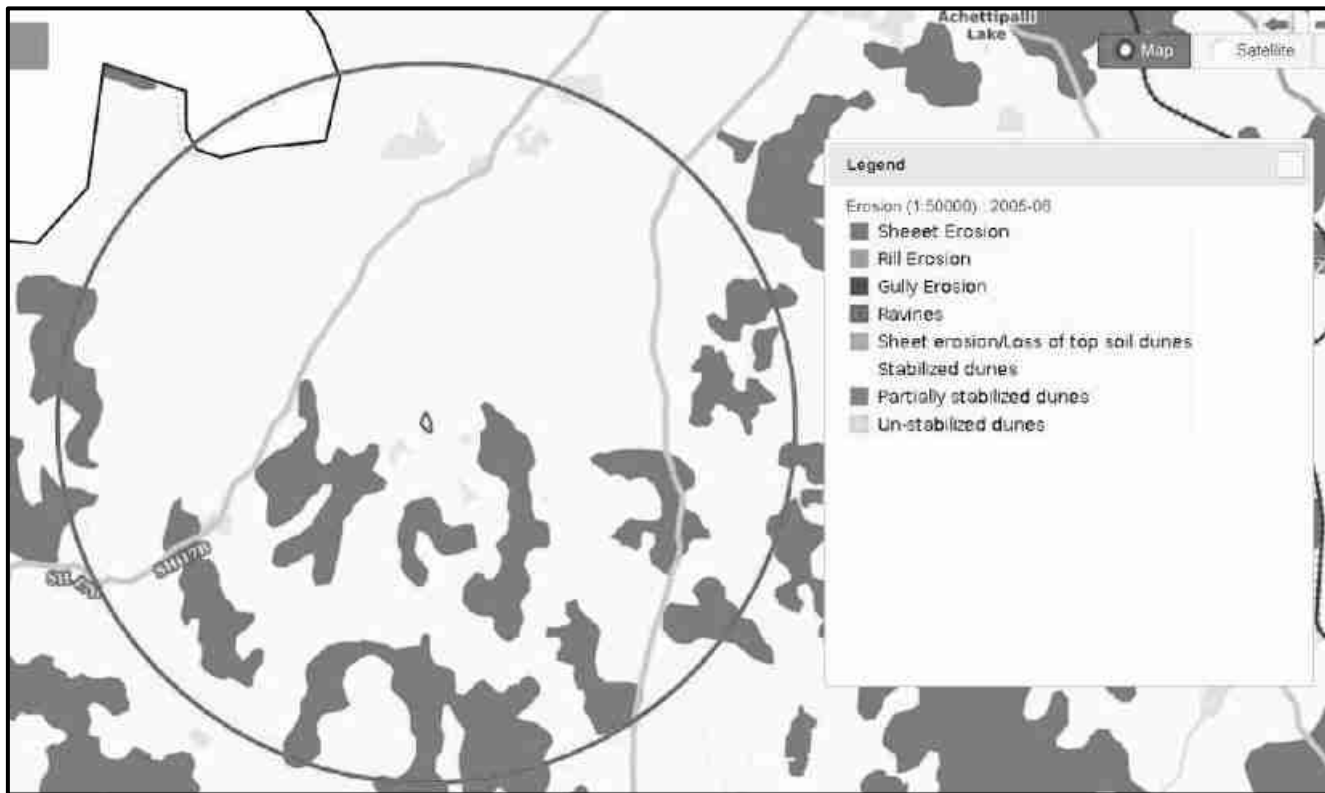
**Observation:**

The maximum Day noise and Night noise were found to be 58 dB(A) and 47 dB(A) respectively in Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli. The minimum Day Noise and Night noise were 39dB(A) and 32 dB(A) respectively which was observed in project site. The observed values are all well within the Standards prescribed by CPCB.

**3.6 SOIL ENVIRONMENT**

Soil environment is studied for 10 km radius from the project site. The 5 km radius image shows that the soil is not affected by any kind of erosion.

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<b>Project Location</b>	<b>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	



**Figure 3.11 Soil Erosion pattern within 5 km radius of the project site**

**3.6.1 Baseline Data:**

The present study of the soil quality establishes the baseline characteristics which will help in future in identifying the incremental concentrations if any, due to the operation Phase of the proposed project. The sampling locations have been identified with the following objectives:

- To determine the impact of proposed project on soil characteristics and
- To determine the impact on soils more importantly from agricultural productivity point of view.

**Table 3-13 Soil Quality Analysis**

<b>Environmental Parameters: Soil Quality Analysis</b>	
<b>Monitoring Period</b>	<b>Oct 2023 to Dec 2023</b>
<b>Design Criteria</b>	<b>Based on the environmental settings of the study area</b>
<b>Monitoring Locations</b>	<b>Project site – S 1</b>

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna.</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</b>	

	Adhiyamaan College Of Agriculture and Research, Athimugam – S 2 Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli – S 3 Dasarapalli Dinna School – S 4 Village Municipal Society Center – S 5 Sri Hanuman Temple, Chinthladoddi – S 6 Chowdeshwari Devi Temple, Sivapellai – S 7
Methodology	Composite soil samples using sampling augers and field capacity apparatus
Frequency of Monitoring	Soil samples were collected from 7 locations Once in a season

To assess the soil quality of the study area, 7 monitoring stations were selected and the results are summarized below.

**Table 3-14 Soil Quality Analysis.**

Parameters	Unit	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5	SQ 6	SQ 7
pH	-	6.83	6.92	7.62	7.78	7.02	7.56	8.64
Electrical Conductivity	ms/cm	0.04	0.16	0.13	0.07	0.4	0.33	0.42
Water holding Capacity	ml/L	4.64	4.8	3.44	4.2	3.1	4.91	4.9
Chloride	mg/Kg	8.74	13.2	21.6	42.8	44.7	61.5	90.3
Calcium	mg/Kg	46.2	42.2	38.5	54.3	72.2	55.7	67.7
Sodium	mg/Kg	489	487	498	546	589	571	604
Potassium	mg/Kg	363	462	366	482	496	590	501

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Organic matter	%	0.09	0.18	0.24	0.11	0.08	0.21	0.09
Magnesium	mg/ Kg	11.42	10.8	24.6	15.9	28	37.6	34.4
Sulphate	mg/ Kg	23.6	15.7	46.6	11.5	9.4	19.8	22.3
CEC	meq/ 100g	11.5	10.9	12.3	9.8	13.5	11.2	11.1
Carbonate	mg/ Kg	NIL	NIL	NIL	NIL	NIL	NIL	8.35
Bi-Carbonate	mg/ Kg	22.9	46.7	64.3	37.4	90.5	63.2	127
TKN	%	0.16	0.18	0.11	0.11	0.09	0.13	0.21
Bulk density	g/cm <sub>3</sub>	1.28	1.3	1.36	1.33	1.42	1.35	1.13
Phosphorous	mg/ Kg	5.66	11.4	21.3	13.4	56.1	11.5	6.45
Sand	%	76.9	70.6	75.0	71.4	53.3	56.3	55.6
Clay	%	7.69	5.88	6.25	14.28	6.66	12.5	16.6
Silt	%	15.38	23.52	18.75	14.28	40	31.25	27.77
SAR	meq/ Kg	16.70	17.32	15.43	16.76	14.91	14.50	14.92
silicon	%	0.091	0.095	0.109	0.105	0.110	0.098	0.110

### 3.6.1.1 Physical Properties:

Regular cultivation practices increase the bulk density of soils thus inducing compaction. This results in reduction in water percolation rate and penetration of roots through soils. The soils with low bulk density have favorable physical conditions whereas those with high bulk density exhibit poor physical conditions for agriculture crops. The bulk density of the soil in the

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study area ranged between 1.13 to 1.42 meq/100g which indicates favorable physical condition for plant growth. The water holding capacity was found in the range of 3.1 ml/1 to 4.91 ml/1.

### **3.6.1.2 Chemical Properties:**

Chemical characteristics of soils include pH, exchangeable cations and fertility status in the form of NPK values and organic matter. The value of the pH ranges from 6.83 to 8.64, which it indicates majority of pH of the soil is slightly alkaline. The soil in the project site is sodic in nature, which challenges because they tend to have very poor structure which limits or prevents water infiltration and drainage. The organic matter varies from 0.08 to 0.24%, which indicates the soil is slightly unfertile.

## **3.7 ECOLOGY AND BIODIVERSITY**

Ecology and Biodiversity is studied for 10 km radius around the project site. Project site and 2km around the project site is considered as core zone and from 2 km to 10 km radius, it is considered as buffer zone.

- Primary field survey is carried out for the assessment of flora and fauna in the core zone.
- Secondary data from Journals/Literature were studied and compiled to understand the species present in the buffer zone.

### ***3.7.1 Methods available for floral analysis:***

#### **3.7.1.1 Plot Sampling Methods**

- Quadrat – 2D shape (e.g. square or rectangle, or other shape) used as a sampling unit
- Transect
  - i. Line transects feature only a length dimension, usually defined by a tape stretched across the area to be sampled.
  - ii. Belt transects have a width as well as length.
  - iii. Pace-transects are established when the observer strides along an imaginary line across the sample site and uses their foot placement to determine specific sampling points.

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### 3.7.1.2 Plot less Sampling Methods

- Closest individual method - Distance is measured from each random point to the nearest individual.
- Nearest neighbour method - Distance is measured from an individual to its nearest neighbour.
- Random pairs method - Distance is measured from one individual to another on the opposite side of the sample point.
- Point-centered quarter (PCQ) method - Distance is measured from the sampling point to the nearest individual in each quadrat.

### 3.7.2 *Field study & Methodology adopted:*

To assess the suitability of the methodology, a random field survey was done. Field survey was conducted around a 2 km radius from the project site and five locations were chosen based on the species density. Quadrat method is chosen for the proposed study as compared to other sampling methods, because they are relatively simple to use. Quadrat plots are uniform in size and shape and distributed randomly throughout the sample area, which makes the study design straightforward. They are also one of the most affordable techniques because they require very few materials.

### 3.7.3 *Study outcome:*

Phyto-sociological parameters, such as *Density, Frequency, Basal Area, Abundance and Importance Value Index* of individual species (Trees) were determined in randomly placed quadrates of different sizes in the study area. Relative frequency, relative basal area and relative density were calculated and the sum of these three represented Importance Value Index (IVI) for various species. For shrubs, herbs and grasses, *Density, Frequency, Relative Density & Relative Frequency were found.*

Sample plots were selected in such a way to get maximum representation of different types of vegetation and plots were laid out in different parts of the study area of 2 km radius. Analysis of the vegetation will help in determining the relative importance of each species in the study area and to reveal if any economically valuable species is threatened in the process.

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**Table 3-15 Calculation of Density, Frequency (%), Dominance, Relative Density, Relative Frequency, Relative Dominance & Important Value Index**

<b>Parameters</b>	<b>Formula</b>
Density	Total No. of individuals of species/ Total No. of Quadrats used in sampling
Frequency (%)	(Total No. of Quadrats in which species occur/ Total No. of Quadrats studied) * 100
Dominance	Total Basal Area /Total area sampled
Abundance	Total No. of individuals of species/ No. of Quadrats in which they occur
Relative Density	(Total No. of individuals of species/Sum of all individuals of all species) * 100
Relative Frequency	(Total No. of Quadrats in which species occur/ Total No. of Quadrats occupied by all species) * 100
Relative Dominance	Dominance of a given species/Total Dominance of all species
Important Value Index	Relative Density + Relative Frequency + Relative Dominance

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**Table 3-16 Tree Species in the core Zone**

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Dominance	Relative Density	Relative Frequency	Relative Dominance	IVI	IUCN Conservation Status
1	Ficus Carica	Athi Maram	2	2	6	0.33	33.33	1	0.28	1.68	2.17	4.45	8.31	Least Concern
2	Cocos nucifera	Thennai	10	6	6	1.67	100.0	1.67	0.15	8.40	6.52	2.39	17.32	Not assessed
3	Azadirachta indica	Veppam	17	6	6	2.83	100.0	2.83	0.13	14.29	6.52	1.98	22.79	Not assessed
4	Tamarindus indica	Puli	10	6	6	1.67	100.0	1.66	0.20	8.40	6.52	3.09	18.02	Not assessed
5	Mangifera indica	Mamaram	7	6	6	1.17	100.0	1.16	0.07	5.88	6.52	1.11	13.52	Data insufficient
6	Morinda pubescens	Nuna	6	6	6	1.00	100.0	1	0.24	5.04	6.52	3.74	15.31	Not assessed
7	Couroupita guianensis	Nagalingam	5	3	6	0.83	50.00	1.67	0.14	4.20	3.26	2.18	9.64	Not assessed
8	Bombax ceiba	Sittan	4	4	6	0.67	66.67	1	0.08	3.36	4.35	1.27	8.98	Not assessed
9	Acacia nilotica	Karuvelai	4	4	6	0.67	66.67	1	0.28	3.36	4.35	4.45	12.16	Least Concern
10	Bambusa vulgaris	Moongil	4	4	6	0.67	66.67	1	0.50	3.36	4.35	7.92	15.63	Not assessed
11	Syzygium cumini	naval	5	1	6	0.83	16.67	5	0.11	4.20	1.09	1.79	5.07	Not assessed
12	Carica papaya	Papaya	3	3	6	0.50	50.00	1	0.09	2.52	3.26	1.43	7.21	Not assessed



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13	Psidium guajava	Guava	3	3	6	0.50	50.00	1	0.23	2.52	3.26	3.61	9.39	Not assessed
14	Cassia siamea	ManjalKonrai	3	2	6	0.50	33.33	1.5	0.07	2.52	2.17	1.11	5.81	Least Concern
15	Ficus religiosa	Arasa maram	3	3	6	0.50	50.00	1	0.09	2.52	3.26	1.35	7.13	Not assessed
16	Musa paradise	Vaazhai	3	3	6	0.50	50.00	1	0.08	2.52	3.26	1.19	6.97	Not assessed
17	Prosopis juliflora	Vaelikaruvai	3	3	6	0.50	50.00	1	0.21	2.52	3.26	3.34	9.13	Not assessed
18	Tectona grandis	Thekku	3	3	6	0.50	50.00	1	0.12	2.52	3.26	1.88	7.66	Not assessed
19	Thespesia populnea	Poovarasam	3	3	6	0.50	50.00	1	0.15	2.52	3.26	2.39	8.18	Not assessed
20	Causuarina equisetifolia	Savukku	2	2	6	0.33	33.33	1	0.21	1.68	2.17	3.34	7.20	Not assessed
21	Alstonia scholaris	Elilaipalai	2	2	6	0.33	33.33	1	0.27	1.68	2.17	4.31	8.16	Least Concern
22	Anacardium occidentale	Cashew	1	1	6	0.17	16.67	1	0.44	0.84	1.09	6.96	8.88	Not assessed
23	Artocarpus heterophyllus	Palaa	2	2	6	0.33	33.33	1	0.18	1.68	2.17	2.85	6.70	Not assessed
24	Aegle marmelos	Vilvam	1	1	6	0.17	16.67	1	0.16	0.84	1.09	2.50	4.43	Not assessed
25	Delonix elata	Perungondrai	1	1	6	0.17	16.67	1	0.17	0.84	1.09	2.62	4.54	Least Concern
26	Pithecellobium dulce	Kodukapuli	1	1	6	0.17	16.67	1	0.14	0.84	1.09	2.18	4.11	Not assessed
27	Citrus medica	Elumichai	2	2	6	0.33	33.33	1	0.23	1.68	2.17	3.61	7.46	Not assessed
Total			110	83					5.02					

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**Table 3-17 Shrubs in the Core Zone**

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation Status
1	Jatropagossypifolia	Kaatamanaku	32	17	24	1.17	0.71	1.65	14.43	17.17	Not Assessed
2	Calotropis gigantea	Erukam	16	12	24	0.58	0.50	1.17	7.22	12.12	Not Assessed
3	Tabernaemontanadivaricata	Crepe Jasmine	4	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
4	Catharanthus roseus	Nithyakalyani	4	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
5	Datura metal	Ummattangani	7	4	24	0.21	0.17	1.25	2.58	4.04	Not Assessed
6	Robiniapseudoacacia	Black locust	15	5	24	0.71	0.21	3.4	8.76	5.05	Least Concern
7	Acalypha indica	Kuppaimeni	18	8	24	0.83	0.33	2.5	10.31	8.08	Not Assessed
8	Stachytarpheaurticifolia	Rat tail	13	9	24	0.63	0.38	1.67	7.73	9.09	Not Assessed
9	Woodfordiafruiticosa	Velakkai	4	3	24	0.13	0.13	1	1.55	3.03	Least Concern
10	Hibiscus rosa sinensis	Sembaruthi	3	2	24	0.13	0.08	1.5	1.55	2.02	Not Assessed
11	Lantana camara	Unnichedi	8	6	24	0.38	0.25	1.5	4.64	6.06	Not Assessed
12	Parthenium hysterophorous	Vishapoond	45	13	24	2.08	0.54	3.85	25.77	13.13	Not Assessed
13	Euphorbia geniculata	Amman Pacharisi	5	3	24	0.13	0.13	1	1.55	3.03	Not Assessed

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**Table 3-18 Herbs & Grasses in the core zone**

S. No.	Scientific Name	Local Name	Total No. of species	Total of Quadrants with	Total No. of Quadrant	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation status
1	Helicteresisora	Valampuri	4	2	30	0.07	0.07	1	0.79	2.15	Not assessed
2	Tridax procumbens	Vettukaayathalai	7	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
3	Heraculem spondylium	Hog Weed	19	10	30	0.67	0.33	2	7.94	10.75	Not assessed
4	Tridax procumbens	Cuminipachai	18	4	30	0.50	0.13	3.75	5.95	4.30	Not assessed
5	Senna occidentalis	Nattamsakarai	30	4	30	0.83	0.13	6.25	9.92	4.30	Not assessed
6	Plumbago zeylanica	Chittiramoolam	12	3	30	0.10	0.10	1	1.19	3.23	Not assessed
7	Scrophularia nodosa	Sarakkothini	18	7	30	0.50	0.23	2.14	5.95	7.53	Not assessed
8	Viburnum dentatum	Viburnum	7	5	30	0.17	0.17	1	1.98	5.38	Least concern
9	Cynodondactylon	Arugu	15	6	30	0.40	0.20	2	4.76	6.45	Not assessed
10	Euphorbia hirta	Amman Pacharisi	7	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
11	Sida cordifolia	Maanikham	50	4	30	1.50	0.13	11.25	17.86	4.30	Not assessed
12	Sida acuta	Malaidangi	12	3	30	0.33	0.10	3.33	3.97	3.23	Not assessed
13	Laportea canadensis	Peruganchori	28	20	30	1.00	0.67	1.5	11.90	21.51	Not assessed
14	Sporobolus fertilis	Giant Parramatta Grass	10	4	30	0.30	0.13	2.25	3.57	4.30	Not assessed
15	Tephrosia purpurea	Kavali	23	4	30	0.67	0.13	5	7.94	4.30	Not assessed

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### 3.7.4 Calculation of species diversity by Shannon – wiener Index, Evenness and richness by Margalef:

Biodiversity index is a quantitative measure that reflects how many different types of species, there are in a dataset, and simultaneously takes into account how evenly the basic entities (such as individuals) are distributed among those types of species. The value of biodiversity index increases both when the number of types increases and when evenness increases. For a given number of type of species, the value of a biodiversity index is maximized when all type of species are equally abundant. Interpretation of Vegetation results in the study area is given below.

**Table 3-19 Calculation of species diversity**

<b>Description</b>	<b>Formula</b>
Species diversity – Shannon – Wiener Index	$H = \sum [(p_i) * \ln(p_i)]$ Where $p_i$ : Proportion of total sample represented by species $i$ : number of individuals of species $i$ / total number of samples
Evenness	$H/H_{max}$ $H_{max} = \ln(s) =$ maximum diversity possible $S =$ No. of species
Species Richness by Margalef	$RI = S - 1 / \ln N$ Where $S =$ Total Number of species in the community $N =$ Total Number of individuals of all species in the community

### 3.7.5 Calculation of species diversity by Shannon – wiener Index, Evenness and richness by Margalef for trees

#### i. Species Diversity

<b>Scientific Name</b>	<b>Common Name</b>	<b>No. of Species</b>	<b>Pi</b>	<b>ln (Pi)</b>	<b>Pi x ln (Pi)</b>
Ficus Carica	Athi Maram	2	0.018182	-4.00733	-0.07286
Cocos nucifera	Thennai	10	0.090909	-2.3979	-0.21799
Azadirachta indica	Veppam	17	0.154545	-1.86727	-0.28858
Tamarindus indica	Puli	10	0.090909	-2.3979	-0.21799
Mangifera indica	Mamaram	7	0.063636	-2.75457	-0.17529

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Morinda pubescens	Nuna	6	0.054545	-2.90872	-0.15866
Couroupita guianensis	Nagalingam	5	0.045455	-3.09104	-0.1405
Bombax ceiba	Sittan	4	0.036364	-3.31419	-0.12052
Acacia nilotica	Karuvelai	4	0.036364	-3.31419	-0.12052
Bambusa vulgaris	Moongil	4	0.036364	-3.31419	-0.12052
Syzygium cumini	naval	5	0.045455	-3.09104	-0.1405
Carica papaya	Papaya	3	0.027273	-3.60187	-0.09823
Psidium guajava	Guava	3	0.027273	-3.60187	-0.09823
Cassia siamea	ManjalKonrai	3	0.027273	-3.60187	-0.09823
Ficus religiosa	Arasa maram	3	0.027273	-3.60187	-0.09823
Musa paradise	Vaazhai	3	0.027273	-3.60187	-0.09823
Prosopis juliflora	Vaelikaruvai	3	0.027273	-3.60187	-0.09823
Tectona grandis	Thekku	3	0.027273	-3.60187	-0.09823
Thespesia populnea	Poovarasam	3	0.027273	-3.60187	-0.09823
Causuarina equisetifolia	Savukku	2	0.018182	-4.00733	-0.07286
Alstonia scholaris	Elilaipalai	2	0.018182	-4.00733	-0.07286
Anacardium occidentale	Cashew	1	0.009091	-4.70048	-0.04273
Artocarpus heterophyllus	Palaa	2	0.018182	-4.00733	-0.07286
Aegle marmelos	Vilvam	1	0.009091	-4.70048	-0.04273
Delonix elata	Perungondrai	1	0.009091	-4.70048	-0.04273
Pithecellobium dulce	Kodukapuli	1	0.009091	-4.70048	-0.04273
Citrus medica	Elumichai	2	0.018182	-4.00733	-0.07286
Total		110			-3.02215005

H (Shannon Diversity Index) =3.02

### Shrubs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Jatropagossypifolia	Kaatamanaku	32	0.183908	-1.69332	-0.31142
Calotropis gigantea	Erukam	16	0.091954	-2.38647	-0.21945
Tabernaemontanadivaricata	Crepe Jasmine	4	0.022989	-3.77276	-0.08673
Catharanthus roseus	Nithyakalyani	4	0.022989	-3.77276	-0.08673

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Datura metal	Ummattangani	7	0.04023	-3.21315	-0.12926
Robiniapseudoacacia	Black locust	15	0.086207	-2.45101	-0.21129
Acalypha indica	Kuppaimeni	18	0.103448	-2.26868	-0.23469
Stachytarphaeurticifolia	Rat tail	13	0.074713	-2.59411	-0.19381
Woodfordiafruiticosa	Velakkai	4	0.022989	-3.77276	-0.08673
Hibiscus rosa sinensis	Sembaruthi	3	0.017241	-4.06044	-0.07001
Lantana camara	Unnichi	8	0.045977	-3.07961	-0.14159
Parthenium hysterophorous	Vishapoonda	45	0.258621	-1.35239	-0.34976
Euphorbia geniculata	Amman Pacharisi	5	0.028736	-3.54962	-0.102
Total		174			-2.2234

H (Shannon Diversity Index) =2.22

### Herbs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Helicteresisora	Valampuri	4	0.015385	-4.17439	-0.06422
Tridax procumbens	Vettukaayathalai	7	0.026923	-3.61477	-0.09732
Heraculem spondylium	Hog Weed	19	0.073077	-2.61624	-0.19119
Tridax procumbens	Cuminipachai	18	0.069231	-2.67031	-0.18487
Senna occidentalis	Nattamsakarai	30	0.115385	-2.15948	-0.24917
Plumbago zeylanica	Chittiramoolam	12	0.046154	-3.07577	-0.14196
Scrophularia nodosa	Sarakkothini	18	0.069231	-2.67031	-0.18487
Viburnum dentatum	Viburnum	7	0.026923	-3.61477	-0.09732
Cynodondactylon	Arugu	15	0.057692	-2.85263	-0.16457
Euphorbia hirta	Amman Pacharisi	7	0.026923	-3.61477	-0.09732
Sida cordifolia	Maanikham	50	0.192308	-1.64866	-0.31705
Sida acuta	Malaidangi	12	0.046154	-3.07577	-0.14196

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Laportea canadensis	Peruganchori	28	0.107692	-2.22848	-0.23999
Sporobolus fertilis	Giant Parramatta Grass	10	0.038462	-3.2581	-0.12531
Tephrosia purpurea	Kavali	23	0.088462	-2.42519	-0.21454
Total		260			-2.51

H (Shannon Diversity Index) =2.51

### **i. Species diversity calculation**

<b>Details</b>	<b>H</b>	<b>Hmax</b>	<b>Evenness</b>	<b>Species Richness (Margalef)</b>
Trees	3.02	3.36	0.89	5.95
Shrubs	2.22	2.56	0.86	2.32
Herbs	2.51	2.70	0.92	2.51

From the above, it can be interpreted that herb community has higher diversity. While the tree community shows less diversity. It is also observed that most of the quadrates have controlled generation of plant species with older strands. Higher herb species diversity can be interpreted as a greater number of successful species and a more stable ecosystem where more ecological niches are available, environmental change is less likely to be damaging to the ecosystem. Species richness is high for herb community when compared with tree and shrubs.

#### **3.7.6 Floral study in the Buffer Zone:**

Economically important Flora of the study area

**Agricultural crops:** Paddy, Maize, Ragi, Banana, Sugarcane, Cotton, Tamarind, Coconut, Mango, Groundnut, Vegetables and Flowers by the local people.

**Medicinal species:** The nearby area is also endowed with the several medicinal species which are commonly available in the shrub forest and waste lands. The common medicinal species of the region are Asparagus racemosus (satamulli), Aegle marmelos (golden apple), Azadirachta indica (Neem) etc.

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**Rare and endangered floral species:** There are no rare or endangered or threatened (RET) species of in the study area. During the vegetation survey, there are no any species which are endangered or threatened under IUCN (International Union for Conservation of Nature and Natural resources) guidelines.

### *3.7.7 Faunal Communities*

Both direct and indirect observation methods were used to survey the fauna.

- Point Survey Method: Observations were made in each site for 15 minutes duration.

Roadside Counts: The observer traveled by motor vehicles from site to site, all sightings were recorded (this was done both in the day and night time). An index of abundance of each species was also established.

Pellet and Track Counts: All possible animal tracks and pellets were identified and recorded (South Wood, 1978).

Additionally, survey of relevant literature was also done to consolidate the list of fauna distributed in the buffer zone.

Based on the Wildlife Protection Act, 1972 (WPA 1972, Anonymous. 1991, Upadhyay 1995, Chaturvedi and Chaturvedi 1996) species were short-listed as Schedule II or I and considered herein as endangered species. Species listed in Ghosh (1994) are considered as Indian Red List species.

#### **Methodology Adopted:**

Point Survey method was adopted for this development project where observations were made in each site for 15 minutes duration (10 times).

#### **Study in the core zone:**

Point Survey method was adopted for the study within 2 km radius and the following species were observed.

**Mammals:** No wild mammalian species was directly sighted during the field survey. Discussion with local villagers located around the study area also could not confirm presence of any wild animal in that area. Three striped Palm Squirrel, Common Indian Hare, Common mongoose, Common Mouse etc were observed during primary survey.



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**Avifauna:** Since birds are considered to be the indicators for monitoring and understanding human impacts on ecological systems (Lawton, 1996) attempt was made to gather quantitative data on the avifauna by walk through survey within the entire study area and surrounding areas. From the primary survey, a total of 26 species of avifauna were identified and recorded in the study area. The diversity of avifauna from this region was found to be quite high and encouraging.

The list of fauna species found in the study area is mentioned in Table below.

**Table 3-20 List of fauna species**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Schedule of wild life protection act</b>	<b>IUCN conservation status</b>
Mammals			
Funambulus pennanti	Palm Squirrel	IV	Least Concern
Mus rattus	Indian rat	IV	Not listed
Bandicota bengalensis	Indian mole rat	IV	Least Concern
Funambulus palmarum	Three stripped palm squirrel	IV	Least Concern
Herestes edwardsii	Common Mongoose	IV	Not listed
Mus musculus	Common Mouse	IV	Least Concern
Bandicota indica	Rat	IV	Least Concern
Lepus nigricollis	Indian Hare	IV	Least Concern
Felis catus	Cat	Not listed	Not listed
Canis lupus familiaris	Indian dog	Not listed	Not listed

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Bos Indicus	Indian Cow	Not listed	Not listed
Bubalus bubalis	Buffalo	I	Not listed
Sus scrofa domesticus	Domestic pig	Not listed	Not listed
Birds			
Milvus migrans	Black kite	IV	Least concern
Saxicoloides fulicatus	Indian Robin	IV	Least concern
Pycnonotus cafer	Red vented Bulbul	IV	Least concern
Phragamaticola aedon	Thick billed warbler	IV	Least concern
Pericrocotus cinnamomeus	Small Minivet	IV	Least concern
Eudynamys scolopaceus	Koel	IV	Least concern
Psittacula krameni	Rose ringed parakeet	IV	Least concern
Dicrurus marcocercus	Black drongo	IV	Least concern
Columba livia	Rock pigeon	IV	Least concern
Corvus splendens	House crow	IV	Least concern
Alcedo atthis	Small blue kingfisher	IV	Least concern
Cuculus canorus	Common Cukoo	IV	Least concern
Reptiles & Amphibians			

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Chameleon zeylanicum	Chameleon	IV	Not listed
Calotes versicolor	Common garden lizard	II	Not listed
Bungarus caeruleus	Common krait	IV	Not listed
Ophisops leschenaultia	Snake eyed lizard	--	Not listed
Bufo melanostictus	Toad	IV	Least concern
Ptyas mucosa	Rat snakes	IV	Least concern
Hemidactylus sp.	House lizard	--	Not listed
Butterflies			
Danaus chrysippus	Plain Tiger	--	Not listed
Papilio demoleus	Common lime	--	Not listed
Euploea core	Common crow	--	Least concern
Danaus genutia	Common tiger	--	Not listed
Eurema brigitta	Small grass yellow	--	Least concern

### 3.8 DEMOGRAPHY AND SOCIO ECONOMICS

The demography survey study is done within 10 km radius from the project site.



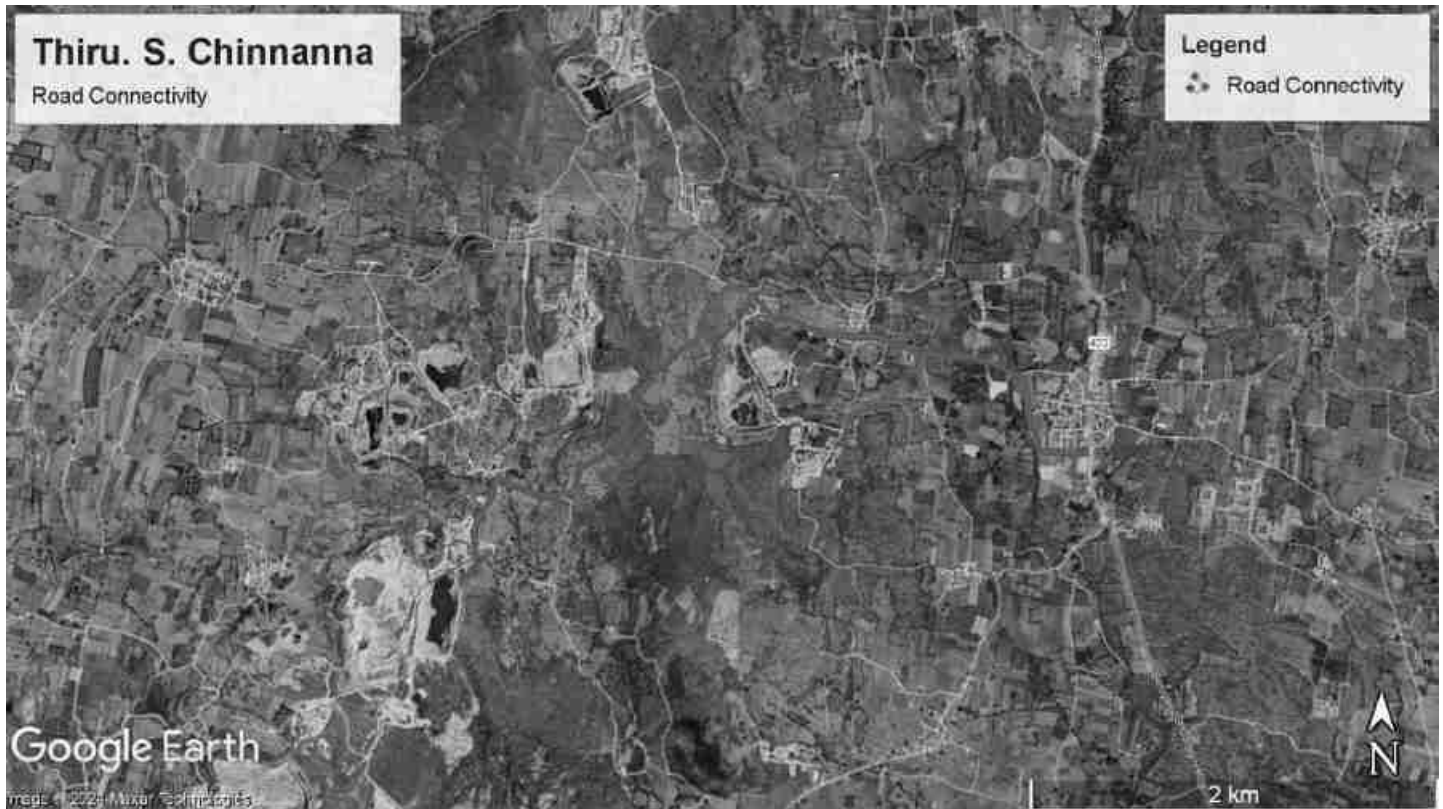
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3	Binnamangalam	590	2,463	1246	1217	72.41	56.52	641	0
4	Bithireddi	693	3,076	1585	1491	64.41	49.62	419	96
5	Bodichipalli	1176	4,982	2549	2433	71.91	56.48	432	0
6	Chudasandiram	393	1,727	882	845	59.37	45.64	187	487
7	Daravendram	493	2,140	1095	1045	67.2	50.05	435	10
8	Devaganapalli	591	2,937	1516	1421	81.17	69.03	756	7
9	Doddamanchi	1225	5,947	3058	2889	34.52	20.25	146	1183
10	Erudukotta	1190	5,563	2914	2649	61.34	45.96	821	29
11	Hanumanthapuram	1125	5,241	2712	2529	67.26	49.73	652	739
12	Karukkanahalli	1369	6,006	3103	2903	68.38	50.16	414	74
13	Kottaiyur	1493	6,340	3356	2984	55.27	33.79	542	372
14	Natrapalayam	2258	9,687	5184	4503	65.54	49.91	2151	312
15	Pillari Agraharam	1607	6,718	3504	3214	69.62	47.9	842	592
16	Rayakotta	2043	8,593	4282	4311	82.36	69.23	466	15
17	Thaggatti	1116	5,153	2692	2461	49.31	35.15	856	81
18	Thalli	1510	6,915	3438	3477	76.1	65.81	1522	8

### 3.9 TRAFFIC IMPACT ASSESSMENT

Traffic data collected continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station during each shift- one person on each of the two directions for counting the traffic. At the end of each hour, fresh counting and recording was undertaken. Total numbers of vehicles per hour under the three categories were determined.

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**Figure 3.13: Site Connectivity**

**Table 3-22: No. of Vehicles per Day**

<b>S. No</b>	<b>Vehicles Distribution</b>	<b>Number of Vehicles Distribution/Day</b>	<b>Passenger Car Unit (PCU)</b>	<b>Total Number of Vehicle in PCU</b>
		<b>MDR-422</b>	<b>-</b>	<b>MDR-422</b>
1	Cars	813	1	813
2	Buses	294	3	882
3	Trucks	325	3	975
4	Two wheelers	967	0.5	483.5
5	Three wheelers	409	1.5	613.5
<b>Total</b>		<b>2808</b>	<b>-</b>	<b>3767</b>

**Table 3-23: Existing Traffic Scenario and LOS**

<b>Road</b>	<b>V (Volume</b>	<b>C (Capacity</b>	<b>Existing V/C</b>	<b>LO</b>
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	<b>in PCU/hr)</b>	<b>in PCU/hr)</b>	<b>Ratio</b>	<b>S</b>
MDR-422	3767/24=157	413	0.38	<b>B</b>

**Note:** The existing level may be “Very Good” for MDR = 422.

<b>V/C</b>	<b>LOS</b>	<b>Performance</b>
0.0-0.2	A	Excellent
0.2-0.4	B	Very Good
0.4-0.6	C	Good/ Average/ Fair
0.6-0.8	D	Poor
0.8-1.0	E	Very Poor

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## 4 Anticipated Environmental Impacts & Mitigation Measures

This chapter describes the anticipated impacts on the environment and mitigation measures. The method of assessment of impacts including studies carried out, modeling techniques adopted to assess the impacts where pertinent should be elaborated in this chapter. It should give the details of the impacts on the baseline parameters, both during the construction and operational phases and suggests the mitigation measures to be implemented by the proponent.

### 4.1 INTRODUCTION

An environmental impact is defined as any change to the environment, whether adverse or beneficial, resulting from a facility's activities, products, or services. The anticipation of the possible & potential Environmental impact due to the proposed project is a key step in EIA. Based on the impacts assessed, appropriate mitigation measures should be adopted to maintain the environment with less or no damage.

Environmental Impacts can be group into Primary impacts & Secondary Impacts

**Primary Impacts:** These impacts are directly attributed by the project

**Secondary Impacts:** These are those which are induced by primary impacts and include the associated investments and changed patterns of the social and economic activities by the action.

Assessment of impacts is done for the following Environmental Parameters:

- Land Environment
- Water Environment
- Air Environment
- Noise Environment
- Biological Environment
- Socio Economic Environment



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#### 4.2 LAND ENVIRONMENT:

Aspect	Impact	Mitigation Measures															
<i>Mining of rough stone</i>	<p>The proposed 2.80.00 Ha mine located in Venkatesapuram Village having 3,30,344 m<sup>3</sup> of Rough Stone &amp; 24,456 m<sup>3</sup> of Topsoil respectively. The quarry operation is proposed to carry out with conventional open cast mechanized mining with 5.0 meter vertical bench and bench width of 5.0 meter. At the end of 5 years, mining lease area will be converted into ultimate pit.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="5" style="text-align: center;">ULTIMATE PIT DIMENSION</th> </tr> <tr> <th style="text-align: center;">Section</th> <th style="text-align: center;">Bench</th> <th style="text-align: center;">L (m)</th> <th style="text-align: center;">W (m)</th> <th style="text-align: center;">D (m)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">PIT</td> <td style="text-align: center;">I</td> <td style="text-align: center;">222.0m</td> <td style="text-align: center;">96.0m</td> <td style="text-align: center;">43.0m</td> </tr> </tbody> </table> <p>The main impact of open cast mining on land-use is land degradation. The land is bound to be excavated for mining of Rough Stone Quarry.</p> <p>Impact on soil of the study area will be minimal as there are no wastewater generated, heavy metal infusion, stack emissions.</p>	ULTIMATE PIT DIMENSION					Section	Bench	L (m)	W (m)	D (m)	PIT	I	222.0m	96.0m	43.0m	<p>The proposed project site is not prone to any kind of soil erosion (<b>Source: Bhuvan</b>).</p> <p>In addition, garland drainage of 1m x 1m will be provided to avoid storm water run-off.</p> <p>It is proposed to plant 1400 Nos of native species (Neem, Magizham, Tamarind, Elandhai and Vilvam) along the roads, outer periphery of the mining area which enhances the binding property of the soil.</p> <p>It is proposed to improve the affected land wherever possible for better land use, so as to support vegetation and creation of water reservoir in the ultimate pit after quarrying.</p> <p>The entire lease area is covered 3.0 m of Topsoil and estimated quantity of Topsoil is 24,456 m<sup>3</sup>. Topsoil formation will be removed and Used in Geen Belt areas. The source of dust generation is majorly due to drilling, blasting, loading &amp; unloading of the mined-out mineral, the impact will be mitigated by water sprinkling regularly once in 3hrs.</p>
ULTIMATE PIT DIMENSION																	
Section	Bench	L (m)	W (m)	D (m)													
PIT	I	222.0m	96.0m	43.0m													

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	<p>Impact due to transformation of terrain characteristics over the large area results in soil degradation.</p> <p>Solid waste will be generated from the mining activity as there will be refuse also generation of domestic waste. If it is not properly managed, may cause odor and health problem to the workers.</p>	<p>The proposed mining activity is carried out in hilly terrain where The altitude of the area is 950 m above MSL.</p> <p>After removal of minerals, undulating portion will be created. Excavated area or ultimate pit at the end of the mine period will be converted into water reservoir. Two tier tree belts will be planted along the safety distance.</p> <p>The 100% recovery is achieved by extracting the entire mineable reserve. Hence there will be no refuse generation due to the mining activity. Apart from that, a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.</p>
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#### 4.3 WATER ENVIRONMENT:

<b>Aspect</b>	<b>Impact</b>	<b>Mitigation Measures</b>
<i>Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.</i>	The mining in the area may cause ground water contamination due to intersection of the water table and mine runoff.	The water table will not be intersected during mining, as the ultimate depth is limited upto 43.0m BGL, whereas the ground water table is at 50 m below the ground level. The municipal wastewater will be disposed into septic tanks of 5 cum and soak pit. No chemicals consisting of toxic elements will be used for carrying out mining activity.

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	<p>The ground water depletion may occur due to mining activity</p> <p>Chemicals consisting of nitrate used for blasting may pollute the surface run off.</p> <p>Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labours.</p>	<p>The ground water table is at a depth of 50m BGL, the mining operation will not affect the aquifer. The ultimate pit at the end of the mining operation will be used for rainwater storage, the stored water will be used for green belt development and further the stored water will be used for domestic purposes (other than drinking) after proper treatment.</p> <p>Further, the run-off water will be stored in sumps and after proper treatment; water will be used in the mining operation for dust suppression.</p> <p>Provision of urinals/Latrines along with septic tank followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater</p>
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#### 4.4 AIR ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Drilling, Blasting, Loading and unloading,</i>	<i>Impacts during Operation Phase</i> During mining operation, fugitive dust and other air pollutants like particulate matter (PM <sub>10</sub> & PM <sub>2.5</sub> ) will be generated.	<i>Mitigation Measures during Operation Phase</i> It is proposed to plant 1400 Nos of native species (40% inside lease area & 60% outside lease area) along the haul roads, outer periphery within the lease area to prevent the

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<i>Transportation of the excavated mineral.</i>	<p>The main source of pollutants arises due to drilling and blasting. 2 No of Tipper will be used for loading and unloading, 1 No of Excavator (1.20 m<sup>3</sup> bucket capacity (with rock breaker attachment) will be used for excavation of the mineral which contributes to the generation of fugitive dust. In addition, blasting will be done using explosives leading to the generation of dust.</p> <p><u>Effect on Human</u></p> <ul style="list-style-type: none"> <li>• Adverse effect on human health of working labourers and neighbouring villagers like effect on breathing and respiratory system, damage to lung tissue, influenza or asthma.</li> <li>• Dust generation due to loading and unloading of mineral and due to transportation can also affect the workers as well as nearby villagers.</li> </ul> <p><u>Effect on Plants</u></p> <ul style="list-style-type: none"> <li>• Stomatal index may be minimized due to dust</li> </ul>	<p>impact of dust in consultation with Forest department for the plantation of trees (Neem, Magizham, Tamarind, Elandhai and Vilvam) in two tier to combat air pollution and with herbs (Nerium) in between the tree species.</p> <p>Planning transportation routes of the mined out mineral, so as to reach the nearest paved roads (an approach road) by shortest route connecting to MDR 422.</p> <p>Alternatively, gravelled road may be constructed between mine lease area and nearest paved road connectivity. The speed of trucks plying on the haul road will be limited to 20km/hr to avoid generation of dust.</p> <p>The trucks will be covered by tarpaulin.</p> <p>Overloading will be avoided.</p> <p>Personal Protective Equipments (PPEs) like eye goggles, dust mask, leather gloves, safety shoes &amp; boots will be provided to the workers engaged at dust generation points like excavation and loading points.</p>
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	deposit on leaf.	0.5 KLD of water will be proposed for sprinkling on unpaved roads to avoid dust generation during transportation.
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### **Air Quality Modeling:**

The AERMOD is actually a modeling system with three separate components:

- AERMOD (AERMIC Dispersion Model),
- AERMAP (AERMOD Terrain Preprocessor)
- AERMET (AERMOD Meteorological Preprocessor)

#### **4.4.1 Source Characterization**

A detailed listing of all emission sources and their corresponding modelling input release parameters and emission rates is listed this report. A general description of how each source type was treated is presented below.

The emission Sources from the proposed operation are

### **Point Sources:**

Point sources for mining operations are typically include dust collectors, hot water heaters, and emergency generator(s). Since at the present project the following sources are anticipated.

1. Hydraulic excavator –1.2 Cum Bucket Capacity (with Rock Breaker Attachment)
2. Jack Hammer 25.5 mm Dia
3. Tipper
4. Tractor Mounted - Compressor
5. Drilling and excavation with Accessories

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### **Road Sources:**

A road network was developed to depict the anticipated haul truck routes and truck discharge locations during the mine operations. The anticipated emissions from the road sources and corresponding anticipated impact during the monitoring period of Oct 2023 to Dec 2023 emissions were estimated. Emissions due to haul road and general plant traffic on the unpaved road network were modelled as volume sources. The model volume source parameter for the haul roads initially utilized USEPA developed emission factors for hauling trucking. The haul road sources utilized source to source spacing of 6 meters along the simulated haul roads. The initial lateral dimension of the sources were set to 3 m were used as an input to replicated a 2 truck travel adjacent for a typical mining scenario.

The parameters considered for the hauling operation include the following,

- size of haul trucks commonly used
- degree of dust control/compaction of permanent haul roads

### **Other fugitive particulate emission sources:**

Other fugitive particulate emission sources that were modelled as volume sources include the following:

- Fugitive emissions from trucks unloading at the primary crusher were represented by a single volume source. The release height was set to 0 meters (dump pocket is at grade level).
- Fugitive emissions due to wind erosion is not considered as the mining area is predominately rocky surface with minimal wind erosion. If an wind erosion is anticipated to occur, it would be localized.
- Fugitive emissions from transfer points were represented by single volume sources. The release heights for these sources were set to the actual height of the truck transfer process.

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### Post Project Scenario

Emissions from operations will result from process equipment and mining operations. Process equipment was modeled at maximum capacity. Emissions from mining were based upon the mining rate and haul truck travel necessary to transport the stones and waste from the pit to the storage area.

Predicted maximum ground level concentrations considering micro meteorological data of Oct to Dec 2023 are superimposed on the maximum baseline concentrations obtained during the study period to estimate the post project scenario, which would prevail at the post operational phase. The overall scenario with predicted concentrations over the maximum baseline concentrations is shown in the following table along with isopleths.

**Table 4-1 Emission Factors for uncontrolled mining**

Activity	Emission Factor		References	
Topsoil handling	Scraper	0.029 Kg TSPM/ average time between spray application	<b>USEPA (2008)</b>	Jose I. Huertas & Dumar A. Camacho & Maria E. Huertas, Standardized emissions inventory methodology for open-pit mining areas, Environmental Science Pollution Research, 2012.
	Bulldozing	15.048 kg PM10/ Hr excavation	<b>USEPA (2008)</b>	
	Loading	2.3237E-04 kg PM10/ average time between spray application	<b>USEPA (2006a)</b>	
	Haulage	0.69718 kg PM10/VKT	<b>USEPA (2006a) Cowherd (1988)</b>	

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Rough stone mining	Wet drilling	8.00E-5 lbs. PM10/ Ton produce	EPA. August, 2004. Section 11.19.2, Crushed Stone Processing and Pulverized Mineral Processing. In: Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources, Fifth Edition, AP-42. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina.
	Loading	1.00E-4 lbs. PM10/ Ton produce	

#### 4.5 NOISE ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.</i>	Usage of Equipments (Excavator, Tipper, Jack Hammer), Machinery and trucks used for transportation will generate noise.  Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure.  Number of vehicles will be increased due to the proposed mining activity hence vehicle	<ul style="list-style-type: none"> <li>• The machinery will be maintained in good running condition so that noise will be reduced to minimum possible level.</li> <li>• Awareness will be imparted to the workers once in six months about the permissible noise level and effect of maximum exposure to those levels. Adequate silencers will be provided in all the diesel engines of vehicles.</li> <li>• It will be ensured that all transportation vehicles carry a valid PUC Certificates.</li> <li>• Speed of trucks entering or leaving the mine will be limited to moderate speed (20km/hr) to prevent undue noise from empty vehicles.</li> </ul>



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	<p>may collate which may result in unwanted sound and can also cause impact on human health like breathing and respiratory system, damage to lung tissue, influenza or asthma.</p>	<p>The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipments.</p> <ul style="list-style-type: none"> <li>• It is proposed to plant 1250 Nos. of native species (Neem, Mandharai, Athi, Tamarind, Ashoka, Casuarinas and Villam) to reduce the impact of noise in the study area. The development of green belts around the periphery of the mine will be implemented to attenuate noise.</li> <li>• The trucks will be diverted on two roads viz. MDR and a District Road to avoid traffic congestion.</li> <li>• Health check-up camps will be organized once in six month.</li> <li>• Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.</li> <li>• Provision of quiet areas, where employees can get relief from workplace noise.</li> </ul>
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#### 4.6 BIOLOGICAL ENVIRONMENT:

<b>Aspect</b>	<b>Impacts</b>	<b>Mitigation Measures</b>
Site Clearance	Loss of habitat due to site clearance which may lead to ecological disturbance.	The proposed mining lease is already a dry land hence no site clearance is required. Only few shrubs and herbs like parthenium sp., prosopis juliflora were present.

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Planting of trees	Development of afforestation in the mine lease area will have a positive impact as the land was initially a barren.	10 m safety distance will be provided all along the boundary of the mine lease area and safety. Around 0.75.0 Ha of land is utilized for greenbelt development (1250 Nos – 5 years). This will attract avifauna thus enhancing the existing ecological environment.
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#### **4.7 SOCIO ECONOMIC ENVIRONMENT:**

<b>Aspect</b>	<b>Impact</b>	<b>Mitigation Measures</b>
Proposed implementation of Mining activity	Land acquisition for the implementation of the project may result in loss of assets, which in return will make the PAP to shift, losing their normal routine and livelihood	The proposed project is a Government Poramboke land and the land is vacant where there are no human settlement within 300m radius. Hence the project does not involve Rehabilitation and resettlement
Drilling, Blasting, Loading and Transportation of the mined out mineral	The mining activities may cause dust emission, noise pollution thereby causing disturbance to the local habitat	No human activity is envisaged near the project site. The nearest human settlement is observed in Mattukur, Muthuganapalli village which is 0.77 km from site
Grazing and Rearing activities in the nearby villages	The Grazing and rearing of local animals like Sheep, Goat and cows is observed in the nearby villages, which may be affected due to the project as the movement of the vehicles may affect/injure the animals	It is proposed to use gravelled road and nearest paved road and preferred not to use unpaved roads. In addition to that, the speed of trucks will be limited to 20km/hr to avoid any accidents.

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Employment opportunity	The project will improve the livelihood of the local people	After the development of the proposed mine, it will improve the livelihood of local people and also provide the direct and indirect employment opportunities. The rough stone for the infrastructural development in the area will be made available from the local markets at reasonably lower price.
Corporate Environmental Responsibility	The proposed project will help in natural resource augmentation & Community resource development.	As a part of CER i.e., 5.0 Lakhs will be allocated. Government High School, Venkatesapuram Provision of School Building Repair and Painting for entire mining period Cabinet for Headmaster room R.O Water Facility Smart Classroom facility Environmental books for library (in Tamil language), Greenbelt facilities and Basic amenities such as safe drinking water, furniture.

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#### 4.8 OTHER IMPACTS:

<b>S. No</b>	<b>Aspect</b>	<b>Impact</b>	<b>Mitigation measure</b>
1.	Risk due to the proposed mining	Accidents may occur in the mine area	Proper PPE kit (Safety jacket, Helmet, Safety Shoes, Gloves) etc will be provided to each and every employee in the mine lease concerning the safety of each labour.
2.	Blasting	Injury to the labours due to the blasting activity	Alarm system in the form of Siren will be engaged in the project site to caution the blasting activity. In addition to that, the blasting activity will be scheduled at particular time – 5 P.M to 6 P.M (or whenever required) so that the employees will be aware of the activity. Smoking will be banned in the site and sign boards will be displayed in various places at site.
3.	Screening of Labours	Labours will be checked for health condition before employing them in mining activity	All the labours will be checked and screened for health before employing them.  After employing them, periodical medical check-ups will be held once in every six months.

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## **5 Analysis Of Alternatives**

### **5.1 GENERAL**

Analysis of alternative is a significant aspect in planning and designing any project. Cost benefit analysis should be worked out along with other parameters while choosing an alternative in such a way that the production is maximum and the mining operation is environment friendly and cost effective. The mine plan and mine closure plan has been approved by the Deputy Director, Department of Mining and Geology, Krishnagiri District prior to submission of the Form-1 and PFR.

ToR issued by the SEIAA-TN vide Letter No. SEIAA-TN/F. No. 10429/ ToR-1600/2023 Dated: 07.11.2023. The study for alternative analysis involves in-depth examination of site and technology.

#### **5.1.1 Analysis for Alternative Sites and Mining Technology**

##### **5.1.1.1 Alternative Site**

The proposed project is the mining of Rough Stone Quarry and is proposed after prospecting the area. In other words, these can be implemented in the mineral available zone. Since the mining block has been allotted in principle by the State Government, there is no case for studying and exploring any other site as an alternative.

##### **5.1.1.2 Alternative Technology**

The open cast mining could be manual/ mechanized depending upon the geological and topographical setup of the mineral (ROM) to be won and the daily/annual targeted production.

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**Table 5-1: Alternative for Technology and other Parameters**

S. No.	Particular	Alternative Option 1	Alternative Option 2	Remarks
1.	Technology	Opencast semi mechanized mining	Opencast mechanized mining	Opencast mechanized Involving drilling and blasting are preferred.  <b>Benefits:</b> Material is hard so to make it
2.	Employment	Local employment.	Outsource employment	Local employment is preferred. <b>Benefits:</b> Provides employment to local people along with financial benefits. No residential building/housing is required.
3.	Labour transportation	Public transport	Private transport	Local labours will be deployed from Venkatesapuram village so they will either reach mine site by bicycle or by foot.  <b>Benefits:</b> Cost of transportation of labors will be negligible
4.	Material transportation	Public transport	Private transport	Material will be transported through trucks/trolleys on the contract basis.  <b>Benefits:</b> It will give indirect employment.
5.	Water	Tanker supplier	Ground water/	Tanker supply will be preferred. Water will be sourced from Usthalapalli village which is 0.32 km from

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## 6 Environmental Monitoring Program

### 6.1 GENERAL:

This chapter covers the planned environmental monitoring program. It also includes the technical aspects of monitoring the effectiveness of mitigation measures.

Monitoring is important to measure the efficiency of control measures. Post project monitoring of environmental parameters is of key importance to assess the status of environment. The monitoring program will serve as an indicator for identifying environmental degradation due to operation of the project and help in selection of appropriate mitigation measures to safeguard the environment.

Regular monitoring is as important as control of pollution since the efficacy of control measures can only be determined by monitoring. The project proponent has awarded **M/s. Ecotech Labs Pvt Ltd** for carrying out the post project environmental monitoring (PPM) and timely compliance report submission to various regulatory authorities.

Therefore, a regular monitoring programme of the environmental parameters is essential to take into account the changes in the environmental quality. The objectives of monitoring are to:-

- Verify effectiveness of planning decisions.
- Measure effectiveness of operational procedures;
- Confirm statutory and corporate compliance; and
- Identify unexpected changes.

**Table 6-1: Environmental Monitoring Programme.**

<b>Parameters</b>	<b>Sampling</b>	<b>Frequency</b>	<b>Location</b>
Air environment – Pollutants PM 10 PM 2.5	7 locations	24 hourly twice a week 4 hourly.	Project site Adhiyamaan College Of Agriculture and Research, Athimugam

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<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

SO <sub>2</sub> NO <sub>x</sub>		Twice a week, One non monsoon season 8 hourly, twice a week 24 hourly, twice a week	Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli Dasarapalli Dinna School Village Municipal Society Center, Sri Hanuman Temple, Chinthladoddi Chowdeshwari Devi Temple, Sivapellai
Noise	7 locations	24 hourly Once in 7 locations	Project site Adhiyamaan College Of Agriculture and Research, Athimugam Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli Dasarapalli Dinna School Village Municipal Society Center, Sri Hanuman Temple, Chinthladoddi Chowdeshwari Devi Temple, Sivapellai
Water (Ground water) pH Temperature Turbidity Magnesium Hardness Total Alkalinity Chloride Sulphate Fluoride Nitrate Sodium Potassium Salinity Total nitrogen Total Coliforms Fecal Coliforms	7 locations	Once in 7 locations	Project site Adhiyamaan College Of Agriculture and Research, Athimugam Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli Dasarapalli Dinna School Village Municipal Society Center, Sri Hanuman Temple, Chinthladoddi Chowdeshwari Devi Temple, Sivapellai



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<i>Project Location</i>	<i>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	

Water (surface water) pH Temperature Turbidity Magnesium Hardness Total Alkalinity Chloride Sulphate Fluoride Nitrate Sodium Potassium Salinity Total nitrogen Total Coliforms Fecal Coliforms	Sample from nearby lakes/river	One time Sampling	1. Bukkasagaram Lake 2. Muthali Lake
Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	7 locations	Once in 7 locations	Project site Adhiyamaan College Of Agriculture and Research, Athimugam Dargah Hazrat Hashim Ali Shah Qadri, Peddasigaralapalli Dasarapalli Dinna School Village Municipal Society Center, Sri Hanuman Temple, Chinthladoddi Chowdeshwari Devi Temple, Sivapellai
Ecology and biodiversity Study	Study area covering 5 km radius	One time Sampling	

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Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 5 km radius	One time Sampling	
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**Table 6-2: Monitoring Schedule during Mining**

S. No.	Attributes	Parameters	Frequency	Location
1.	Ambient Air Quality at Mine Site & Fugitive Dust Sampling	PM 10 PM 2.5 SO <sub>2</sub> NO <sub>x</sub>	Once in a Month	Project Site
2.	Ground water Quality	Drinking Water Parameters, As per IS - 10500: 2012	Half yearly	Project Site
3.	Surface Water Quality	Class will be assessed as per the CPCB Guidelines	Half yearly	Project Site
4.	Soil Quality	(Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	Half yearly	Project Site
5.	Noise Level Monitoring	Noise level in dB(A) Quarterly/half yearly	Half yearly	Project Site

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## 7 Additional Studies

### 7.1 GENERAL

This chapter covers the details of the additional studies viz. Risk assessment, Disaster Management, Public Hearing, Rehabilitation and Resettlement.

#### 7.1.1 Public Hearing:

As the proposed mining project falls under 1(a), Category B1 – Cluster Mining (includes Existing Quarries –

1. Thiru Y. Jagadesh– 3.50.0 Ha
2. Thiru Manjunaika – 4.10.0 Ha
3. Thiru P. Selvaraju – 2.50.0 Ha
4. J. Shanmugam – 2.50.0 Ha

#### Abandoned / Old quarries:

1. Thiru. A. D. Mohan – 4.00.0 Ha
2. Thiru. V. Jayaprakash – 2.00.0 Ha
3. Thiru. T. Muniraj – 1.30.0 Ha
4. Thiru. N. Haries – 3.00.0 Ha
5. Thiru. V. Madesh – 3.00.0 Ha

#### Proposed Quarries:–

1. Thiru. S. Chinnanna – 2.80.0 Ha
2. Tvl. S. V. Blue Metals – 2.70.0 Ha
3. M/s. Sri Vinayaka Enterprises – 2.85.0 Ha

The Total extent of the Existing / Proposed quarries are 34.25.0 Ha.

Hence under 7(III) of EIA notification 2006 and its subsequent amendments, the project involves the Public Consultation and the same will be conducted under SPCB (TN) in Krishnagiri District. The proceedings of the same will be incorporated in the Final EIA Report.

#### 7.1.2 Risk assessment:

For mining projects to be successful, it should meet not only the production requirements, but also maintain the highest safety standards for all the workers. The industry has to identify

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the hazards, assess the associated risks and bring the risks to tolerable level regularly. Mining has considerable safety risk to miners. Unsafe conditions and practices in mines lead to a number of accidents and causes loss and injury to human lives, damage property, interrupt production etc. Risk assessment is a systematic method of identifying and analyzing the hazards associated with an activity and establishing a level of risk. The hazards cannot be completely eliminated, and thus there is a need to define and estimate an accident risk level possible to be presented either in quantitative or qualitative way.

### 7.1.3 Identification of Hazard

#### 7.1.3.1 Blasting Pattern:

The quarrying operation will be carried out by Opencast Semi Mechanized method in conjunction with conventional method of mining using Jack Hammer drilling and blasting for shattering effect and loosen the Rough Stone.

#### 7.1.3.2 Drilling and Blasting:

Drilling and Blasting parameters are as follows:

Diameter of Hole	32-36mm
Spacing between holes	60 cms
Depth	1 to 1.5 m
Pattern of hole	Zigzag
Inclination of holes	70° from horizontal
Use of delay detonators	25 milli-second delays
Detonating fuse	“Detonating” Cord

#### a. Types of explosives to be used:

Small dia of 25mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling or Primary blasting is proposed.

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**b. Measures proposed to minimize ground vibration due to Blasting:**

The quarry is situated more than 0.32 km from the nearby villages. Controlled blasting measures will be adopted for minimizing ground vibration and fly of rock. Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give the shattering effect in rough stone for easy excavation and to control fly of rocks.

Diameter of Holes	=	32-36mm
Powder factor	=	6 to 7 Tons/Kg of explosives
Depth	=	1 to 1.5 m
Charge/Hole	=	D.Cord with water or 70gms of gun powder or Gelatine.
Blasted at day time	=	5 to 6 PM

Storage and safety measures to be taken while blasting: The proponent will engage an authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory Foreman/Permit Mines Manager.

**Heavy Machineries:** The following heavy machineries will be used in the proposed area:

- For Mining – Excavator of 1.2 Cum Bucket capacity (with Rock Breaker attachment), Jack Hammers (25.5 mm Dia) of 4 Nos.
- Loading Equipment – Excavator of 1.2 Cum Bucket Capacity (with Bucket attachment)
- Transportation (includes within the mine and mine to destination) – Tipper 2 Nos. of 10 M.T capacity (from quarry to needy peoples and local crushers)

**a. Risk:**

Most of the accidents during transport of mined out mineral using other heavy vehicles are often attributed to mechanical failures and human errors.

**b. Mitigation measures to minimize the risk**

- At the time of loading no person will be allowed within the swing radius of the excavation.
- The dumpers/ trucks will stand near the loading equipment and fully braked when the muck is filled in it.

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- The truck would be brought to a lower level so that the loading operation suits to the ergonomic condition of the workers.
- The workers will be provided with helmets, gloves and safety boots; loading and unloading operations will be carried out only during daylight.
- All the mining machineries will be regularly maintained and checked such as brakes, lights and horns to keep in the efficient working order.

#### *7.1.4 General Precautionary measures for the Risk involved in the proposed mine:*

- In order to take care of above hazard/disaster, the following control measures will be adopted:
- All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations;
- Entry of unauthorized persons will be prohibited;
- Firefighting and first-aid provisions in the ECC and mining area;
- Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the workers (16 Nos.) and regular inspection for their use;
- In case of eventuality, first aid will be given by the senior safety office in the mine area initially to the injured person. The safety officer will give notice of accident as per Rule-23 of Mines Act-1952;
- The safety officer (common for 3 mines within 500m radius) will be responsible for coordination between management district authorities/DGMS etc. Regarding general safety as per Rule-181 of MMR 1961, “No person shall negligently or willfully do anything likely to endanger life or limb in the mine, or negligible or willfully omit to do anything necessary for the safety of the mine or of the persons employed there in”. The workers will be provided with protective foot wear and safety helmets;
- Cleaning of mine faces will be regularly done;
- Handling of explosives, charging and blasting will be carried out by highly skilled labors only;
- Regular maintenance and testing of all mining equipment as per manufacturer’s guidelines;

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- Suppression of dust by sprinkling water on the haulage roads;

#### *7.1.5 Safety Team:*

The effective implementation of compliance of Safety Rules/ Statutory Provisions will be ensured. The safety officer will be engaged, meeting the requirement of Mines Act and their duties and responsibilities. The safety officer will be responsible for identification of the hazardous conditions and unsafe acts of workers and advice on corrective actions, conduct safety audit, organize training programs and provide professional expert advice on various issues related to occupational safety and health. Organizing safety training will be conducted to employees and contractor labors periodically.

#### *7.1.6 Emergency Control Centre*

The emergency control center will be provided to handle the emergency. The site main controller, key personnel and the senior officers of the fire and police services will attend it. The center will be equipped to receive and transmit information and directions from and to the incident controller and other areas of the works, as well as outside. The emergency control center will be sited in an area of minimum risk. This common Emergency control center will be used for the mines around the 500m radius.

## **7.2 DISASTER MANAGEMENT**

The possible risks in the case of stone along with associated minor minerals mining projects are fly rock, vibration failure of pit, slope and waste dump, accidents due to transportation. Mining and allied activities are associated with several potential hazards to both the employees and the public at large. Safety of the mine and the employees is taken care of by the mining rules & regulations, which are well defined with laid down procedure for safety, which when scrupulously followed, safety is ensured not only to manpower but also to machines & working environment.

### *7.2.1 Emergency Management Plan For Proposed Mines On Site- Offsite Emergency Preparedness Plan:*

The emergency plan delineates the procedures for dealing with accidents or unexpected events and natural calamities arising from mining activity. An experience of any accidents that

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have occurred in other manufacturing/mining projects is considered to prepare this plan. This Emergency plan should be periodically reviewed and modified. It should also be changed based on the observations of emergency mock drills and experience of handling actual emergencies.

Major objectives of this onsite – offsite emergency plan are:

- To take necessary proactive and preventive actions to avoid the emergency.

**The main aim of any emergency plan should be to prevent emergency situations.**

To train the manpower to handle the emergencies of the following nature:

- Onsite (Within ML boundary)
- Offsite (Outside ML boundary)

#### *7.2.1 Onsite off-site emergency Plan:*

##### **1- Emergency on account of:**

- Fire
- Explosion
- Major accidents involving man-made collapse of the mining edges.
- Snake bites, attack by honey bees or attack by wild animals.

##### **2- Disaster due to natural calamities like:**

- Flood/ heavy rains which can involve natural landslides.
- Earth quake
- Cyclone
- Lightening

#### *7.2.2 Emergency Plan:*

- The mining operations should be immediately stopped in case of any emergency. A siren will be sounded during emergency time.
- An emergency assembly point will be created and all the workers will guide visitors or contractors to approach assembly point.
- Emergency vehicle (Ambulance) will be available in the nearby place, in proximity to the three mines and will rush to the emergency control centre at the blowing of



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emergency siren. The driver of emergency vehicle will follow the instructions of Incident Controller/Site Main Controller.

- Workers will be trained for the precautions to be taken during natural disasters like heavy rain, floods, earthquake and cyclone.
- All escape routes from mines to the assembly point or any other safe location will be made and the escape plan will be displayed in many places in the mine area

### **7.2.3 Emergency Control:**

- Shut down of mining operations: Raising the alarm or siren followed by immediate safe shut down of the power supply, and isolation of affected areas.
- Treatment of injured: First aid and hospitalization of injured persons
- Protection of environment and property: During mitigation, efforts will be made to prevent impacts on environment and property to the extent possible.
- Preserving all evidences and records: This will be done to enable a thorough investigation of the true causes of the emergency.
- Ensuring safety of personnel prior to restarting of operations: Efforts required will be made to ensure that work environment is safe prior to restarting the work.

## **7.3 NATURAL RESOURCE CONSERVATION**

There are no natural resources within the premises. The conservation strategies for energy will be followed in the proposed mine lease area. The pollutants of the mine will be minimized by adopting appropriate mitigation measures as mentioned Chapter 5 to prevent the effects on nearest water bodies. No surface runoff from the project site will be let into the nearest water bodies.

## **7.4 RESETTLEMENT AND REHABILITATION:**

The proposed Mine lease area is Government Poramboke land. There is no displacement of the population within the project area and adjacent nearby area and hence Rehabilitation & Resettlement is not applicable.

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## 8 Project Benefits

### 8.1 GENERAL

This chapter covers the benefits accruing to the locality, neighborhood, region and nation as a whole. It brings out the details of benefits by way of improvements in the physical infrastructure, social infrastructure, employment potential and other tangible benefits.

#### 8.1.1 *Physical Benefits*

The opening of the proposed project will enhance the following physical infrastructure facilities in the adjoining areas:

**Market:** Generating useful economical resource for construction. Due to demand supply chain, excavated mineral (Rough stone) will sold in the market in the affordable price.

**Infrastructure:** The excavated rough stone will be used for *Laying Roads, Building & Construction Projects, Bridges.*

**Enhancement of Green Cover & Green Belt Development:** As a part of reclamation plan, native tree species will be planted along the safety boundary of the mine lease area. A suitable combination of trees that can grow fast and also have good leaf cover will be adopted to develop the green belt. It is proposed to plant 500 numbers of native species along with some fruit bearing and medicinal trees during the mining plan period.

### 8.2 SOCIAL BENEFITS

The mining in the area will create rural employment. During site visit, it has been observed that the economic conditions of the villages in the study area is quite normal. After the development of the proposed mine, it will improve the livelihood of local people and also provide the indirect employment opportunities. The rough stone for the infrastructural development in the area will be made available from the local markets at reasonably lower price.

As a part of CER, i.e., 5 Lakhs will be allocated. The detailed agenda, which is to be executed has been framed. The salient features of the programmes are as follows:

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Developing Sports facilities and providing Smart board, Library, Environmental books for library (in Tamil language), Greenbelt facilities Basic amenities such as safe drinking water, Hygienic Toilet facilities & Furniture to Government High School, Venkatesapuram.

### 8.3 PROJECT COST / INVESTMENT DETAILS

Proposed Financial Estimate / Budget for (EMP) Environment Management.	
<b><u>Fixed Asset Cost:</u></b>	<b>Rs.64,10,000/-</b>
<b><u>Operational Cost:</u></b> <u>Machinery cost</u>	<b>Rs.20,00,000/-</b>
<b><u>EMP Cost:</u></b>	<b>Rs.87,32,000/-</b>
<b>Total Project Cost</b>	<b>Rs.1,71,42,000/-</b>

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## **9 Environmental Management Plan**

### **9.1 INTRODUCTION**

This chapter comprehensively presents the Environmental Management Plan (EMP), which includes the administrative and technical setup, summary matrix of EMP, the cost involved to implement the EMP, during various Mining activities and provisions made towards the same in the cost estimates of project. This chapter describes the proposed monitoring scheme as well as inter-organizational arrangements for effective implementation of the mitigation measures.

### **9.2 SUBSIDENCE**

Mining will be carried out by opencast mechanized mining method with drilling & blasting as per mining plan approved by Department of Mining and Geology, Krishnagiri. Subsidence/slope failures are not envisaged because there are no loose strata overlying the deposit (mineral to be excavated). The bench height will be average 5m. The individual bench slope has been proposed to be kept at 60° from horizontal. Moreover, all safety standards/safeguards will be implemented as per guidelines prescribed by Director General of Mines Safety.

### **9.3 MINE DRAINAGE**

#### **9.3.1 *Storm water Management***

The following measures will be taken with respect to the prevailing site conditions.

- Storm water drains with silt traps of size 1m x 1m will be suitably constructed all along the periphery of the pit area to collect the run-off from the mine area and divert into the pit.
- All measures will be taken not to disturb the existing drainage pattern adjacent to the mine lease area.
- The storm water collected from the mine area will be utilized for dust suppression on haul roads, plantation within the premises, etc.,

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### 9.3.2 Drainage

Local workers will be deployed for the project. But, urinals and Latrines will be provided and the same will be connected to septic tank followed by soak pit arrangement. No domestic waste will be deposited into the nearby area. Regular checking will be carried out to find any blockage due to silting or accumulation of loose materials. The drains will also be checked for any damage in lining / stone pitching, etc.

### 9.3.3 Administrative and Technical Setup

The Environment Management Plan (EMP) will consist of all mitigation measures for each component of the environment due to the activities increased during mining operation to minimize adverse environmental impacts resulting from the activities of the project.

To carry out the above activities, Thiru. S. Chinnanna will work in association with M/s. Ecotech Labs Pvt Ltd.

**Table 9-1: Impacts and mitigation measures**

<b>S. No</b>	<b>Impacts on Environment</b>	<b>Activity /Aspect</b>	<b>Anticipated impacts</b>	<b>Mitigation measures</b>
1.	Air	Fugitive Emission	During mining operation, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.	Planting of trees along the safety distance of the Mine Lease Area  Water will be sprinkled in the site as dust suppression measure.
2.	Water	Wastewater Generation	Improper management of Domestic wastewater in the Mine lease may create unhygienic conditions in the site thereby causing health impacts to the labors	Provision of Urinals/ Latrines along with septic tank followed by soak pit arrangement will be provided in the Mine Lease area for the proper management of wastewater.
3.	Noise	Mining activities like drilling, blasting, loading and	Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc., due to prolonged exposure. Apart from Mining	Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.

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		transportation	activities like drilling, blasting may generate noise	
4.	Land	Improper management of Storm water Runoff	Storm water Runoff may result in Soil Erosion	Garland drainage of 1m x 1m will be provided to avoid storm water run-off.
5.	Social Responsibility	Mining workers	Unhygienic site sanitation facilities may cause health damage to workers.	<p>The objective is to ensure health and safety of the workers with effective provisions for the basic facilities of sanitation, drinking water, safety of equipments or machinery etc. The following will be done in the site</p> <ul style="list-style-type: none"> <li>✓ By complying with the safety procedures, norms and guidelines (as applicable) as outlined in the National Building Code of India, Bureau of Indian Standards.</li> <li>✓ Provide adequate number of decentralized latrines and urinals</li> <li>✓ Providing Septic tank along with Soak pit arrangement</li> <li>✓ Providing First Aid room, conducting frequent health checkups to labor and conducting free medical camps</li> <li>✓ Providing safety helmet, Gloves, Jacket &amp; Boots</li> <li>✓ Providing measures to prevent fires. Firefighting extinguishers and buckets of sand will be provided in the construction site</li> </ul>
6.	Building materials resource	Building Material	Use of far fetched construction materials than the locally available	<ul style="list-style-type: none"> <li>• Use of locally available construction materials.</li> </ul>

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conservation	consumption	construction materials may lead to over exploitation of natural resources & increase in carbon footprint.	
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**Table 9-2: Budgetary Allocation for EMP during Mining**

<b>Year</b>	<b>Description</b>	<b>Cost (Rs)</b>
5 Years	Display board in site; Monitoring-Air, Water, Noise; Dust Supression - Water sprinkling by own water tankers; Vehicle Tyres Wash; Green Belt Development; Road Development & Management; Occupational Health And Safety; Solid Waste Management; Strom Water; Renewable Energy, CCTV Installation, Salary for mines manager and blaster	87,32,000/-

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## 10 Summary & Conclusion

This chapter summarizes the overall justification for implementation of the project and explains how the potential impacts are mitigated.

### 10.1 INTRODUCTION

Thiru. S. Chinnanna site is a cluster of Twelve mining projects. The mine lease area is 2.80.00 Ha of Rough Stone Quarry located at S.F.Nos. 136 (Part-I) of Venkatesapuram Village, Shoolagiri Taluk in Krishnagiri District.

### 10.2 PROJECT OVERVIEW

**Table 10-1: Project Overview**

<b>S. No.</b>	<b>Description</b>	<b>Details</b>
1	Project Name	Rough Stone Quarry - 2.80.00 ha
2	Proponent	Thiru. S. Chinnanna
3	Mining Lease Area Extent	2.80.00 Ha
4	Location	S.F.Nos. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk , Krishnagiri District.
5	Latitude	12° 44' 50.98"N - 12° 44' 44.25"N
6	Longitude	77° 56' 52.56"E - 77° 56' 43.81" E
7	Topography	Hilly terrain
8	Site Elevation above MSL	The altitude of the area is 950 m above MSL.
9	Topo sheet No.	57- H/14
10	Minerals of Mine	Rough Stone Quarry
11	Proposed production of Mine	3,30,344 m <sup>3</sup> of Rough Stone and 24,456 m <sup>3</sup> of Topsoil
12	Ultimate depth of Mining	43 m BGL
13	Method of Mining	Open cast, mechanized mining
14	Water demand	1.81 KLD



<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna</b>	<b>Draft EIA Report</b>
<b>Project Proponent</b>	<b>Thiru. S. Chinnanna</b>	
<b>Project Location</b>	<b>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

15	Source of water	Water will be supplied through tankers supply
16	Manpower	18 Nos.
17	Mining Lease	Proceedings Letter received from The District Collector, Krishnagiri District vide letter RC.72/2016/Mines, Dated: 29.02.2016.
18	Mining Plan Approval	Mining Plan was approved by the Deputy Director, Dept. of Geology & Mining, Krishnagiri vide letter Rc.No.72/2016/Mines, Dated:29.04.2016.
19	Production details	Geological resources: 9,56,180 m <sup>3</sup> Proposed year wise recoverable reserves: 3,30,344 m <sup>3</sup> of Rough Stone
20	Boundary Fencing	10 m barrier all along the boundary Fencing will be provided.
21	Disposal of overburden	The entire lease area covers 3.0m of Topsoil and estimated quantity of Topsoil is 24,456 m <sup>3</sup> . Topsoil formation will be removed and Used for Green belt Purposes.
22	Ground water	The quarry operation is proposed up to a depth of 43m BGL. The water table is below 50 m from ground level which is observed from the nearby open wells and bore wells. Hence the ground water will not be affected in any manner due to the quarrying operation during the entire lease period.
23	Habitations within 300m radius of the Project Site	There is 5 Habitation and 4 workers shed in nearby quarry area within 300m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Usthalapalli village which is 0.32 Km – North of the proposed project site.

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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

### **10.3 JUSTIFICATION OF THE PROPOSED PROJECT**

The said project plays a significant role in the domestic as well as infrastructural market. To achieve a huge infrastructure being envisaged by Government of India, particularly in road and housing sector, there is a need for basic building materials. The rough stone forms the primary building material.

Rough stone is one of the most valuable natural building materials. Aggregates are mostly used for building roads and footpaths. Aggregates – stone used for its strong physical properties – crushed and sorted into various sizes for use in concrete, coated with bitumen to make asphalt or used 'dry' as bulk fill in construction. Mostly used in roads, concrete and building products. Aggregates represent about 98% of quarry output, most of which is used in road construction, maintenance and repair. Much of this goes to the production of asphalt; the remainder is used 'dry' without the addition of other materials to provide a sturdy base for roads.

Since Krishnagiri, a city known for its small-scale industries and also the soil in the area near project site is not very fertile making it unsuitable for carrying out agricultural activities. The topography near the lease area is barren dry lands showing only less chance for crop growth and development of vegetation. In addition to that, geological resources of rough stone is abundant in the lease area which is evident from the mine activities carried out in the nearby sites.

**Table 10-2: Anticipate Impacts & Appropriate Mitigation Measures**

<b>Sl.No.</b>	<b>Potential Impact</b>	<b>Mitigation Measure</b>
1	The main impact in the air environment is dust emission during various mining activities such drilling, blasting, excavation, loading and transportation. The dust emission may affect the quality of ambient air in the and around the mine area. The	Proper mitigation measures like water sprinkling on haul roads will be adopted to control dust emissions. To control the emissions regular preventive maintenance of equipments will be carried out on contractual basis.

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	increased emission may cause respiratory & Cardiovascular problems in human health	Plantation will be carried out along approach roads & mine premises.
2	Waste water will be generated due to mining activity and from other domestic activities. These may contaminate the ground water leading to ground water. The mining activity may affect the ground water table	No waste water will be generated from the mining activity of minor minerals as the project only involves lifting of over burden from mine site. The wastewater generated from the domestic activity will be disposed off safely through the proposed septic tank. Mining will not intersect ground water table. Hence the water table will not be impacted due to the proposed project
3	Noise will be generated in the mine area during various mining activities such as blasting, drilling, excavation. During transportation of the mined out mineral, there may be noise generation due to the movement of vehicles. This may impact the health condition of the workers by creating headache	Periodical monitoring of noise will be done. No other equipments except the transportation vehicles and Excavator (as & when required) for loading will be allowed at site. Noise generated by these equipments shall be intermittent and does not cause much adverse impact. Plantation will be carried out along approach roads. The plantation minimizes propagation of noise and also arrest dust.
4	Solid waste will be generated from the mining activity as there will be refuse after 95% recovery and also generation of domestic waste	The 100% recovery is achieved by extracting the entire mineable reserve. Hence there will be no refuse generation due to the mining activity.

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		Apart from that, a very meagre quantity of domestic waste will be generated in the project, which will be handed over to the local body on daily basis.
5	During mining activities, there are chances of workers getting health issues or may be prone to accidents	<p>Dust masks will be provided as additional personal protection equipment to the workers working in the dust prone area.</p> <p>Periodical trainings will be conducted to create awareness about the occupational health hazards due to activities like blasting, drilling, excavation.</p> <p>Worker's health related problem if any, will be properly addressed.</p>

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

## 11 Disclosure of Consultant

### 11.1 INTRODUCTION

This chapter presents the details of the environmental consultants engaged, their background and the brief description of the key personnel involved in the project. Specific studies on the mining project have been carried out by engaging engineers/experts of Ecotech Labs Pvt. Ltd, Chennai. Ecotech Labs Pvt. Ltd (ETL), Chennai is NABET accredited consultancy organization. ETL is equipped with in-house, spacious laboratory, accredited by NABL (National Accreditation Board for Testing & Calibration Laboratories), Department of Science & Technology, Government of India and MoEF & CC.

### 11.2 ECO TECH LABS PVT. LTD – ENVIRONMENT CONSULTANT

Eco Tech Labs Pvt. Ltd is a multi-disciplinary testing and research laboratory in India. Eco Tech labs provides high quality services in environmental consultancy, engineering solution, chemical and microbiological laboratory analysis of food, water and environment (Air, Water, Soil) with highest accuracy.

#### **The Quality policy**

- We at Eco Tech Labs Pvt. Ltd. engaged in providing Environmental consulting services and we are committed to strengthen our capabilities in all areas of our operations in line with customer requirements & expectations, applicable legal requirements & stakeholders expectations.
- We are committed to establish and maintain Quality Management System (QMS) for continual improvement in processes and Services
- We are committed to provide customized solutions in realistic, time bound and cost effective to achieve highest degree of customer satisfaction and Environmental improvement.
- We shall establish, maintain & periodically review our documented management systems, objectives and performance in consultation with our employees and prevailing best practices.
- Effective communication of organization's policy and objectives to employees and seeking feedbacks from all our employees and concerned stakeholders for continual improvement.

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<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

**Declaration by Experts contributing to the EIA of Rough Stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna at S.F.No. 136 (Part-I), Venkatesapuram Village, Shoolagiri Taluk , Krishnagiri District, Tamil Nadu State**

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the above EIA.





**EIA Coordinator:** Dr. A. Dhamodharan

**Signature:**





**Period of involvement** : 01.12.2021 to Till now

**Contact information** : M/s. Ecotech Labs Pvt Ltd.,  
No. 48, 2<sup>nd</sup> Main road, Ram Nagar South Extension,  
Pallikaranai

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru. S. Chinnanna</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	


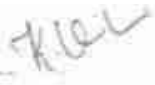

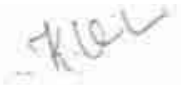
<b>S. No.</b>	<b>Functional areas</b>	<b>Name of the experts</b>	<b>Involvement (period and task)</b>	<b>Signature and date</b>
1	AP	Mrs. K. Vijayalakshmi	<ol style="list-style-type: none"> <li>1. Selection of Baseline Monitoring stations based on the wind direction</li> <li>2. Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area</li> <li>3. Identification of sources of air pollution and suggesting mitigation measures to minimize impact.</li> </ol>	
2	WP	Dr. A. Dhamodharan	<ol style="list-style-type: none"> <li>1. Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface water to be studied.</li> <li>2. Interpretation of baseline data collected</li> <li>3. Identification of impacts based on the baseline study conducted and also to the ground water and nearby surface water due to the proposed project</li> <li>4. Preparation of suitable and appropriate mitigation plan.</li> </ol>	
3	SHW	Dr. A. Dhamodharan	<ol style="list-style-type: none"> <li>1. Identification of nature of solid waste generated</li> <li>2. Categorization of the generated waste and estimating the quantity of waste to be generated based on the per capita basis. Identification of impacts of SHW on Environment</li> <li>3. Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated</li> <li>4. Top soil and refuse management</li> </ol>	
4	SE	Mr. S. Pandian	<ol style="list-style-type: none"> <li>1. Primary data collection through the census questionnaire</li> <li>2. Obtaining Secondary data from authenticated sources and incorporating the same in EIA report.</li> <li>3. Impact assessment &amp; proposing suitable mitigation plan</li> </ol>	

<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna</b>	<b>Draft EIA Report</b>
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<b>Project Location</b>	<b>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

			4. CSR budget allocation by discussing with the local body and allotting the same for need based activity. <b>*Involves Public Hearing</b>	
5	EB	Dr. A. Dhamodharan	1. Primary data collection through field survey and sheet observation for ecology and biodiversity 2. Secondary Collection through various authenticated sources 3. Prediction of anticipated impacts and suggesting appropriate mitigation measures.	
6	HG	Dr. T. P. Natesan	1. Study of existing surface drainage arrangements in the core and buffer zone, impact due to mining on these drainage courses and suggestion of mitigative measures 2. Determination of groundwater use pattern, development of rainwater harvesting program. Storm water management through garland drainage system.	
7	GEO	Dr. T. P. Natesan	1. Field survey for assessing regional and local geology, aquifer distribution, Determination of groundwater use pattern, development of rainwater harvesting program.	
8	SC	Dr. A. Dhamodharan	1. Interpretation of baseline report 2. Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures.	



<b>Project</b>	<b>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna</b>	<b>Draft EIA Report</b>
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<b>Project Location</b>	<b>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</b>	

9	AQ	Mrs. K. Vijayalakshmi	<ol style="list-style-type: none"> <li>1. Collection of Meteorological data for the baseline study period</li> <li>2. Plotting wind rose plot and thereby selecting the monitoring locations based on the wind pattern</li> <li>3. Estimation of sources of air emissions and air quality modeling is done</li> <li>4. Interpretation of the results obtained</li> <li>5. Identification of the impacts and suggesting suitable mitigation measures.</li> </ol>	
10	NV	Mrs. K. Vijayalakshmi	<ol style="list-style-type: none"> <li>1. Selection of monitoring locations</li> <li>2. Interpretation of baseline data</li> <li>3. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures</li> </ol>	
11	LU	Dr. T. P. Natesan	<ol style="list-style-type: none"> <li>1. Collection of Remote sensing satellite data to study the land use pattern.</li> <li>2. Primary field survey and limited field verification for land categorization in the study area</li> <li>3. Preparation of Land use map using Satellite data for 10km radius around the project site.</li> </ol>	
12	RH	Mrs. K. Vijayalakshmi	<ol style="list-style-type: none"> <li>1. Identification of the risk</li> <li>2. Interpreting consequence contours</li> <li>3. Suggesting risk mitigation measures</li> </ol>	

<i>Project</i>	<i>Rough stone Quarry- 2.80.00 Ha by Thiru. S. Chinnanna</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

**Declaration by the Head of the accredited consultant organization/ authorized person**

I, Dr. A. Dhamodharan, hereby confirm that the above-mentioned experts prepared the EIA report of mining project at Survey Numbers. 136 (Part-I) Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District. I also confirm that the consultant organization shall be fully accountable for any misleading information mentioned in this statement.

**Signature:**

**Name:** Dr. A. Dhamodharan

**Designation:** Managing Director

**Name of the EIA consultant organization:** M/s. Eco Tech Labs Private Limited

**NABET Certificate No. & Issue Date:** NABET/EIA/2124/SA 0147

# **ANNEXURE-I**

## **STANDARD TOR CONDITIONS WITH ADDITIONAL TOR POINTS**





THIRU.DEEPAK S.BILGI, I.F.S.  
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY-TAMILNADU  
3rd Floor, Panagal Maaligai,  
No.1, Jeeris Road, Saidapet,  
Chennai - 600 015.  
Phone No. 044-24359973  
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.10429/SEAC/ToR- 1600/2023 Dated:07.11.2023**

To

Thiru.S.Chinnanna,  
No.1-39A, Machinaickanapalli Village,  
Panchakshipuram Post,  
Hosur Taluk, Krishnagiri District.,  
Pincode-635110.

Sir / Madam,

**Sub:** SEIAA, Tamil Nadu – **Terms of Reference with Public Hearing (ToR)** for the Proposed Rough Stone Quarry over an extent of 2.80.0Ha at S.F. No: 136(Part-I)of Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu by - Thiru.S.Chinnanna under project category – “B1” and Schedule S.No. 1(a) – ToR issued along with Public Hearing- preparation of EIA report – Regarding.

**Ref:**

1. Online proposal No. SIA/TN/MIN/442366/2023, Dated:22.09.2023.
2. Your application submitted for Terms of Reference dated: 27.09.2023.
3. Minutes of the 417<sup>th</sup> Meeting of SEAC held on 18.10.2023.
4. Minutes of the 671<sup>st</sup> meeting of Authority held on 07.11.2023.

Kindly refer to your proposal submitted to the State Level Impact Assessment Authority for Terms of Reference.

  
MEMBER SECRETARY  
SEIAA-TN

The proponent, Thiru.S.Chinnanna has submitted application for ToR, in Form-I, Pre-Feasibility report for the Proposed Rough Stone Quarry over an extent of 2.80.0Ha at S.F. No: 136(Part-1)of Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu.

**Discussion by SEAC and the Remarks:-**

**Proposed Rough Stone Quarry over an extent of 2.80.0 Ha at S.F.No.136(Part-1) of Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu by Thiru.S.Chinnanna For Terms of Reference. (SIA/TN/MIN/442366/2023, Dated: 22.09.2023).**

The proposal was placed in the 417<sup>th</sup> Meeting of SEAC held on 18.10.2023. The details of the project furnished by the proponent are available in the website (parivesh.nic.in).

**The SEAC noted the following:**

1. The Project Proponent, Thiru.S.Chinnanna has applied for Terms of Reference for the Proposed Rough Stone Quarry over an extent of 2.80.0 Ha at S.F.No.136(Part-1) of Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu.
2. The proposed quarry/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. Precise area was communicated vide Roc.No.72/2016/mines, Dated: 29.02.2016.
4. Earlier, the Proponent has applied for obtaining EC (File.No. 5318/2016). The Proponent was requested to furnish the present status of the proposal and reason for not attending the SEAC meeting held 01.09.2016 & 02.09.2016, subsequently, the proposal was closed and recorded.
5. Further, the PP has applied for obtaining EC vide (SIA/TN/MIN/437327/2023 dt. 19.07.2023) File.No. 10252/2023. This proposal was placed in the 412<sup>th</sup> meeting of SEAC held on 04.10.2023. During the meeting, the EIA Coordinator stated that PP would like to withdraw the proposal as it was wrongly applied for obtaining the prior EC under B2 category instead of applying for ToR application under B1 category. Hence, the SEAC decided that SEIAA may accordingly decide on the application to withdraw the current application as and when received from the PP.
6. As per the mining plan the lease period is 5 years. The mining plan is for the period of five years & production should not exceed 330344 m<sup>3</sup> of rough stone with ultimate depth of mining 43m.

  
MEMBER SECRETARY  
SEIAA- TN



**grant Terms of Reference (TOR) with Public Hearing** subject to the following TORs, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC to be included in EIA/EMP Report:

1. For the existing quarry, the PP shall obtain a letter from the concerned AD (Mines) which shall stipulate the following information:
  - i. Original pit-dimension of the existing quarry
  - ii. Balance Quantity as per Mineable Reserve calculated.
  - iii. Mined out Depth as on date and depth of water
  - iv. Details of illegal/illicit mining carried out, if any
  - v. Non-compliance/Violation in the quarry during the past working.
  - vi. Quantity of material mined out outside the mine lease area (or) in the adjacent quarry/land.
  - vii. Existing condition of Safety zone/benches
  - viii. Details of any penalties levied on the PP for any violation in the quarry operation
2. The PP shall submit the slope stability studies on the existing quarry wall and slope stability action plan by carrying out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus.
3. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m & upto 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc.
4. The study on impact of the proposed quarrying operations on the surrounding environment which includes water bodies, Odai etc.,
5. The Project Proponent shall furnish the revised EMP based on the study carried out on impact of the dust & other environmental impacts due to proposed quarrying

  
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operations on the nearby agricultural lands for remaining life of the mine in the format prescribed by the SEAC considering the cluster situation

#### ANNEXURE-I

1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
  - (i) Original pit dimension
  - (ii) Quantity achieved Vs EC Approved Quantity
  - (iii) Balance Quantity as per Mineable Reserve calculated.
  - (iv) Mined out Depth as on date Vs EC Permitted depth
  - (v) Details of illegal/illicit mining
  - (vi) Violation in the quarry during the past working.
  - (vii) Quantity of material mined out outside the mine lease area
  - (viii) Condition of Safety zone/benches
  - (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.
6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the

  
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- PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg. Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.
8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
  9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
  10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.
  11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.
  12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,
    13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
    14. Quantity of minerals mined out.
      - Highest production achieved in any one year
      - Detail of approved depth of mining.
      - Actual depth of the mining achieved earlier.
      - Name of the person already mined in that leases area.
      - If EC and CTO already obtained, the copy of the same shall be submitted.

  
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- Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
  16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc..
  17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
  18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.
  19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
  20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
  21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.
  22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health

  
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- impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
  24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
  25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
  26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.
  27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
  28. Impact on local transport infrastructure due to the Project should be indicated.
  29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
  30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
  31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.
  32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with

  
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dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.

33. Taller/one year old Saplings raised in appropriate size of bags; preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.
34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

  
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**Appendix -I**  
**List of Native Trees Suggested for Planting**

No	Scientific Name	Tamil Name	Tamil Name
1	<i>Aegle marmelos</i>	Vilvam	விளவம்
2	<i>Adenanthera pavonina</i>	Marjadi	மஞ்சாடி ஆனைக்குன்றமணி
3	<i>Albizia lebbek</i>	Vaagai	வாகை
4	<i>Albizia amara</i>	Ural	உசில்
5	<i>Bauhinia purpurea</i>	Mantharai	மந்தாரை
6	<i>Bauhinia racemosa</i>	Aathu	ஆத்தி
7	<i>Bauhinia tomentosa</i>	Iruvathu	இருவாத்
8	<i>Buchanania axillaris</i>	Kattuna	கட்டநா
9	<i>Borassus flabellifer</i>	Panai	பனை
10	<i>Butea monosperma</i>	Murukkamarai	முருக்கமரம்
11	<i>Bobax ceiba</i>	Ilavu, Sevvilavu	இலவு
12	<i>Catophyllum inophyllum</i>	Purrai	புரரை
13	<i>Cassia fistula</i>	Sarakondrai	சரகொண்டரை
14	<i>Cassia roxburghii</i>	Sengondrai	செங்கொண்டரை
15	<i>Chloroxylon swietenia</i>	Purasamaram	பரசமரம்
16	<i>Cochlospermum religiosum</i>	Kongu, Marjallavu	கோங்கு மஞ்சள் இலவு
17	<i>Cordia dichotoma</i>	Nannu	நன்னூ
18	<i>Croton adansoni</i>	Mavalungum	மாலைங்கம்
19	<i>Dillenia indica</i>	Uva, Uzha	உவா
20	<i>Dillenia pentacepala</i>	SiruUva, Sitruzha	சீறு உவா
21	<i>Diospyros ebenum</i>	Karungali	கரங்காலி
22	<i>Diospyros chloroxylon</i>	Vagarai	வாகரை
23	<i>Ficus amplicarpa</i>	Kallichu	கல் இச்சி
24	<i>Hibiscus tiliaceus</i>	Aatrupoovarasu	ஆற்றுப்பூவரசு
25	<i>Hirtivickia bimata</i>	Aacha	ஆச்சா
26	<i>Holoptelia integrifolia</i>	Aayils	ஆயா மரம், ஆயில்
27	<i>Lannea coromandelica</i>	Odhiam	ஒதியம்
28	<i>Lagerstroemia speciosa</i>	Poo Marudhu	பூ மருது
29	<i>Lapsanthus tetraphylla</i>	Neikottamaram	நெய் கொட்டை மரம்
30	<i>Lymonia acidissima</i>	Vila maram	வில்லா மரம்
31	<i>Litsea glutinosa</i>	Pisampattai	பிசம்பாட்டை
32	<i>Madraca longifolia</i>	Illuppa	இலுப்பா
33	<i>Mankara hexandra</i>	UlakkaPaalai	உலக்கை பாலை
34	<i>Mimusops elengi</i>	Magizhamaram	மகிழ்மரம்
35	<i>Mitrasyna parvifolia</i>	Kadambu	கடம்பு
36	<i>Morinda pubescens</i>	Nuna	நுணா
37	<i>Morinda citrifolia</i>	Veilu Nuna	வேலாணா நுணா
38	<i>Platanus sylvestris</i>	Eachai	ஏச்சமரம்
39	<i>Pongamia pinnat</i>	Pungam	பங்கம்

  
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40	<i>Fremna mollissima</i>	Muratai	முருதாய்
41	<i>Fremna serratifolia</i>	Narainthurai	நாரைந்தூர்
42	<i>Fremna tomentosa</i>	Maipoccharan	மைப்பொச்சர்
43	<i>Fraxinus cinerea</i>	Vairav maran	வைரவ் மாறன்
44	<i>Fraxinus maruquinum</i>	Vengai	வேங்கை
45	<i>Fraxospermum canescens</i>	Venungu, Tada	வேனுங்கு, தாடா
46	<i>Fraxospermum xylocarpum</i>	Polavu	பொலாவு
47	<i>Puffinbergeria vachisaji</i>	Karpala	கார்பலா
48	<i>Salsola peruviana</i>	Uga Maran	உகா மாறன்
49	<i>Sapindus emarginatus</i>	Marupugan, Soapukan	மாறுபுளையன், சோப்புகா
50	<i>Sarcococa</i>	Asoca	அசொகா
51	<i>Stereosia asper</i>	Pirav maran	பிராவ் மாறன்
52	<i>Strychnos marzoni</i>	Yeth	யேதா
53	<i>Strychnos potatorum</i>	Theerthang Kottai	தீர்த்தங்கு கோட்டை
54	<i>Suzanum cumini</i>	Naval	நாவல்
55	<i>Terminalia bellerica</i>	Thandir	தாண்டிர
56	<i>Terminalia arjuna</i>	Ven maradhu	வேனு மாறாடறு
57	<i>Tona cinere</i>	Sandhara venbu	சாந்தாரா வேனு
58	<i>Thymosa populnea</i>	Puyaratu	புயாராது
59	<i>Walsurata bhuta</i>	valsura	வால்சூரா
60	<i>Wrightia tinctoria</i>	Veppala	வேப்பலா
61	<i>Pithecellobium dulce</i>	Kodukkupala	கொடுக்குப்பலா

#### Discussion by SEIAA and the Remarks:-

The subject was placed in the 671<sup>th</sup> Authority meeting held on 07.11.2023. The Authority noted that the subject was appraised in the 417<sup>th</sup> SEAC meeting held on 18.10.2023. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions and conditions in **Annexure 'B'** of this minutes.

#### Annexure 'B'

##### Cluster Management Committee

1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.
2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,
3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.

  
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4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.
5. The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.
6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.
7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.
8. The committee shall furnish the Emergency Management plan within the cluster.
9. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.
10. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.
11. The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.

**Impact study of mining**

12. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
  - a) Soil health & soil biological, physical land chemical features .
  - b) Climate change leading to Droughts, Floods etc.
  - c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
  - d) Possibilities of water contamination and impact on aquatic ecosystem health.
  - e) Agriculture, Forestry & Traditional practices.
  - f) Hydrothermal/Geothermal effect due to destruction in the Environment.
  - g) Bio-geochemical processes and its foot prints including environmental stress.
  - h) Sediment geochemistry in the surface streams.

  
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**Agriculture & Agro-Biodiversity**

13. Impact on surrounding agricultural fields around the proposed mining Area.
14. Impact on soil flora & vegetation around the project site.
15. Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.
16. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.
17. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
18. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.

**Forests**

19. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
20. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
21. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
22. The Environmental Impact Assessment should study impact on protected areas. Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.

**Water Environment**

23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.
24. Erosion Control measures.

  
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25. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
26. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
27. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.
28. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.
29. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
30. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.

#### **Energy**

31. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.

#### **Climate Change**

32. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.
33. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.

#### **Mine Closure Plan**

34. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

#### **EMP**

35. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

  
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36. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.

**Risk Assessment**

37. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.

**Disaster Management Plan**

38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.

**Others**

39. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.
40. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.
41. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

**A. STANDARD TERMS OF REFERENCE**

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be

  
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compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should

  
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be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna,

  
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endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
- 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole

  
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of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided

  
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- both in AMSL and bgl. A schematic diagram may also be provided for the same.
- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
  - 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
  - 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
  - 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
  - 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
  - 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
  - 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

  
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- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) Besides the above, the below mentioned general points are also to be followed:-
  - a) Executive Summary of the EIA/EMP Report
  - b) All documents to be properly referenced with index and continuous page numbering.
  - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
  - d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
  - e) Where the documents provided are in a language other than English, an English translation should be provided.
  - f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
  - g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA-II(1) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

  
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- h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
- i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

**In addition to the above, the following shall be furnished:-**

**The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:**

1. Project name and location (Village, District, State, Industrial Estate (if applicable).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the

  
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- approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
  11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
  12. The EIA study report shall include the surrounding mining activity, if any.
  13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
  14. A study on the geological resources available shall be carried out and reported.
  15. A specific study on agriculture & livelihood shall be carried out and reported.
  16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
  17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
  18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
  19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
  20. Likely impact of the project on air, water, land, flora-fauna and nearby population
  21. Emergency preparedness plan in case of natural or in plant emergencies
  22. Issues raised during public hearing (if applicable) and response given
  23. CER plan with proposed expenditure.
  24. Occupational Health Measures
  25. Post project monitoring plan
  26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
  27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
  28. The proponent shall propose the suitable control measure to control the fugitive emissions

  
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during the operations of the mines.

29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2<sup>nd</sup> December, 2009, 18<sup>th</sup> March 2010, 28<sup>th</sup> May 2010, 28<sup>th</sup> June 2010, 31<sup>st</sup> December 2010 & 30<sup>th</sup> September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.
  - After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental


  
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4th August, 2009, which are available on the website of this Ministry should also be followed.

e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J-11013/77/2004-IA-II(1) dated 2<sup>nd</sup> December, 2009, 18<sup>th</sup> March 2010, 28<sup>th</sup> May 2010, 28<sup>th</sup> June 2010, 31<sup>st</sup> December 2010 & 30<sup>th</sup> September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(1)(part) dated 29<sup>th</sup> August, 2017.

  
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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF& CC (SZ), 34, HEPC Building, 1<sup>st</sup>& 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Krishnagiri District.
7. Stock File.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

### COMPLIANCE OF TOR CONDITIONS

**Point wise compliance of T o R points issued by SEIAA, TN vide letter No. SEIAA-TN/F. No. 10429/SEAC/ToR-1600/2023 Dated: 07.11.2023 for Mining of Minor Minerals in the Mine of “Rough stone Quarry” Lease Over an Extent of 2.80.0 Ha at S.F.No. 136 (Part-I) of Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamilnadu State.**

### STANDARD TERMS OF REFERENCE

ToR Ref.	Description	Response	Page Ref. in EIA Report
1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification, 1994 came into force w.r.t. the highest production achieved prior to 1994.	<p>This is a mining project of Proposed Rough stone quarry.</p> <p>Proceedings Letter received from The District Collector, Krishnagiri District vide letter RC.72/2016/Mines, Dated: 29.02.2016.</p> <p>Mining Plan was approved by the Deputy Director, Dept. of Geology &amp; Mining, Krishnagiri vide letter Rc.No.72/2016/Mines, Dated:29.04.2016.</p> <p>Proposed Production of Rough Stone for five years is proposed in the EIA/EMP in chapter no-2.</p>	<p>Chapter-2</p> <p>Table No.10.1</p>

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

2.	A copy of document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The mine lease area of 2.80.0 hectare in Venkatesapuram Village for Rough stone quarry approved by The District Collector, Krishnagiri District vide letter RC.72/2016/Mines, Dated: 29.04.2016	Annexure s
3	All documents including approved mine plan, EIA and public hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management and mining technology and should be in the name of the lessee.	All the documents i.e., Mining Plan, EIA and public hearing are compatible with each other in terms of ML area production levels, waste generation and its management and mining technology are compatible with one another.  The mining plan of the project site has been submitted to The Deputy Director, Dept. of Geology & Mining, Krishnagiri District	Annexure. Chapter- II
4	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ toposheet should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Details of coordinates of all corners of proposed mining lease area have been incorporated in mining plan and Chapter 2 of EIA/ EMP Report.	Chapter-2, Fig no. 2.2

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

5	Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, important water bodies, streams and rivers and soil characteristics	Topo map as attached in Chapter-2	Chapter-2, Fig no. 2.4
6.	Details about the land proposed for mining activities should be given with information as to whether conforms to the land use policy of the state; land diversion for mining should have approval from State land use board or the concerned authority	Details about the land proposed for mining activities is discussed in Chapter 2.	Chapter-2.
7.	<p>It should be clearly stated whether the proponent company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions?</p> <p>The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The</p>	Noted.	



## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	<p>system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large may also be detailed in the EIA report.</p>		
8	<p>Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.</p>	<p>It is an open cast mining project. Blasting details are incorporated in chapter 2.</p>	Chapter-2.
9	<p>The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc should be for the life of the mine / lease period.</p>	<p>Study area comprises of 10 km radius from the mine lease boundary. Key Plan showing core zone (ML area).</p>	Chapter-2  Fig no. 2.5
10	<p>Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.  Land use plan of the mine lease area should be prepared to</p>	<p>Land Use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, National Park, migratory routes of fauna, water bodies, human settlements and other ecological features has been prepared and incorporated in</p>	Chapter-2,  Table no.  2.4

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	<p>encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.</p>	<p>Chapter-2 of EIA/ EMP Report.</p> <p>There is no wildlife sanctuary and national park, migratory routes of fauna in the study area.</p>	
11	<p>Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&amp;R issues, if any, should be given.</p>	<p>Earth formation will be removed and transported to the needy end user, only after obtaining permission and paying necessary seigniorage fees to the Government.</p>	Chapter-2.
12	<p>A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area.</p> <p>In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the</p>	<p>Complied.</p> <p>The proposed mining lease area is not falling under forest land.</p>	

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	State Forest Department to assist the Expert Appraisal Committees.		
13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	The proposed mining lease area is not falling under forest land.	
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	Not Applicable.  There is no involvement of forest land in the project area.	
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Details of flora have been discussed in Chapter-3 of the EIA/EMP Report.	Chapter-3

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly detailed mitigative measures required, should be worked out with cost implications and submitted.	There is a relatively poor sighting of animals in the core and buffer areas of the mining lease. No significant impact is anticipated	
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves/ (existing as well as proposed), if any, within 10km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the State Wildlife Department/Chief Wildlife Warden under the Wildlife (Protection) Act, 1972 and copy furnished.	There is no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger/Elephant Reserves within 15 km Radius.	
18	A detailed biological study of the study area [core zone and buffer	Details biological study (flora & fauna) within 10 km	

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	<p>zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.</p>	<p>radius of the project site have been incorporated in Chapter-3 of EIA/ EMP Report.</p> <p>No flora &amp; fauna listed in scheduled I have been found in study area so there is no need of conservation plan. However, all care will be taken for protection of flora &amp; fauna, if any in the lease hold area.</p>	<p>Chapter – 3</p>
<p>19</p>	<p>Proximity to Areas declared as ‘Critically Polluted’ or the Project areas likely to come under the ‘Aravali Range’, (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Dept. Should be secured and furnished to the effect that the proposed mining activities could be considered.</p>	<p>The proposed mining lease area is not falling under critically polluted area.</p>	

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

20	<p>Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority)</p>	<p>There is no Coastal Zone within 15km radius of the project site.</p>	
21	<p>R&amp;R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&amp;R Plan, the relevant State/National Rehabilitation &amp; Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based sample survey, family wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State</p>	<p>There is no Rehabilitation and resettlement is involved. Land classified as Government Poramboke land</p>	

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	<p>Government. It may be clearly brought out whether the village located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&amp;R and socio-economic aspects should be discussed in the report.</p>		
22	<p>One season (non-monsoon) and (Summer Season), (Post monsoon) primary baseline data on ambient air quality CPCB Notification of 2009 water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report.</p> <p>Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of</p>	<p>Baseline data collected during Post Monsoon Season (October to December 2023) has been incorporated in EIA/EMP report.</p> <p>The key plan of monitoring station has been discussed in Chapter-3 Locations of the monitoring stations have been selected keeping in view the pre-dominant downwind direction and location of the sensitive receptors and also that they represent whole of the study area.</p>	Chapter 3

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	PM10, particularly for free silica, should be given.		
23	<p>Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided.</p> <p>The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing predominant wind direction may also be indicated on the map.</p>	<p>Air quality modelling &amp; Impact of Air quality furnished in Final EIA report.</p> <p>Transportation of mineral during operation of mines will be done by road &amp; ODR through dumpers and the impact of movement of vehicles are incorporated in EIA/EMP report.</p> <p>Air quality modelling &amp; Impact of Air quality furnished in Final EIA report.</p>	Chapter-4



## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	Total water requirement: 1.81 KLD  Dust Suppression: 0.5 KLD Domestic Purpose: 0.81 KLD Plantation :0.5 KLD  Domestic water will be sourced from nearby Usthalapalli Village which is about 0.32 - N km from project area	Chapter-2
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Not Applicable  Water will be taken from nearby villages	
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	At the last stage of mining operation, almost complete area will be worked to restore the land to its optimum reclamation for future use as water reservoir.	
27	Impact of the project on the water quality, both surface and groundwater should be assessed and necessary safeguard measures, if any required, should be provided.	Impact of the project on the water quality & its mitigation measures has been incorporated in Chapter-4 of EIA/EMP report.	Chapter-4
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater.	43 m (3m Topsoil + 40 Rough stone BGL) Including 5m Existing Depth	Chapter-2

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	The ground water table is reported as 50m below surface ground level in nearby wells of this area. Now, the present quarry shall be proposed above the water table and hence, quarrying may not affect the ground water So mine working will not be intersecting the ground water table.	Table No. 2.2
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	There is no any stream crossing in the proposed quarry	Executive Summary
30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.	Highest elevation: 848 m from MSL 43 m (3m Topsoil + 40 Rough stone BGL) Including 5m Existing Depth	Chapter-2 Table no. 2.2
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up	Green Belt Development plan is provided and discussed in Chapter 2.	Chapter-2

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	<p>front on commencement of the project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant pollution</p>		
<p style="text-align: center;">32</p>	<p>Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project proponent shall conduct impact of Transportation study as per Indian Road Congress Guidelines</p>	<p>Impact on local transport infrastructure due to the project has been assessed. There shall not be much impact on local transport. Traffic density from the proposed mining activity has been incorporated in EIA/EMP report.</p>	<p style="text-align: center;">Chapter-3</p>

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.	Adequate infrastructure & other facilities shall be provided to the mine workers. Details are given in chapter-2 of EIA/EMP	Chapter-2
34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	Conceptual post mining land use and Reclamation and restoration sectional plates are given in Mining Plan.	Mining plates Annexures
35	Occupational Health impacts of the Project should be anticipated, and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project in the mining area may be detailed	Suitable measure will be adopted to minimize occupational health impacts of the project. The project shall have positive impact on local environment. Details are given in chapter-9 of EIA/EMP.	Chapter-9
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Suitable measure will be adopted to minimize occupational health impacts of the project.	Chapter-9
37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent	Suitable measures have been discussed in Chapter 3	Chapter 3

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.								
38	Detailed Environmental management plan to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	Environment Management Plan has been described in detail in Chapter-9 of the EIA/EMP Report.	Chapter-9						
39	Public hearing points raised and commitment of the project proponent on the same along with time bound action plan to implement the same should be provided and incorporated in the final EIA/EMP Report of the Project.	Public Hearing proceedings furnished in Final EIA report							
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the project should be given.	Not applicable  No. litigation is pending against the project in any court.							
41	The cost of the project (capital cost and recurring cost) as well as the cost towards implementation of EMP should clearly be spelt out.	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%; text-align: center;">S . N o</th> <th style="width: 60%; text-align: center;">Descri ption</th> <th style="width: 30%; text-align: center;">Cost</th> </tr> </thead> <tbody> <tr> <td style="height: 20px;"></td> <td></td> <td></td> </tr> </tbody> </table>	S . N o	Descri ption	Cost				Chapter-8
S . N o	Descri ption	Cost							

TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

		1	Fixed Asset Cost	<b>Rs.64,10,000/-</b>	
		2	Operational Cost	<b>Rs.20,00,000/-</b>	
		3	EMP Cost	<b>Rs.87,32,000/-</b>	
			<b>Total</b>	<b>Rs.1,71,42,000/-</b>	
42	A Disaster Management Plan shall be prepared and included in the EIA/EMP Report.	Disaster Management and Risk Assessment has been incorporated in Chapter-7		Chapter-7	
43	Benefits of the project if the project is implemented should be spelt out. The benefits of the project shall clearly indicate environmental, social economic, employment potential etc.,	Benefits of the project has incorporated		Chapter-8	
44	Besides the above, the below mentioned general points are also to be followed:				
(a)	Executive Summary of the EIA/EMP report	Complied		Executive Summary of EIA Report is given from page No.10	

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

(b)	All documents to be properly referenced with index and continuous page numbering.	Complied	
(c)	Where data are presented in the report especially in tables, the period in which the data were collected, and the sources should be indicated.	Complied	
(d)	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the project.	Complied	
(e)	Where the documents provided are in a language other than English, an English translation should be provided.	Complied	
(f)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The complete questionnaire has been prepared	
(g)	While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF vide O.M. No. J- 11013/41/2006-IA. II(I) dated 4th August 2009, which are	The EIA report has been prepared and complying with the circular issued by MoEF vide O.M. No. J- 11013/41/2006-IA. II(I) dated 4th August 2009.	

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	available on the website of this Ministry, should also be followed.		
(h)	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	There are no changes in prepared EIA as per submitted Form-1 & PFR	
(i)	As per the circular no. J-11011/618/2010-IA. II(I) dated 30.5.2012, report on the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project by the Regional Office of Ministry of Environment & Forests, if applicable.	Will be complied after grant environment clearance from SEIAA, Tamilnadu	
(j)	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections (iii) sections of mine pit and external	All Sectional Plates of Quarry is enclosed in Mining Plan.	<b>Annexure</b> .



## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	dumps, if any clearly showing the features of the adjoining area.		
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### Additional ToR Compliance - SEAC

S.No.	Condition	Compliance				
1.	<p>In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:</p> <p>(i) Original pit dimension.</p> <p>(ii) Quantity achieved Vs EC Approved Quantity.</p> <p>(iii) Balance Quantity as per Mineable Reserve calculated.</p> <p>(iv) Mined out Depth as on date Vs EC Permitted depth.</p> <p>(v) Details of illegal/illicit mining</p> <p>(vi) Violation in the quarry during the past working.</p> <p>(vii) Quantity of material mined out outside the mine lease area</p> <p>(viii) Condition of Safety zone/benches</p> <p>(ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.</p>	Existing Pit Details				
		Sl. No.	Pit.Nos.	Area in sqm.	Depth in m.	Volume in cu.m
		1	Pit -I	5356	5	26780
		TOTAL				26780
2.	<p>Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.</p>	<p>VAO Certificate is incorporated in Draft EIA report annexures.</p>				

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

3.	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Will be submitted in Final Presentation.
4.	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry	Hydro geological study report will be submitted in final EIA Report.
5.	The Proponent shall carry out Biodiversity study through reputed Institution and the same shall be included in EIA Report.	The biodiversity has been studied and discussed in chapter 3.
6.	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	Obtained letter from DFO indicating the nearest reserve forest and attached in <b>Annexure.</b>
7.	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions -	Noted. Agree to Comply.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	CSIR-Central Institute of Mining & Fuel Research/ Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg. Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.	
8.	However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.	Noted. Agree to comply.
9.	The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	Noted. Agree to comply.
10.	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast- induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	Noted. Agree to comply.
11.	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location	Complied. The photographs are attached in EIA report.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	or elsewhere in the State with video and photographic evidence.	
12.	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,	AD Letter is enclosed in Annexure.
13.	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	nil
14.	<p>Quantity of minerals mined out.</p> <ul style="list-style-type: none"> <li>✓ Highest production achieved in any one year.</li> <li>✓ Detail of approved depth of mining.</li> <li>✓ Actual depth of the mining achieved earlier.</li> <li>✓ Name of the person already mined in that leases area,</li> <li>✓ If EC and CTO already obtained, the copy of the same shall be submitted.</li> <li>✓ Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.</li> </ul>	nil
15	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology, and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	<p>Complied.</p> <p>All corners with coordinates of the mine lease area have attached with EIA report in chapter 2.</p>
16.	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,	Drone video survey submitted in final EIA report.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

17	The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	The photographs will attach in Final Presentation.
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.	The details of Geological reserves, Mineable reserves and Yearwise production reserves are tabulated in Chapter 2. The mining methodology and impacts are follow as on prescribed norms by Government.
19.	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Complied. Manpower requirements table attached in EIA report chapter 2
20.	The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD/TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may	Hydro geological study report will be submitted in final EIA Report.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.	
21	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.	The proponent has furnished the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study details attached in EIA report chapter 3
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Noted. Agree to comply.
23.	Rainwater harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Noted. Agree to comply.
24.	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post	Current land use of the study area has attached in EIA report chapter 3. Operational and post operational land use will be submitted.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	operational phases and submitted. Impact, if any, of change of land use should be given.	
25.	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	There is No Overburden Formation on the lease applied area.
26.	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Noted.
27.	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The ultimate pit at the end of the mining operation will be used for rainwater storage, the stored water will be used for green belt development and further the stored water will be used for domestic purposes (other than drinking) after proper treatment.
28.	Impact on local transport infrastructure due to the Project should be indicated.	Traffic impact assessment has given in EIA report chapter 3.
29.	A tree survey study shall be carried out (nos., name of the species, diameter, etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	No tree species were found inside the project site. only few shrubs and thorny bushes were present. Tree survey study details given in EIA report chapter 3.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

30.	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	Noted. The mine plan and mine closure plan has been approved by the Assistant Director, Department of Mining and Geology, Krishnagiri District
31.	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	Noted. Agree to Comply.
32.	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-1 in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	Noted. Agree to Comply.
33.	Taller/one year old Saplings raised in appropriate size of bags; preferably ecofriendly bags should be planted as per the advice of local forest uthorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.	The green belt plan enclosed with mining plates in Annexures.



## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

34.	A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	Disaster management plan has prepared and enclosed in Chapter 7.
35.	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.	Risk assessment and management plan has prepared and enclosed in chapter 7.
36.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health impacts of the project has prepared and incorporated in Environmental management plan.
37.	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	Suitable measure will be adopted to minimize occupational health impacts of the project.
38.	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	The socio-economic study has been discussed in chapter 3.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

39.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given	No. litigation is pending against the project in any court.
40.	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.,	Benefits of the project has incorporated in EIA report chapter 8
41.	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB	Certified compliance report is attached in annexure.
42.	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	Noted. Agree to comply.
43.	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the Condition mentioned above may result in withdrawal of this Terms of conditions besides attracting penal provisions in the Environment (Protection) Act, 1986	Noted.

### Additional ToR Compliance – SEIAA

S.No.	Condition	Compliance
<b>Cluster Management Committee</b>		
1.	Cluster Management Committee shall be framed which must include all the proponents in the	Noted and complied. All the proponents in the cluster is discussed in Chapter-2,

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	cluster as members including the existing as well as proposed quarry	
2.	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,	Green belt development, water sprinkling, tree plantation is discussed in chapter-2.
3.	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Agreed to comply.
4.	Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	Agreed to comply.  It will furnished in final EIA report.
5.	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan	Risk management plan is discussed in Chapter-7.
6.	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Agreed to comply.  It will be furnished in final EIA report.
7.	The committee shall furnish action plan regarding the restoration strategy with respect to	Agreed to comply.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	the individual quarry falling under the cluster in a holistic manner.	It will be furnished in final Presentation.
8.	The committee shall furnish the Emergency Management plan within the cluster.	Emergency management plan is discussed in Chapter-7,
9.	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	Health of workers and staff is discussed in Chapter-9.
10.	The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation and safety.	Agreed to comply.  It will be furnished in final Presentation.
11.	The committee shall furnish the fire safety and evacuation plan in the case of fire accidents	Fire safety and evacuation plan is discussed in chapter 7

### **Impact Study of Mining**

12.	<p>Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following.</p> <ol style="list-style-type: none"> <li>a) Soil health &amp; bio-diversity</li> <li>b) Climate change leading to Droughts, Floods etc.,</li> <li>c) Pollution leading to release Greenhouse gases (GHG), rise in Temperature &amp; Livelihood of the local people.</li> <li>d) Possibilities of water containment and impact on aquatic ecosystem health.</li> <li>e) Agriculture, Forestry &amp; Traditional practices.</li> </ol>	<p>The biodiversity has been studied and discussed in chapter 3.</p> <p>The soil erosion map 5km surrounding the project site has been given in chapter 3.</p> <p>The detailed study will be carried out and enclosed in the Final EIA Report.</p>
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## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	<p>f) Hydrothermal/Geothermal effects due to destruction in the Environment.</p> <p>g) Bio-geochemical processes and its foot prints including environmental stress</p> <p>h) Sediment geochemistry in the surface streams</p> <p>Sediment geochemistry in the surface streams.</p>	
<b>Agriculture &amp; Agro-Biodiversity</b>		
13.	Impact on surrounding agricultural fields around the proposed mining area.	There is no agricultural fields around the proposed mining area
14.	Impact on soil flora & vegetation around the project site	Impact on soil flora & vegetation around the project site discussed in Chapter-4.
15.	Details of type of vegetation no.of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Type of vegetation no.of trees & shrubs is discussed in Chapter-3.
16.	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	The biodiversity has been studied and discussed in chapter-3
17.	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	Noted. Agree to comply.
18.	The PP shall study and furnish the impact on plantations in adjoining Patta lands, Horticulture, Agriculture and livestock.	There is no plantation surrounding 500m from project site. Hence there won't be any

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

		impact in adjoining patta lands, Horticulture, Agriculture and livestock.
<b>Forests</b>		
19.	The PP shall detailed study on impact of mining on Reserve forests free ranging wildlife.	There is no Reserve Forest within 1 km radius of the Project Site. Hence our project will not cause any damage to reserve forest. Also, we have received letter from DFO indicating the nearest reserve forest and attached with Annexures.
20.	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	The biological environment impacts, and its mitigation measures has been given in Chapter 4
21.	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	There is no existing trees in the project site and surrounding the project site. Only thorny shrubs were present.
22.	The EIA should study impact on protected areas, Reserve forests, National parks, Corridors and Wildlife pathways, near project site.	There is no Reserve Forest within 1 km radius of the Project Site. Hence our project will not cause any damage to reserve forest. Also, we have received letter from DFO indicating the nearest reserve forest and attached with Annexures.  There is no protected areas, National Parks, Corridors and Wildlife pathways near project site.
<b>Water Environment</b>		

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

23.	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc., within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data and documentation in this regard may be provided, covering the entire mine lease period.	The hydro-geological study will be conducted and submitted in final Presentation.
24.	Erosion Control Measures	Complied. Erosion details has been attached in Chapter 3. Greenbelt will be planted to avoid and control erosion.
25.	Detailed study shall be carried out regard to impact of mining around the proposed mine lease area on the nearby villages, Water-bodies/Rivers, & any ecological fragile areas.	The detailed study will be carried out and furnished in the Final EIA Report.
26.	The project proponent shall study impact on fish habitats and the food WEB/food chain in the water body and reservoir.	There is a water bodies within 1km radius, The seasonal pond located 50m south from the project site. Water gets stagnant only during rainy season. Hence there won't be much impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
27.	The PP shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.	Noted and complied in Final EIA report.
28.	The PP shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to	Noted. Agree to comply.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

	nearby caves, heritage site and archaeological sites possible landform changes visual and aesthetic impacts	
29.	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.	The soil erosion map 5km surrounding the project site has been given in chapter 3. The soil samples have been collected surrounding the project site and physical, chemical components and microbial components study has been carried out and the results are tabulated in chapter 3
30.	The Environmental Impact Assessment should study on wetlands, water bodies, river streams, lakes and farmer sites.	The water environment impacts and its mitigation measures has been given in Chapter 4
<b>Energy</b>		
31.	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilize the energy shall be furnished	Agreed to Comply.
<b>Climate Change</b>		
32.	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks, and temperature reduction including control of other emission and climate mitigation activities.	Noted and complied in Final EIA report.
33.	The EIA should study impact on climate change, temperature rise, pollution and above soil & Below soil carbon stock.	Noted and will be complied in Final EIA report.
<b>Mine Closure Plan</b>		
34.	Detailed mine closure plan covering the entire mine lease period as per precise area communication order issued.	Mine closure plan has been attached along with mining plates as Annexures



## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

<b>EMP</b>		
35.	Detailed Environment Management plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Environment Management Plan has been described in detail in Chapter-9 of the Final EIA / EMP Report.
36.	The EIA should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	The EMP details has been given in Chapter 8
<b>Risk Assessment</b>		
37.	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of mining.	A Risk Assessment and management Plan prepared and included in the Final EIA/EMP Report.
<b>Disaster Management Plan</b>		
38.	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazard & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Disaster Management and Risk Assessment has be incorporated in Chapter-7
<b>Others</b>		
39.	The project proponent shall furnish VAO Certificate with reference to 300m radius regard to approved habitations, schools, Archaeological structures etc.	Obtained and same has been attached as Annexure.

## TOR Reply of Proposed Rough Stone Quarry Over an Extent of 2.80.0 Ha

40.	As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted and public hearing details has been included along with final EIA report.
41.	The PP shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impact of plastic & microplastic on aquatic environment and freshwater systems due to activities, contemplated during mining may be investigated and reported.	There will not be any plastic and microplastic pollution due to mining activity. Also, we ensure that we won't use any single use plastics in the project site.

**ANNEXURE-II**  
**PROCEEDING LETTER**



# ANNEXURE -

ந.க.எண்.72/2016/கனிமம்

மாவட்ட ஆட்சியர் அலுவலகம்,  
(புவியியல் மற்றும் சுரங்கத்துறை),  
கிருஷ்ணகிரி மாவட்டம்,  
நாள:29.02.2016



## குறிப்பாணை

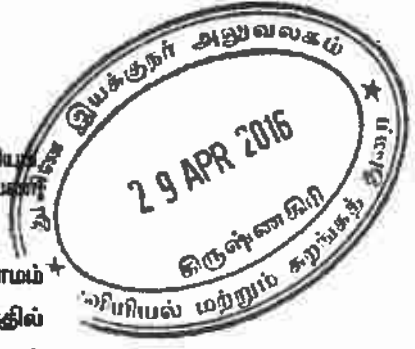
**பொருள்:** கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - சாதாரண கற்கள் கிருஷ்ணகிரி மாவட்டம் - ஓசூர் வட்டம் - வெங்கடேசபுரம் கிராமம் புல எண் 136 (பகுதி-1)ல் 2.80.0 ஹெக்டேர் பரப்பளவில் அரசு நிலத்தில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு டெண்டருடன் இணைந்த ஏல முறையில் குத்தகை வழங்க டெண்டர்/பொது ஏலம் நடத்தப்பட்டது - பொது ஏலத்தில் அதிக தொகை கோரிய திரு. எஸ். சின்னண்ணா த/பெ. ஸ்ரீனிவாசப்பா, க.எண்.1-39ஏ, மாசிநாயக்கனப்பள்ளி கிராமம், பஞ்சாட்சிபுரம் அஞ்சல், ஓசூர் வட்டம், கிருஷ்ணகிரி மாவட்டம் என்பவருக்கு சாதாரண கற்குவாரி குத்தகை வழங்குதல் தொடர்பாக அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம், தமிழ்நாடு மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் தடையின்மைச் சான்று மற்றும் தமிழ்நாடு மசு கட்டுப்பாட்டு வாரிய இசைவு ஆகியவற்றை பெற்று வழங்க கோருதல் - தொடர்பாக.

- பார்வை:**
1. கிருஷ்ணகிரி மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண்.02 நாள: 29.01.2016.
  2. 11.02.2016 அன்று தினமணி நாளிதழில் வெளியிடப்பட்ட பத்திரிக்கை செய்தி.
  3. திரு. எஸ். சின்னண்ணா த/பெ. ஸ்ரீனிவாசப்பா, க.எண்.1-39ஏ, மாசிநாயக்கனப்பள்ளி கிராமம், பஞ்சாட்சிபுரம் அஞ்சல், ஓசூர் வட்டம், கிருஷ்ணகிரி மாவட்டம் என்பவரது பொது ஏல விண்ணப்பம் நாள: 16.02.2016 (இவ்வழுவலகத்தில் 18.02.2016 அன்று பெறப்பட்டது)

கிருஷ்ணகிரி மாவட்டம், ஓசூர் வட்டம், வெங்கடேசபுரம் கிராமம் புல எண் 136 (பகுதி-1) 2.80.0 ஹெக்டேர் பரப்பளவில் அமைந்துள்ள சாதாரண கற்குவாரிக்கு ஐந்து ஆண்டுகளுக்கு குவாரி குத்தகை வழங்குவது தொடர்பாக 18.02.2016 அன்று நடைபெற்ற பொது ஏலத்தில் திரு. எஸ். சின்னண்ணா த/பெ. ஸ்ரீனிவாசப்பா, க.எண்.1-39ஏ, மாசிநாயக்கனப்பள்ளி கிராமம், பஞ்சாட்சிபுரம் அஞ்சல், ஓசூர் வட்டம், கிருஷ்ணகிரி மாவட்டம் என்பவர் அரசு நிர்ணயம் செய்த குறைந்தபட்ச குத்தகை தொகையை விட அதிக தொகையான ரூ.61,50,000/- (ரூபாய் அறுபத்து ஒரு இலட்சத்து ஐம்பது ஆயிரம் மட்டும்) பொது ஏலத்தில் கோரியதால் அவருக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959ன் வதி [8(6)(b)-ன்படி அவருக்கு கீழ்க்கண்ட நிபந்தனைகளுடன் குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ளது.

(i) குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்யவேண்டும்.

S. Srinivasan



(ii) அருகிலுள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் இது நெடுஞ்சாலைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணிகள் செய்யவேண்டும்.

2. எனவே, கிருஷ்ணகிரி மாவட்டம், ஒசூர் வட்டம், வெங்கடேசுரம் கிராமம் புல எண் 136 (பகுதி-1)-ல் 280.0 ஹெக்டேர் பரப்பளவில் புல வரையடத்தில் குறிப்பிட்டுள்ள பகுதியில் குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றும் நாளிலிருந்து ஐந்து ஆண்டுகளுக்கு சாதாரண கற்கள் வெட்டியெடுக்க குவாரி குத்தகை வழங்குதல் தொடர்பாக தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959ன் விதி 41 மற்றும் 42 ஆகியவற்றில் கண்டுள்ள காலவரையறைக்குள் அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம், தமிழ்நாடு மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையத்தின் இசைவு மற்றும் தமிழ்நாடு மாகாணப்பாட்டு வாரிய இசைவு ஆகியவற்றை சமர்ப்பிக்கவேண்டும் என திரு. எஸ்.சின்னண்ணா என்பவருக்கு தெரிவிக்கப்படுகிறது.

3. உரிய காலத்தில் மேற்கண்ட ஆவணங்களை சமர்ப்பிக்க தவறினால் விதிகளின்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும், தெரிவிக்கப்படுகிறது.

4. மேற்கூறிய ஆவணங்களை சமர்ப்பித்த பின்பு குவாரி குத்தகை வழங்கப்பட்டு குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றிய பின்பே மேற்கண்ட புலத்தில் குவாரிப்பணிகளை தொடங்கவேண்டும். தவறினால் தமிழ்நாடு சிறுகனிமச் சலுகை விதிகள் 1959ன் விதி 36 (அ)ன்படி உரிய நடவடிக்கை எடுக்கப்படும் எனவும் தெரிவிக்கப்படுகிறது.

இணைப்பு : புல வரையடம்.

ஒம்./- சி. கதிரவன்,  
மாவட்ட ஆட்சியர்,  
கிருஷ்ணகிரி.

/உண்மை நகல்/

மாவட்ட ஆட்சியருக்காக  
கிருஷ்ணகிரி

பெறுதல் :

திரு. எஸ். சின்னண்ணா த/பெ. பூநீனிவாசப்பா,  
க.எண்.1-39ஏ, மாசிநாயக்கனப்பள்ளி கிராமம்,  
பஞ்சாட்சிபுரம் அஞ்சல், ஒசூர் வட்டம்,  
கிருஷ்ணகிரி மாவட்டம்

பதிவுச்சலில் ஒப்புகை  
அட்டையடவர்

- நகல் : 1) தலைவர், தமிழ்நாடு மாநில சுற்றுச்சூழல் பாதிப்பு மதிப்பீட்டு ஆணையம், பனாகல் மாளிகை, சைதாப்பேட்டை, சென்னை.  
2) ஆணையர், புவியியல் மற்றும் சுரங்கத்துறை, திரு.வி.க. தொழிற்பேட்டை, கிண்டி, சென்னை - 32.

S. DHANASEKAR  
RQP/MAS/225/2011/A

S. Clea

**ANNEXURE-III**  
**MINING PLAN APPROVED LETTER**





From  
Thiru L. Suresh, M.Sc.,  
Deputy Director,  
Geology and Mining,  
Collectorate, Krishnagiri.

To  
Thiru S.Chinnana,  
No.1-39A,  
Machinaickanpalli village,  
Panchakshipuram Post,  
Hosur Taluk,  
Krishnagiri District.

Roc.72/2016/Mines-1

dated 29.04.2016.

Sir,

Sub: Mines and Minerals – Krishnagiri District – Hosur Taluk  
– Venkatesapuram village – Government Land in  
S.F.No.136 (Part-1) - Over an extent of 2.80.0 Hectares  
– Precise area given for the proposed grant of Quarry  
lease for Rough Stone for a period of 5 years from the  
date of execution of lease deed to Thiru S.Chinnana –  
Draft Mining Plan submitted - Mining Plan approved -  
reg.

- Ref: 1. The Krishnagiri District Gazette (Extraordinary)  
No.02 dated 29.01.2016.  
2. The District Collector Krishnagiri Memorandum in  
Rc.No.72/2016/Mines-1 dated 29.02.2016.  
3. Thiru S.Chinnana, No.1-39A, Machinaickanpalli  
village, Panchakshipuram Post, Hosur Taluk,  
Krishnagiri District letter dated 29.04.2016

-oOo-

Thiru S.Chinnana, No.1-39A, Machinaickanpalli village, Panchakshipuram Post, Hosur Taluk, Krishnagiri District had been given precise area over an extent of 2.80.0 hectares in Government Poramboke land in S.F.No.136 (Part-1) of Venkatesapuram Village, Hosur Taluk, Krishnagiri District for a period of 5 years from the date of execution of lease deed under Tender Cum Auction System under the provisions of Tamil Nadu Minor Mineral Concession Rules, 1959 and he had been directed to submit the approved mining plan and Environmental Clearance from the State Level Environmental Impact Assessment Authority Tamil Nadu vide reference 2<sup>nd</sup> cited.

2. In the reference 3<sup>rd</sup> cited Thiru S.Chinnana has submitted draft Mining Plan for approval for the proposed rough stone quarry lease over an extent of 2.80.0 hectares in Government Poramboke land in S.F.No.136 (Part-1) of Venkatesapuram Village, Hosur Taluk, Krishnagiri District for a period 5 years from the date of execution of lease deed.

3. The Mining Plan submitted by Thiru S.Chinnana has been scrutinized as per the guide lines/ Instructions issued by the Commissioner of Geology and Mining, Chennai-32 in Rc.No.3868/LC/2012 dated 19.11.2012. The mining plan is prepared in accordance with the guide lines/ instructions issued and tallies with the field conditions.

4. Hence as per the guide lines/ instructions issued by the Commissioner of Geology and Mining, Chennai, the said mining plan is hereby approved subject to the following conditions.

- i) That the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws

S. Chinnana

are made by the Central Government, State Government or any other authority.

- ii) This approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of Mines and Minerals (Development and Regulation) Act 1957, or any other connected laws including Forest (Conservation) Act 1957, or any other connected Laws industry Forest (Conservation) Act 1980, Forest Conservation Rules 1981 Environment protection Act 1980, Indian Explosive Act 1884 (Central Act IV of 1884) and the rules made There under, Minor Mineral Conservation and Development Rules, and The Tamil Nadu Minor Mineral Concession rules, 1959.
- iii) That the mining plan is approved without prejudice to any other order or directions from any court of competent jurisdiction.
- iv) The applicant has incorporated all the conditions and details given in the District Collector, Krishnagiri Memorandum in Roc.No.72/2016/Mines-1 dated 29.02.2016 and the conditions should be adhered without any omission during quarrying.
- v) The applicant should get prior clearance from the State level Environment Impact Assessment Authority, Chennai -15 and should submit it to the District Collector, Krishnagiri.

5. The details of other quarries situated within a radial distance of 500 mts. from the lease granted area are as follows:

Sl. No.	Name of the lessee	village	S.F.No.	Extent in hec.	Collector's Pro. No. & date	Lease period
1.	Thiru A.D.Mohan	Venkatesapuram	136 (part-2)	4.00.0	Rc.No.78/12 Mines dated 21.05.2012	13.07.12 to 12.07.2017
2.	Thiru Jayaprakash	Venkatesapuram	136 (part-4)	2.00.0	--	Precise area given
3.	Thiru T.Muniraj	Venkatesapuram	136 (part-5)	1.30.0	--	Precise area given
4.	Thiru N.Harish	Venkatesapuram	136 (part-6)	2.75.0	--	Precise area given
5.	---	Venkatesapuram	136 (part-8)	2.85.0	---	Proposed area
6.	Thiru V.Madesh	Venkatesapuram	136 (part-9)	3.00.0	---	Proposed area (application received from SGSY)
7.	Thiru Y.Jagadeesh	Venkatesapuram	136 (Part-7)	3.50.0	--	Precise area given
8.	Thiru Chinnanna	Venkatesapuram	136 (Part-1)	2.80.0	--	Precise area given (instant Proposal)
			<b>Total</b>	<b>22.20.0</b>		

Deputy Director  
Geology and Mining,  
Krishnagiri.

- Copy submitted to:
1. The Chairman, State Level Environment Impact Assessment Authority, 3<sup>rd</sup> Panagal Maligai, No.1 Jeenes Road, Saidapet, Chennai -15.
  2. The Commissioner of Geology and Mining, Guindy, Chennai -32.

S. C. C.

**ANNEXURE-IV**  
**500M Radius letter**



From

To

Dr. S.Vediappan, M.Sc.,Ph.d.,  
Deputy Director,  
Dept of Geology and Mining,  
Collectorate,  
Krishnagiri.

Thiru S. Chinnanna,  
No.1-39 A Masinaickanapalli Village,  
Panchatchipuram Post,  
Hosur Taluk,  
Krishnagiri District.

**Roc.No.72/2016 /Mines Dated: 28.09.2021**

Sir,

**Sub:** Mines and Minerals - Krishnagiri District - Rough Stone - Krishnagiri District - Shoologiri Taluk - Venkatesapuram Village - Government land S.F Nos. 136 (Part-1) - Over an extent of 2.80.0 Hec - Rough Stone quarry lease applied to Thiru S.Chinnanna - Details of quarries situated within 500 mts radial distance - Requested by the applicant - Details furnished - reg.

- Ref:**
1. The District Collector Krishnagiri Memorandum in Roc. No. 72/2016/Mines dated 29.02.2016.
  2. Thiru S.Chinnanna NO. 1-39Masinaickanapalli Village, Panchatchipuram Post, Hosur Taluk, Krishnagiri District letter dated 14.09.2021.

I am to invite kind attention to the reference cited.

2. A quarry lease had applied in Thiru S.Chinnanna for quarrying Rough Stone over an extent of 2.80.0 Hects of Government lands in S.F.No. 136 (Part-1) of Venkatesapuram Village Shoologiri Taluk Krishnagiri District for a period of 05 years under the provisions of Rule 8 (1) of Tamil Nadu Minor Mineral Concession Rule 1959.

3. The lessee vide letter dated: 14.09.2021 had requested to issue the details of the quarries situated within the radial distance of 500 mts from the subject quarry to furnish the same to SEIAA for getting Environmental Clearance.

4. Accordingly the details of quarries situated within 500 mts radial distance from the subject quarry is furnished as follow:

**Details of Existing quarries.**

Sl N	Name of the lessee	Village & Taluk	Mineral	S.F No.	Extent in Het	GO No.& Date	Lease period.
1	Thiru Y. Jagadesh, Annaidoddi, Jigini Hobbli, Anekal Taluk, Bangalore 560 083	Venkatesapuram Shoologiri Taluk	Rough Stone	136 (Part-7)	3.50.0	Roc. 76/2016/Mines/Dt 02.7.2018	13.07.2018 to 12.07.2023
2	Thiru Manjunaika, S/o ShamaNaik, Sevanayakana	Venkatesapuram Shoologiri Taluk	Rough Stone	136 (Part-3)	4.10.0	Roc. 219/2018/Mines dated	08.03.2019 to 07.03.2024

S. Chinnanna

	Doddi, Ragihalli Post, Anekkal Taluk, Bangalore Dist.					08.03.2019	
3	Thiru P. Selvaraju, S/o Periyasamy, NO. 57-B1, Kalliyannan Nagar, Kumarapalayam, Thiruchengodu, Namakkal District	Venkatesapura m Shoolagiri Taluk	Rough Stone	86 (part-6)	2.50.0	Roc. 69/2016 (Mines) Dt.13.10.201 6	17.10.2016 to 16.10.2021
4	J. Shanmugam, S/o Jaganathan, S.S. Blue Metals, No. 4 Pillaiyar Koil Street, Marandapalli Post, Palacode Taluk, Dharmapuri Dist.	Venkatesapura m Shoolagiri Taluk	Rough Stone	86 (Part-7)	2.50.0	Roc. 70/2016 (Mines) Dt. 28.9.2016.	3.10.2016 to 02.10.2021
				Total	12.60.0		

## II. Details of abandoned/Old quarries.

Sl. No.	Name of the lessee	Village	S.F No.	Extent in Het	GO No.& Date	Lease period.
1	Thiru A.D. Mohan, S/o Late, A.C. Devaiah, Koppa Gate, Jigani Hobli, Anekal Taluk, Bangalore, Karnataka State.	Venkatesapuram	136 (Part-2)	4.00.0	RC No. 78/12 Mines dated 21.05.2012	13.07.2012 to 12.07.2017
2	Thiru V. Jayaprakash, S/o Venkatesappa, No. 488 B. Singiripalli Village, B. Gurubarapalli Post, Hosur Taluk, Kishnagiri District.	Venkatespuram Shoolagiri Taluk	136 (Part-4)	2.00.0	Roc. 73/2016/Mines dt. 8.8.2016	24.8.2016 to 23.8.2021
3	Thiru T. Muniraj, Koppa Village, Gigini, Anekal Taluk, Bangalore	Venkatespuram Shoolagiri Taluk	136 (Part-5)	1.30.0	Roc. 74/2016/Mines Dt. 8.8.2016	22.8.2016 to 21.8.2021
4	Thiru N. Haries Koppa Village, Gigini Anekal Taluk, Bangalore	Venkatespuram Shoolagiri Taluk	136 (Part-6)	3.00.0	Roc. 75/2016/Mines dt. 9.8.2016	24.08.2016 to 23.8.2021
5	Thiru V. Madesh No. 1/271, Vannapalli Village, Mugalur Post, Hosur Taluk	Venkatespuram Shoolagiri Taluk	136 (Part-9)	3.00.0	Roc. 77/2016/Mines Dt. 9.8.2016	24.8.2016 to 23.8.2021

## Details of Proposed quarries

Sl. No.	Name of the lessee	Village & Taluk	S.F No.	Extent in Hect	GO No.& Date	Lease period.
1.	Thiru S.Chinnanna NO. 1-39Masinaickanapalli	Venkatesapuram	136 (Part-1)	2.80.0	Rpc. 72/2016/Mi	<b>Instant Porposal</b>

*S. Chinn*

	Village, Panchatchipuram Post, Hosur Taluk, Krishnagiri District	Shoolagiri Tk			nes dt. 29.2.2016	
2.	Tvl. S.V. Blue Metals, Prop. V.Nagaraja, S.F.No. 268/4,5B, 6 &7 Venkatesapuram Village Shoolagiri Taluk, Krishnagiri Dist.	Venkatesap uram Shoolagiri Tk	136 P--12)	2.70.0		Precise area given
3.	M/s. Sri Vinayaka Enterprises, Beggli Village, Venkatesapuram, Shoolagiri TK, Krishnagiri	Venkatesap uram Shoolagiri TK	136 (p-8)	2.85.0	1263/2018/ Mines dt. 2.11.2018	Precise area given

**Details of other Proposed/applied quarries**

Sl. No.	Name of the lessee	Village & Taluk	S.F No.	Extent in Hect	GO No.& Date	Lease period.
	Nil	Nil	Nil	Nil	Nil	Nil

*S. S. Srinivasan*  
28.09.21  
Deputy Director,  
Dept of Geology and Mining,  
Krishnagiri.

**Copy to :**

The Chairman, *S*  
Tamil Nadu State Environment  
Impact Assessment Authority,  
3<sup>rd</sup> Floor, Panakal Maligai,  
No. 1 Jeenes Road,  
Saidapet, Chennai -15.

*S. S. Srinivasan*  
28/9/21

*S. S. Srinivasan*

**ANNEXURE – V**  
**EXISTING PIT DIMENSION LETTER & REVISED**  
**MINING PLATES**





From

Dr. S.Vediappan, M.Sc.,Ph.d.,  
Deputy Director,  
Dept of Geology and Mining,  
Collectorate,  
Krishnagiri.

To

Thiru S. Chinnanna,  
No.1-39 A Masinaickanapalli Village,  
Panchatchipuram Post,  
Hosur Taluk,  
Krishnagiri District.

Roc.No.72/2021/Mines

Dated: 28.09.2021.

Sir,

Sub: Mines and Minerals - Krishnagiri District - Rough Stone -Krishnagiri District - Shoolagiri Taluk - Venkaesapuram Village - Government Poramboke land S.F No. 136 (Part-1) - over an extent of 2.80.0 Hect Rough Stone quarry lease granted to Thiru S. Chinnanna - quarry pit dimension details requested - Furnished - reg.

- Ref: 1 The District Collector, Krishnagiri Memorandum in Roc No. 72/2016/Mines dated 29.12.2016.
2. Thiru S. Chinnanna, No.1-39 A Masinaickanapalli Village, Panchatchipuram Post, Hosur Taluk, Krishnagiri District. letter dated 14.09.2021.

---

I am to invite kind attention to the reference cited.

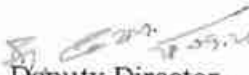
Thiru S. Chinnanna had been applied for quarry lease for the Rough Stone over an extent of 2.80.0 Hect in Government Poramboke land S.F.No. 136 (Part-1) of Venkatesapuram Village Shoolagiri Taluk, Krishnagiri District for a period of 05 years under the provisions of Rule 8(6)(b) of Tamil Nadu Minor Mineral Concession Rule 1959.


Thiru S.Chinnanna in his representation vide reference 2<sup>nd</sup> cited has stated that while he apply for Environmental Clearance in SELAA, they have instructed to get the permitted quarry pit dimension details to the subject quarry and requested to give the same to get Environmental Clearance.

In this regard the subject quarry has been inspected and Measurement of the pit in the permitted quarry area are as follows:

The average dimensions of pits are below.

Area in sqm	Depth in mts
5356	5.0

  
Deputy Director ,  
Geology and Mining,  
Krishnagiri.

  
28/9/21  
To,  
Thiru S. Chinnanna,  
No.1-39 A Masinaickanapalli Village,  
Panchatchipuram Post,  
Hosur Taluk,  
Krishnagiri District.

**ANNEXURE-VI**  
**MINING PLAN REPORT & PLATES**



# MINING PLAN

FOR

GRANT OF ROUGH STONE QUARRY LEASE IN GOVERNMENT PORAMBOKE LAND  
(Minor Mineral Conservation and Development Rules, 2010 & as per the  
amendments under 19 (1) Tamil Nadu Minor Mineral Concession Rules, 1959)

## LOCATION OF THE APPLIED AREA

EXTENT : 2.80.0 Ha.  
S.F. No : 136 (PART-1).  
VILLAGE : VENKATESAPURAM.  
TALUK : HOSUR.  
DISTRICT : KRISHNAGIRI.  
STATE : TAMIL NADU.

## APPLICANT

**THIRU.S. CHINNANNA,**

**S/o. SRINIVASAPPA,**

No. 1-39A, MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

## PREPARED BY

**S.DHANASEKAR, M.Sc.,**

**RQP/MAS/225/2011/A**

**8/3, KULLAPPAN STREET,**

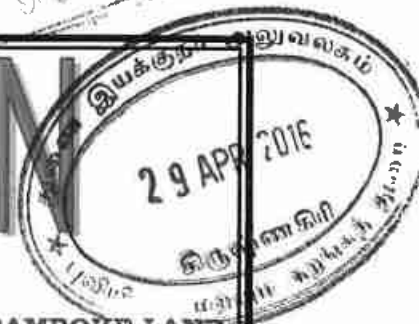
**OPP, INDIAN BANK LINE,**

**OMALUR TALUK,**

**SALEM - 636 455.**

**Email: [geodhana@yahoo.co.in](mailto:geodhana@yahoo.co.in)**

**CELL: 98946 -28970 & 73733-74702.**



*L.S. Chinn*

CONTENTS



Sl. No.	Description	Page No.
1.0	Introduction	8
2.0	Executive Summary	10
3.0	General Information	11
4.0	Location	12
5.0	Geology and Mineral Reserves	12
6.0	Mining	15
7.0	Blasting	18
8.0	Mine Drainage	20
9.0	Other Permanent Structures	21
10.0	Employment Potentials & Welfare Measures	22
11.0	Environment Management Plan	23
12.0	Mine Closure Plan	25
13.0	Any Other Details Intend to furnish by the Applicant	25

*L.S. Devis*

ANNEXURES



Sl. No.	Description	Annexure No.
1.	Copy of Proceeding Letter issued by District Collector	I
2.	Copy of Krishnagiri District Gazette	II
3.	Cop of DFO Clearance Letter	III
4.	Copy of Thasildar Report	IV
5.	Copy of VAO Statement & Land Documents	V & V-A
6.	Copy of FMB & Combined Sketch	VI & VI-A
7.	Copy of ID Proof	VII
8.	Copy of RQP Certificate	VIII
9.	Copy of the Applied area Photos	IX

*L. S. Elia*



LIST OF PLATES



Sl. No.	Description	Plate No.	Scale
1	Location Plan	I	Not to scale
2	Key Map	IA	Not to scale
3	Toposheet Map of The Location Area	IB	1:1,00,000
4	Satellite Imaginary Map	IC	1:5000
5	Mine Lease Plan	II	1:1000
6	Surface Plan & Geological Plan	II	Plan-1:1000
7	Surface Plan & Geological Sections	III-A	Section: Hor:1:1000 Ver:1:500
8	Year wise Development and Production Plan	IV	Plan-1:1000
9	Year wise Development and Production Sections	IV- A	Section: Hor:1:1000 Ver:1:500
10	Mine Layout Plan And Land Use Pattern	V	1:1000
11	Conceptual/Final mine Closure plan	VI	Plan-1:1000
12	Conceptual/Final mine Closure Sections	VI- A	Section: Hor:1:1000 Ver:1:500
13	Environmental Plan	VII	1:10000

*L.S. Chinn*

S. CHINNANNA,  
S/o. SRINIVASAPPA,  
No. 1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.



**CONSENT LETTER FROM THE APPLICANT**

The Mining Plan in respect of **Rough Stone** quarry over an extent of **2.80.0 hectares** of **Government Poramboke Land** in **S.F.No. 136 (PART-1)** of **VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT**, Tamil Nadu State has been prepared by **Shri. S.DHANASEKAR, M.Sc.,** Regn.No. **RQP/MAS/225/2011/A.**

I request the Deputy Director, Department of Geology and Mining, KRISHNAGIRI District to make further correspondence regarding modifications of the Mining Plan with the said Recognized Qualified Person on this following address.

**S.DHANASEKAR, M.Sc.,**  
RQP/MAS/225/2011/A  
8/3, Kullappan Street,  
Opposite Indian bank Line,  
Omalar Taluk - 636455  
Salem DISTRICT.  
E-Mail: [geodhana@yahoo.co.in](mailto:geodhana@yahoo.co.in)  
Cell: 98946-28970.

I hereby undertake that all modifications so made in the Mining Plan by the Recognized Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

  
Signature of the Applicant

Place: Krishnagiri

Date: 29/04/2016




S. CHINNANNA,  
S/o. SRINIVASAPPA,  
No. 1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.



**DECLARATION**

The Mining Plan in respect of **Rough Stone** quarry over an extent of **2.80.0** hectares of **Government Poramboke Land** in S.F.No. 136 (PART-1) of **VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT** and Tamil Nadu State has been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

  
Signature of the Applicant

Place: Krishnagiri

Date: 22.04.2016



S.DHANASEKAR, M.Sc.,

RQP/MAS/225/2011/A

8/3, Kullappan Street,

Opposite Indian bank Line,

Omalar Taluk - 636455

Salem District.

E-Mail: [geodhana@yahoo.co.in](mailto:geodhana@yahoo.co.in)

Cell: 98946-28970.



**CERTIFICATE**

This is to certify that, the provisions of Minor Minerals Conservation and Development Rules, 2010 (MMCDR) have been observed in the Mining Plan for the grant of **Rough Stone** quarry lease over an extent of **2.80.0hectares of Government Poramboke Land in S.F.No.136 (PART-1) of VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT, Tamil Nadu State** applied by **THIRU.S. CHINNANA** for Fresh quarry lease.

Wherever specific permission / exemptions / relaxations or approvals are required, the applicant will approach the concerned authorities of State and Central Governments for granting such permissions etc.

Certified

Signature of Recognized Qualified Person.

**S. DHANASEKAR**  
**RQP/MAS/225/2011/A**

Place: SALEM

Date: 21/04/2016

S.DHANASEKAR, M.Sc.,

RQP/MAS/225/2011/A

8/3, Kullappan Street,

Opposite Indian bank Line,

Omalur Taluk - 636455

Salem District.

E-Mail: [geodhana@yahoo.co.in](mailto:geodhana@yahoo.co.in)

Cell: 98946-28970.



**CERTIFICATE**

Certified that, in preparation of Mining Plan for Rough Stone quarry over an extent of 2.80.0hectares of Government Poramboke Land in S.F.No. 136 (PART-1) of VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT and Tamil Nadu State for THIRU.S. CHINNANA , covers all the provisions of Mines Act, Rules, and Regulations etc made there under and whenever specific permission are required, the applicant will approach the Director General of Mines Safety, Chennai. The standards prescribed by DGMS in respect of Mines Health will be strictly implemented.

Certified

Signature of Recognized Qualified Person.

**S. DHANASEKAR**  
**RQP/MAS/225/2011/A**

Place: SALEM

Date: 21/04/2016

**MINING PLAN FOR MINOR MINERALS**  
**ROUGH STONE QUARRY**

Over an extent 2.80.0hectares of Government Poramboke Land in S.F.No. 136 (PART-1) of  
**VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT, Tamil Nadu State**  
(Minor Mineral Conservation and Development Rules, 2010 & as per the amendments under

19 (1) Tamil Nadu Minor Mineral Concession Rules, 1959)

**1.0 INTRODUCTION AND EXECUTIVE SUMMARY:**

- a. **THIRU.S. CHINNANA, S/o. SRINIVASAPPA** residing at No. 1-39A, MACHINAICKANAPALLI VILLAGE, PANCHAKSHIPURAM POST, HOSUR TALUK, KRISHNAGIRI DISTRICT has applied for the grant of quarry lease to quarry **Rough Stone** over an extent of 2.80.0hectares of Government Poramboke Land in S.F.No. 136 (PART-1) of VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT of Tamil Nadu State for a period of 5 years.
- b. The Applicant has been the Successful **HIGHEST BIDDER** for an **AMOUNT Rs. 30,00,000/-** in a tender cum public action conducted by the Government of Tamilnadu and Precise area had been given for the proposed granted Rough Stone quarry lease to **THIRU.S. CHINNANA** over an extent of 2.80.0 hectares in Government Poramboke land in S.F.No. 136 (PART-1) of VENKATESAPURAM VILLAGE, HOSUR TALUK, KRISHNAGIRI DISTRICT of Tamil Nadu State for a period of **Five Years** Vide Memorandum No. Rc. 72/2016/Mines dated: 29.02.2016 and directed to submit the approved Mining Plan and SEIAA Clearance as per Rule 41 & 42 of TMMCR 1951.
- c. In order to ensure compliance of the order of the Honorable Supreme Court dated 27.02.2012 in I.A. No. 12.13.2011 in Special Leave Petition SLP(c) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance. Mining project within the lease area upto less than 25 ha including projects or minor mineral with lease area less then 5Ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state SEIAA notified by MoEF as prescribed procedure prescribed under EIA notification 2006.
- d. The District Collector, **Krishnagiri** in his letter **RC. No. 72/2016/Mines dated: 29.02.2016** has directed the applicant to produce approved Mining Plan and Environmental Clearance certificate from the State Level Environmental Impact Assessment Authority (SEIAA) for the quarry lease of the fresh lease area.

*Lg. ceiv*

*S. Dhanasekar*  
**S. DHANASEKAR**  
RQP/MAS/225/2011/A



e. Accordingly, Mining Plan is prepared under the provisions of Rule 12 of Draft Minor Mineral Conservation and Development Rules, 2010 & as per the amendments under Tamil Nadu Minor Mineral Conservation Rules, 1959 by incorporating the conditions imposed in the precise area communication letter and incorporating all the details proposed in the letter No. SEIAA-TN/Minor Minerals / 2012 dated 14.09.2012 of State Level Environmental Impact Assessment Authority.

f. In the above circumstances **THIRU.S. CHINNANA** , is here by submitting the mining plan for approval and subsequent submission of Form-I and pre Feasibility report to obtain environmental clearance from the SEIAA of Tamil Nadu, Chennai to the Fresh Rough Stone Quarry.

This Mining Plan is prepared for the fresh Rough Stone Quarry for a period of Five Years.

This Mining Plan is prepared by considering the TNMMCR 1959, and as per the EIA Notification 2006 and it is subsequent amendments and judgments.

The lease applied area has not supported quarrying operation earlier and hence this mining plan is prepared for the period of Five Years.

g. Previously the area was leased out for a Rough stone Quarrying. Present Dimensions of the working old pits is 5356 Sq.m X Depth 5.0m(Avg.). The remaining lease period available Geological Reserves is estimated as 903640M<sup>3</sup> and Mineable Reserves is estimated as 956180M<sup>3</sup> and Mineable Reserves is estimated as 347743m<sup>3</sup> and recoverable reserves is estimated as 330344M<sup>3</sup> of **Rough Stone** after leaving necessary safety distance from the lease boundary as indicated in the precise area letter and relevant mining laws in force.

h. Production Schedule is proposed an average production of 66069M<sup>3</sup> of **Rough Stone** Per year.

i. Environmental parameters,

- i) There is no interstate boundary around 10Kms radius.
- ii) There is no wild life animal sanctuary within 10Kms radius form the project site area under the Wildlife (Protection) Act, 1972. Therefore the project seeks clearance only from State Level Environmental Impact Assessment Authority (SEIAA), under B2 Category.

j. Environmental measures to be adopted shall be,

- i) Dust Control at source while drilling and blasting,
- ii) Dust suppression at loading point and transport haul roads,
- iii) Noise Control in blasting, control of fly rock missiles and vibration by doing peak particle velocity with in standard as prescribed by the DGMS and MOEF.
- iv) Unnecessary land degradation should be avoided or damaged land should be reclaimed or rehabilitated.

*S. Chinnana*



- v) Avoid uneven rat hole mining and follow scientific and systematic mining by safe bench system of open cast mining.
- vi) Mining near major fracture zones if any should be avoided to control ground water fluctuation in adjacent agricultural lands.
- vii) Emission test of vehicles should be in stack to maintain minimum emission level of flue gases.
- viii) Noise level should not exceed 80db and the vehicles should use only permitted Air Horn while on road near residential areas.
- ix) Safety zones as prescribed by the Department of Geology and Mining from adjacent infrastructures should be strictly adhering to.
- x) And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.

**2.0 EXECUTIVE SUMMARY:**

a.	Name of the Village	:	VENKATESAPURAM
b.	Name of the Panchat / Union	:	VENKATESAPURAM / Hosur
c.	The proposed total Movable Reserves	:	347730 M <sup>3</sup>
d.	The proposed quantity of reserves (level of production) for <b>Five Years Only</b> to be mined is (Recoverable reserves)	:	330344 M <sup>3</sup>
e.	Total extent of the area	:	2.80.0Ha
f.	Proposed Period of mining	:	Five Years Only.
g.	Proposed Depth of mining	:	43m from general ground profile
h.	Existing Pit Dimension	:	5356 Sq.m X Depth 5.0m(Avg.)
i.	Average production per year	:	66069m <sup>3</sup>
j.	Method of mining / level of mechanization	:	Opencast, Semi-mechanized Mining with a bench height of 5m and bench width of 5m is proposed.
k.	Types of Machineries used in the quarry	:	i) Compressor with jack hammer ii) Excavator of 0.90Cbm bucket Capacity
l.	Cost of the Project		
	a. Fixed Cost		Rs.64,10,000/-
	b. Operational Cost		Rs. 20,00,000/-
	c. EMP Cost		Rs. 3,70,000/-

*A.S. Arin*



m.	The area applied for lease is bounded by four corners and the coordinates are	: Toposheet No. 57 - H/14
	Latitude	: 12° 44' 50.98"N - 12° 44' 44.25"N
	Longitude	: 77° 56' 52.56"E - 77° 56' 43.81"E
	North East	: 12° 44' 50.98" N 77° 56' 50.28"E
	South East	: 12° 44' 48.53" N 77° 56' 42.76"E
	North West	: 12° 44' 48.63" N 77° 56' 43.81"E
	South West	: 12° 44' 44.25" N 77° 56' 45.40"E



### 3.0 GENERAL INFORMATION:

3.1	a.	Name of the Applicant	: <b>THIRU.S. CHINNANA</b>
	b.	Address of the Applicant with phone No and e-mail id if any	: <b>THIRU.S. CHINNANA,</b> No. 1-39A, MACHINAICKANPALLI VILLAGE, PANCHAKSHIPURAM POST, HOSUR TALUK, KRISHNAGIRI DISTRICT.
	c.	Status of the Applicant	: Individual
3.2	a.	Mineral Which the applicant intends to mine	: Rough Stone
	b.	Precise area communication letter No.	: <b>RC.No. 72/2016/Mines dated: 29.02.2016</b>
	c.	Period of permission / lease granted	: District Collector has given Precise area letter vide Rc.No.72/2016/Mines dated: 29.02.2016 period of Five Years.
	d.	Name and Address of the RQP preparing Mining Plan	: <b>S.Dhanasekar, M.Sc.,</b> RQP/MAS/225/2011/A 8/3, Kullappan Street, Opposite Indian bank Line, Omalur Taluk -636455, Salem District. Email: geodhana@yahoo.co.in
	e.	RQP Regn. No.	: RQP/MAS/225/2011/A Valid up to 12.01.2021.

### 4.0 LOCATION:

#### a. Details of the Area:

State	DISTRICT	Panchat / union	Taluk	Village	S.F.No	Extent in hectares
Tamil Nadu	Krishnagiri	VENKATESAPURAM / HOSUR	Hosur	VENKATESAPU RAM	136 (PART-1)	2.80.0Ha
Total =						2.80.0Ha

*L.S. Chin*

b.	Four Boundaries of the applied area	:	S.F.No	North	East	South	West
			136 (PART-1)	136 (PART-1)	90/1 Patta	136 (PART-2) A.P. Muthu Quarry	136 (PART-4) (PART-5) UAW Kallan kuthu
c.	Classification of the Area (Ryotwari / poramboke / others)	:	It is a Government Poramboke land, which is not fit for vegetation/cultivation,				
d.	Ownership / Occupancy of the Applied area (Surface rights)	:	It is a Government Poramboke land. The applicant had been given precise area for the proposed grant of Rough Stone Quarry Lease.				
e.	Toposheet No. with Latitude and Longitude	:	Toposheet No. 57 – H/14 12° 44' 50.98"N - 12° 44' 44.25"N 77° 56' 52.56"E - 77° 56' 43.81"E				
f.	Existence of Public Road / Railway line if any nearby the area and approximate distance	:	PUNNAGARAM –BUKKASAGARAM Via = 3.0 Km BUKKASAGARAM - KATHIRAPALLI = 6.0 Km KATHIRAPALLI - HOSUR = 7.0 Km KATHIRAPALLI – KRISHNAGIRI= 42.0Km Quarry site is located in Northwestern side at a distance of 2.5 km. from Venkateshapuram.				

**PART - A**

**5.0 GEOLOGY AND MINERAL RESERVES:**

5.1	a.	Topography	:	<ol style="list-style-type: none"> <li>1. The area applied for quarry lease is Hilly terrain with gentle elevation of 10m the ground level and sloping towards <b>Southern side covered with Rough Stone</b> which does not sustain any type of vegetation.</li> <li>2. No major river is found nearby the applied area.</li> <li>3. Water table is noticed at a depth of <b>50m</b> from below the surface in the adjacent open wells of the area.</li> <li>4. Temperature of the area is reported to be 18°C to a maximum of 38°C during summer.</li> <li>5. Rainfall of this area is about 800mm to 900 mm during the monsoons in a year.</li> </ol>
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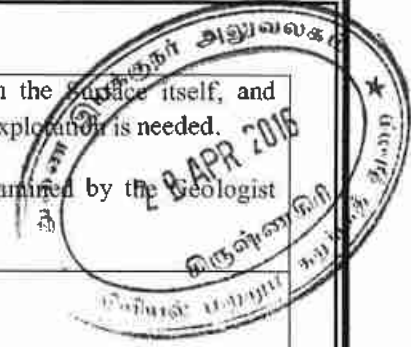
*L. S. Aravind*



	<p>b. Infrastructures nearby the Fresh Lease area.</p> <p>1. Post Office : VENKATESHAPURAM – 2.0 kms</p> <p>2. Police Station : HOSUR – 12.0kms</p> <p>3. G.H : HOSUR – 12.0kms</p> <p>4. Fire service : HOSUR – 12.0 kms</p> <p>5. Railway Station : HOSUR – 12.0 kms</p> <p>6. School : VENKATESHAPURAM – 2.0 kms</p> <p>7. Airport : BANGALORE - 45 Kms</p> <p>8. Seaport : CHENNAI – 260 kms</p>													
	<p>c. Regional Geology</p>	<p>: <b>KRISHNAGIRI DISTRICT</b> is underlined by the wide range of metamorphic rocks of peninsular gneissic complex. These rocks are extensively weathered and overlain by the recent valley fills and alluvium at places. The geological formations found in the District are Archaean rocks like Gneisses, Granites, Charnockite basic granulites and calc-gneisses. The younger formations are Quartz veins and pegmatite.</p> <p>The generalized stratigraphic succession of the geological formations met within this District is as follows.</p> <table border="1"> <thead> <tr> <th></th> <th>Age</th> <th>Rock Formation</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Recent to Sub recent</td> <td>Soil, Alluvium</td> </tr> <tr> <td>2.</td> <td>Archaean</td> <td>Granites, basic granulites, Peninsular Gneiss, Calc Gneiss and Charnockites</td> </tr> </tbody> </table>		Age	Rock Formation	1.	Recent to Sub recent	Soil, Alluvium	2.	Archaean	Granites, basic granulites, Peninsular Gneiss, Calc Gneiss and Charnockites			
	Age	Rock Formation												
1.	Recent to Sub recent	Soil, Alluvium												
2.	Archaean	Granites, basic granulites, Peninsular Gneiss, Calc Gneiss and Charnockites												
	<p>d. Geology of the Precise Area</p>	<p>: 1. The area is mainly composed of Archaean crystalline metamorphic complex.</p> <p>2. The rock type noticed in the area for lease is <b>Granite Gneiss</b> which contains mostly Quartz and Feldspar with some ferromagnesian minerals.</p> <p>3. The Granite Gneiss is part of peninsular Gneisses, a high grade metamorphic rock.</p> <p>4. The general trend of formation is N50° E – S50° W and dip towards SE-60°.</p> <p>5. The general geological succession of the area is given as under.</p> <table border="1"> <thead> <tr> <th></th> <th>Age</th> <th>Rock Formation</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Recent to Sub recent</td> <td>Soil, Alluvium</td> </tr> <tr> <td>2.</td> <td>Archaean</td> <td>Charnockites</td> </tr> <tr> <td>3.</td> <td>Archaean</td> <td>Peninsular Gneiss, and Calc Gneiss</td> </tr> </tbody> </table>		Age	Rock Formation	1.	Recent to Sub recent	Soil, Alluvium	2.	Archaean	Charnockites	3.	Archaean	Peninsular Gneiss, and Calc Gneiss
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1.	Recent to Sub recent	Soil, Alluvium												
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3.	Archaean	Peninsular Gneiss, and Calc Gneiss												

*L.S. Elias*

5.2		Details of Exploration already carried out if any	<ol style="list-style-type: none"> <li>1. Since the <b>Rough Stone</b> is seen from the surface itself, and noticed in the already quarried pit, no exploration is needed.</li> <li>2. However, the area was personally examined by the Geologist who prepared the Mining Plan.</li> </ol>
5.3	a.	Already excavated in pit dimensions	5356 Sq.m X Depth 5.0m(Avg.)
	b.	Estimation of Reserves	The Geological and Recoverable reserves are estimated by cross sectional method up to a depth of 43m, as the <b>Rough Stone</b> . Plans and Sections have been drawn with a scale of 1:1000 and 1:500 respectively.



c. **GEOLOGICAL RESERVES:**  
The Geological reserve is estimated as **956180M<sup>3</sup>** by area cross sectional method.

GEOLOGICAL RESERVES								
Section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume In M3	Geological Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
XY-AB	I	17	87	3				4437
	II	17	87	5	7395	7025	370	
	III	121	131	5	79255	75292	3963	
	IV	121	131	5	79255	75292	3963	
	V	121	131	5	79255	75292	3963	
	VI	121	131	5	79255	75292	3963	
	VII	121	131	5	79255	75292	3963	
	VIII	121	131	5	79255	75292	3963	
	IX	121	131	5	79255	75292	3963	
<b>TOTAL</b>					<b>562180</b>	<b>534071</b>	<b>28109</b>	<b>4437</b>
XY-CD	I	122	100	3				36600
	II	62	100	5	31000	29450	1550	
	III	121	100	5	60500	57475	3025	
	IV	121	100	5	60500	57475	3025	
	V	121	100	5	60500	57475	3025	
	VI	121	100	5	60500	57475	3025	
	VII	121	100	5	60500	57475	3025	
	VIII	121	100	5	60500	57475	3025	
<b>TOTAL</b>					<b>394000</b>	<b>374300</b>	<b>19700</b>	<b>36600</b>
<b>GRAND TOTAL</b>					<b>956180</b>	<b>908371</b>	<b>47809</b>	<b>41037</b>

*LG. [Signature]*

d. **RECOVERABLE RESERVES:**

**Top Soil:** There is no top soil generation for next five years.

The mineable reserves and the recoverable reserves are 347730m<sup>3</sup> and 330347m<sup>3</sup> respectively.



MINEABLE RESERVES								
Section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume in M3	Mineable Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
XY-AB	I	5	75	3				1125
	II	4	74	5	1480	1406	74	
	III	103	95	5	48925	46479	2446	
	IV	98	85	5	41650	39568	2082	
	V	93	75	5	34875	33131	1744	
	VI	98	65	5	28600	27170	1430	
	VII	83	55	5	22825	21684	1141	
	VIII	78	45	5	17550	16673	877	
	IX	73	35	5	12775	12136	638	
<b>TOTAL</b>					<b>208680</b>	<b>198248</b>	<b>10432</b>	<b>1125</b>
XY-CD	I	101	77	3				23331
	II	62	74	5	22940	21793	1147	
	III	108	64	5	34560	32832	1728	
	IV	103	54	5	27810	26420	1390	
	V	98	44	5	21560	20482	1078	
	VI	93	34	5	15810	15020	790	
	VII	88	24	5	10560	10032	528	
	VIII	83	14	5	5810	5520	290	
<b>TOTAL</b>					<b>139050</b>	<b>132099</b>	<b>6951</b>	<b>23331</b>
<b>GRAND TOTAL</b>					<b>347730</b>	<b>330347</b>	<b>17383</b>	<b>24456</b>

**6.0 MINING:**

6.1	Method of Mining	<ol style="list-style-type: none"> <li>1. Opencast method of semi mechanized mining will be adopted to extract Rough Stone of required size.</li> <li>2. Machineries like Tractor mounted compressor attached with Jack hammers is proposed to drilling and blasting. Excavators are proposed for quarrying of Rough Stone and Tippers / Lorries are proposed for the transportation of Rough Stone to the destination.</li> </ol>
6.2	Mode of Working	<p>It is a semi mechanized quarrying operation using shot hole drilling with the help of compressor and jack hammers, smooth blasting, block lifting using cranes and waste and are removal using Hydraulic excavator and loaded directly to the tippers and transported to the crushing plants into required size in the crushing plants from: 75mm jelly to 19mm chips.</p>

*L.S. Veer*



6.3	Proposed bench height & Width	: Bench height = 5mts. Bench width = 5mts
6.4	Details of Overburden / Mineral Production proposed for Five Years Only	: <b>Top Soil / Overburden production details follows.</b> There is no top soil generation for next five years.

**Rough stone production details as follows:**

YEARWISE PRODUCTION									
Section	Year	Bench	length in (m)	Width in (m)	Depth in (m)	Volume In M3	Recoverable Reserves in m3 @ 95%	Mine waste in m3 @ 5%	Top Soil in m3
XY-AB	I-Year	I	5	75	3				1125
		II	4	74	5	1480	1406	74	
		III	103	95	5	48925	46479	2446	
	II-Year	IV	98	85	5	41650	39568	2082	
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XY-CD	III-Year	I	101	77	3				23331
		II	62	74	5	22940	21793	1147	
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VII		88		24	5	10560	10032	528	
		VIII	83	14	5	5810	5520	290	
<b>TOTAL</b>						<b>347730</b>	<b>330344</b>	<b>17383</b>	<b>24456</b>

The average proposed rate of production of **Rough Stone** is about **66069m<sup>3</sup>** per year.

6.5	a. Mining	: Drilling of shot holes will be carried out using compressor and jack hammer. Depth of holes shall be 1 to 2m bench height and spacing shall be 0.75m and burden shall be 0.60m from the preface. Details of drilling equipments are given below.
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Type	Nos	Dia of hole	Size / Capacity	Make	Motive power	H.P.
Jack Hammer	6	25.5 mm	Hand held	Atlas copco 2Nos	Diesel	60

*L.S. Chia*

b	Loading	<p>Loading of waste and rough stone shall be carried out by Excavator into 10 tonne capacity tippers from the working place periodically. Details of loading equipment are given as under.</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Nos</th> <th>Bucket Capacity (MT)</th> <th>Make</th> <th>Motive power</th> <th>H.P.</th> </tr> </thead> <tbody> <tr> <td>Hydraulic excavator</td> <td>1</td> <td>1.2 M<sup>3</sup></td> <td>L&amp;T or Ex200</td> <td>Diesel</td> <td>120</td> </tr> </tbody> </table>	Type	Nos	Bucket Capacity (MT)	Make	Motive power	H.P.	Hydraulic excavator	1	1.2 M <sup>3</sup>	L&T or Ex200	Diesel	120																																																																				
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c.	Transportation	<p>Transport of raw materials and waste shall be done by Tipper of 10 tonnes capacity.</p> <table border="1"> <thead> <tr> <th>Type</th> <th>Nos</th> <th>Size / Capacity</th> <th>Make</th> <th>Motive power</th> <th>H.P.</th> </tr> </thead> <tbody> <tr> <td>Tipper</td> <td>3</td> <td>10 M.T</td> <td>Ashok Leyland</td> <td>Diesel</td> <td>110</td> </tr> </tbody> </table>	Type	Nos	Size / Capacity	Make	Motive power	H.P.	Tipper	3	10 M.T	Ashok Leyland	Diesel	110																																																																				
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6.6	Disposal of Overburden	<p>There is no top soil generation for next five years and the wastes are generated during the mining period is 17383m<sup>3</sup> shall be proposed to Dumping the All Side of the 10.0m Boundary Barrier of the lease area to facilitate the afforestation and Green belt Development.</p>																																																																																
6.7	Brief Note on Conceptual Mining Plan for the entire lease period	<p>Conceptual Mining Plan is prepared with an object of <b>Five Years Only</b> of systematic development of bench lay outs, selection of ultimate pit limit, depth of quarrying, ultimate pit slope, selection of sites for construction of infrastructures etc.,</p> <p>Average Ultimate Pit dimension in given as Under,</p> <table border="1"> <thead> <tr> <th colspan="5">ULTIMATE PIT DIMENSION</th> </tr> <tr> <th>Section</th> <th>Bench</th> <th>length in (m)</th> <th>Width in (m)</th> <th>Depth in (m)</th> </tr> </thead> <tbody> <tr><td rowspan="9">XY-AB</td><td>I</td><td>5</td><td>75</td><td>3</td></tr> <tr><td>II</td><td>4</td><td>74</td><td>5</td></tr> <tr><td>III</td><td>103</td><td>95</td><td>5</td></tr> <tr><td>IV</td><td>98</td><td>85</td><td>5</td></tr> <tr><td>V</td><td>93</td><td>75</td><td>5</td></tr> <tr><td>VI</td><td>88</td><td>65</td><td>5</td></tr> <tr><td>VII</td><td>83</td><td>55</td><td>5</td></tr> <tr><td>VIII</td><td>78</td><td>45</td><td>5</td></tr> <tr><td>IX</td><td>73</td><td>35</td><td>5</td></tr> <tr><td rowspan="8">XY-CD</td><td>I</td><td>101</td><td>77</td><td>3</td></tr> <tr><td>II</td><td>62</td><td>74</td><td>5</td></tr> <tr><td>III</td><td>108</td><td>64</td><td>5</td></tr> <tr><td>IV</td><td>103</td><td>54</td><td>5</td></tr> <tr><td>V</td><td>98</td><td>44</td><td>5</td></tr> <tr><td>VI</td><td>93</td><td>34</td><td>5</td></tr> <tr><td>VII</td><td>88</td><td>24</td><td>5</td></tr> <tr><td>VIII</td><td>83</td><td>14</td><td>5</td></tr> </tbody> </table> <p>Ultimate pit size is designed based on certain practical factors such as the economical depth of mining, safety zones, permissible areas etc.</p>	ULTIMATE PIT DIMENSION					Section	Bench	length in (m)	Width in (m)	Depth in (m)	XY-AB	I	5	75	3	II	4	74	5	III	103	95	5	IV	98	85	5	V	93	75	5	VI	88	65	5	VII	83	55	5	VIII	78	45	5	IX	73	35	5	XY-CD	I	101	77	3	II	62	74	5	III	108	64	5	IV	103	54	5	V	98	44	5	VI	93	34	5	VII	88	24	5	VIII	83	14	5
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Afforestation has been proposed on the boundary barrier by planting trees.

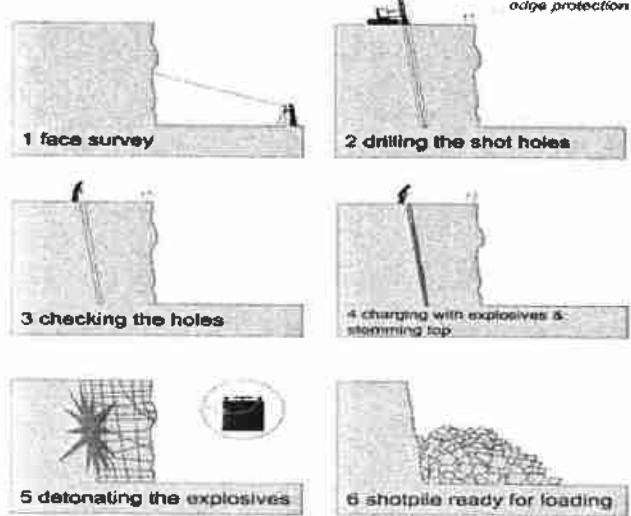
All the baseline information studies like Air Quality monitoring, Noise and Vibration monitoring, Water Analysis studies will be carried out every year as per the MOEF norms.

**7.0 BLASTING:**

7.1 **Blasting Pattern** : The massive formation shall be broken into pieces of portable size by drilling and blasting using jack hammers and shot hole blasting. Powder factor of explosives for breaking such hard rock shall be in the order of 6 to 7 tonnes per K.g of explosives. Blasting parameters are as follows.

Diameter of the hole	: 32-36 mm
Spacing	: 60 Cms
Depth	: 1 to 1.5m
Charge / Hole	: D.Cord with water or 70 gms of gun powder or Gelatine.
Pattern of hole	: Zig Zag
Inclination of hole	: 70° from the horizontal.
Quantity of rock broken	: 0.45 MT x 2.6 = 1.17 MT
Blasting efficiency @ 90%	: 1.17 x 90% = 1.05MT / hole
Charge per hole	: 140 gms of 25mm dia cartridge
Quantity of rock broken per day	: 220.2 m3 or 530.7MT.

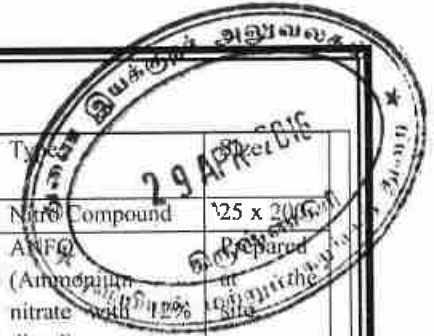
**ROCK BLASTING**



7.2 **Types of Explosives** : Following explosives are recommended for efficient blasting with safe practice.

*J.S. Chinn*





S. No	Description	Class / Division	Type	Quantity
1.	Slurry	Class - 3	Nitro Compound	25 x 20 Gms
2.	Nitrate Mixture	Class - 2	ANFO (Ammonium nitrate with diesel)	Prepared in 5kg
3.	Detonators	Class - 3	Ordinary and elec (OD & ED)	6.5 x 32
4.	Safety fuse	Class - 6	Blue sump fuse coils of 10mts each	

The applicant will approach the District Collector for grant of explosives license as the quantity of daily consumption is very low, i.e., less than 5Kgs.

7.3 Measures proposed to minimize ground vibration due to blasting

The following steps shall be adopted to control ground vibration due to blasting.

1. The minimum recommended delay time of 8ms was introduced to minimize ground vibration to avoid constructive interference of blast vibration waves and hence its impact or amplitude.
2. In case of electronic detonators, which are inherently much more accurate delays (+/- 0.2 milliseconds delay) to minimizes the ground vibration.
3. Use of Ammonium nitrate fuel oil mixture for shot holes may be avoided because which cause for high fly of rocks in view critical diameter problem. Only high strength explosives like slurry will be used in the form of cartridge.
4. Charge per hole should exceed the powder factor designed for each hole based on the quantum of blasting, strength of rocks, fracture pattern etc.

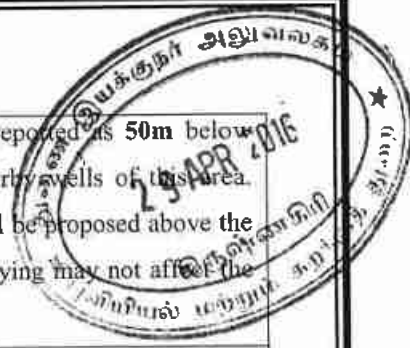
7.4 Storage of Explosives and safety measures to be taken while blasting.

1. The applicant is advised to store the explosives as per the Indian Explosives Act, 1958.
2. The explosives to be used in mines being a small quantity, the District collector may be approached to keep the stocks not exceeding 5kgs at time or any other quantity permitted by the concerned authorities in a portable magazine of S & B types.
3. The applicant is advised to engage an authorized explosive agency to carry out blasting.
4. The blasting time at a day is proposed to be 5 PM to 6 PM.
5. First Aid Box will be keeping ready at all the time.
6. Necessary precautionary announcement will be carried out before the blasting operation.

*S. P. Chinn*

**8.0 MINE DRAINAGE:**

8.1	Depth of Water table	: The ground water table is reported as 50m below Surface ground level in nearby wells of this area. Now, the present quarry shall be proposed above the water table and hence, quarrying may not affect the ground water.
8.2	Arrangement and Places where the mine water is finally proposed to be discharged	: The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage shall be less than 300 lpm and it shall be pumped about periodically by a stand by diesel powered Centrifugal pump motivated with 7.5 H.P. Motor. The quality of water is potable and it is not contaminated with any hazardous things.



**9.0 OTHER PERMANENT STRUCTURES:**

9.1	Habitations / Village	: There are no villages within a radius of 500m. The nearest habitations with the population is given as under, <table border="1"> <thead> <tr> <th>Direction</th> <th>Village</th> <th>Distance in Kms</th> <th>Population</th> </tr> </thead> <tbody> <tr> <td>North</td> <td>GOOLISANDRAM</td> <td>1.5Kms</td> <td>250</td> </tr> <tr> <td>East</td> <td>KOOTTUR</td> <td>1.0Kms</td> <td>200</td> </tr> <tr> <td>South</td> <td>VENKATESAPURAM</td> <td>1.0kms</td> <td>300</td> </tr> <tr> <td>West</td> <td>MUGALUR</td> <td>1.0Kms</td> <td>190</td> </tr> </tbody> </table>	Direction	Village	Distance in Kms	Population	North	GOOLISANDRAM	1.5Kms	250	East	KOOTTUR	1.0Kms	200	South	VENKATESAPURAM	1.0kms	300	West	MUGALUR	1.0Kms	190
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West	MUGALUR	1.0Kms	190																			
9.2	Power lines (HT/LT)	: There is no power lines located within the safety distance prescribed under Tamil Nadu Minor Minerals Concession Rules, 1959.																				
9.3	Water bodies (River, Pond, Lake, Odai, Channel etc)	: There is NO kulam/kanmoi are located within a radius of 500m.																				
9.4	Archeological / Historical Monuments	: There are no Archeological / Historical Monuments within a radius of 500m.																				
9.5	Road (NH, SH, Village Road etc)	: PUNNAGARAM –BUKKASAGARAM Via = 3.0 Km BUKKASAGARAM - KATHIRAPALLI = 6.0 Km KATHIRAPALLI - HOSUR = 7.0 Km KATHIRAPALLI – KRISHNAGIRI= 42.0Km Quarry site is located in Northwestern side at a distance of 2.5 km. from Venkateshapuram.																				
9.6	Places of Worship	: There are no Places of Worship within a radius of 500m.																				
9.7	Reserved Forest / Forest / Social Forest / Wild Life Sanctuary etc.,	: There are No Forest within a radius of 10 kms.																				

*LS. Chinn*

9.8	Any Interstate Border, Protected areas under the Wild Life (Protection) Act, 1972, Critically Polluted Areas as Identified by Central Pollution Control Board and Notified Eco sensitive areas	:	There are No Inter State border within a radius of 10 kms.
9.9	Any Other Structures	:	Nil



**10.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES:**

10.1	Employment Potential (Management & Supervisory personal)	:	<p>1. As per Mines safety under the provisions of MMR, 1961 under the Mines Act, 1952, whenever the workers are employed more than 10, it is preferred to have a qualified Mining Mate to keep all the production workers directly under his control and supervision.</p> <p>2. The following man power is proposed for quarrying Rough Stone during the Five Years period to achieve the proposed production and to comply the provisions of the Government norms.</p> <table border="1"> <tr> <td>1.</td> <td>Skilled</td> <td>Operator</td> <td>2 No.</td> </tr> <tr> <td></td> <td></td> <td>Mechanic</td> <td>1 No.</td> </tr> <tr> <td></td> <td></td> <td>Blaster/Mat</td> <td>1 No.</td> </tr> <tr> <td>2.</td> <td>Semi - skilled</td> <td>Driver</td> <td>2 Nos</td> </tr> <tr> <td>3.</td> <td>Unskilled</td> <td>Musdoor / Labours</td> <td>5 Nos</td> </tr> <tr> <td></td> <td></td> <td>Cleaners</td> <td>3Nos</td> </tr> <tr> <td></td> <td></td> <td>Office Boy</td> <td>1No</td> </tr> <tr> <td>4.</td> <td>Management &amp; Supervisory staff</td> <td></td> <td>3No.</td> </tr> <tr> <td></td> <td>Total =</td> <td></td> <td>18Nos</td> </tr> </table>	1.	Skilled	Operator	2 No.			Mechanic	1 No.			Blaster/Mat	1 No.	2.	Semi - skilled	Driver	2 Nos	3.	Unskilled	Musdoor / Labours	5 Nos			Cleaners	3Nos			Office Boy	1No	4.	Management & Supervisory staff		3No.		Total =		18Nos
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10.2	Welfare Measures	:																																					
	a. Drinking Water	:	Drinking water at the rate of 2Ltrs per person shall be provided as per the Mines Rules, 1960. It is proposed to make a borehole for providing uninterrupted supply of drinking water and other utilities.																																				
	b. Sanitary facilities	:	Semi permanent latrines & urinals shall be maintained at convenient places for use of labours as per the provisions of Rule (33) of the Mines Rules, 1960 separately for males and females. Washing facilities shall also be arranged as per rule (36) of the Mines Rules, 1960.																																				

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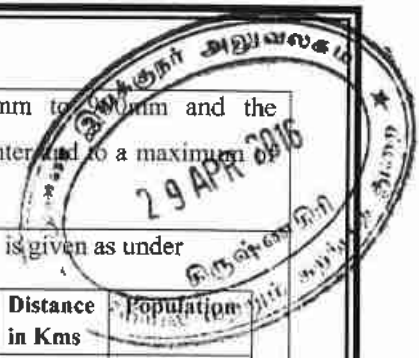
c.	First Aid Facility	:	Being a small mine First Aid station as per provisions under Rule (44) of the Mines Rules 1960 will be provided with facilities as per the third schedule as prescribed. Qualified First Aid personnel should be appointed or nominated to attend emergency first aid treatment.
d.	Labour Health	:	As per Mines Rule, Periodic medical examination has to be arranged for occupational health once in a year in addition to attending medical treatment of occupational injuries under the Rule 45 (A), MR, 1960.
e.	Precautionary safety measures to the Laborers	:	<p>Safety provisions like helmet, goggles, safety shoes, Dust mask, Ear muffs etc have to be provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a mechanized operation.</p> <p>Necessary training will be conducted once in a year to all the employees with the help of qualified and experienced officers to train about the safe and system at quarrying operation.</p>

**PART - B**

**a. ENVIRONMENTAL MANAGEMENT PLAN:**

11.1	Existing Land Use Pattern	:	<p>The existing land use pattern is given as under.</p> <table border="1"> <thead> <tr> <th>Sl. No.</th> <th>Land Use</th> <th>Present Area (Hect)</th> <th>Area in use during the quarrying period (Hect)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Quarrying Pit</td> <td>0.53.5</td> <td>2.22.7</td> </tr> <tr> <td>2.</td> <td>Infrastructure</td> <td>Nil</td> <td>0.01.0</td> </tr> <tr> <td>3.</td> <td>Roads</td> <td>0.01.0</td> <td>0.02.0</td> </tr> <tr> <td>4.</td> <td>Green Belt</td> <td>Nil</td> <td>0.10.0</td> </tr> <tr> <td>5.</td> <td>Unutilized</td> <td>2.25.5</td> <td>0.44.3</td> </tr> <tr> <td></td> <td><b>Total =</b></td> <td><b>2.80.0Ha</b></td> <td><b>2.80.0Ha</b></td> </tr> </tbody> </table>	Sl. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)	1.	Quarrying Pit	0.53.5	2.22.7	2.	Infrastructure	Nil	0.01.0	3.	Roads	0.01.0	0.02.0	4.	Green Belt	Nil	0.10.0	5.	Unutilized	2.25.5	0.44.3		<b>Total =</b>	<b>2.80.0Ha</b>	<b>2.80.0Ha</b>
Sl. No.	Land Use	Present Area (Hect)	Area in use during the quarrying period (Hect)																												
1.	Quarrying Pit	0.53.5	2.22.7																												
2.	Infrastructure	Nil	0.01.0																												
3.	Roads	0.01.0	0.02.0																												
4.	Green Belt	Nil	0.10.0																												
5.	Unutilized	2.25.5	0.44.3																												
	<b>Total =</b>	<b>2.80.0Ha</b>	<b>2.80.0Ha</b>																												
11.2	Water Regime	:	Water table in this area is noticed at a depth of 50m below the surface level and presently, the quarrying of Rough Stone is proposed up to a depth of 43m and hence, it will not affect the ground water depletion of this area.																												
11.3	Flora and Fauna	:	Except acacia bushes, no other valuable trees are noticed in the applied area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.																												
11.4	Climatic conditions	:	Generally sub tropical climatic condition prevails throughout the year and this District receives rain both in South west and North east monsoon.																												

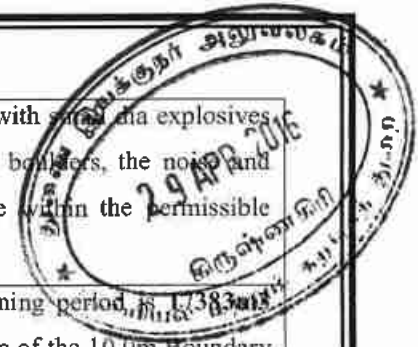
*L. S. Elias*



		<p>The average rainfall is about 800mm to 1200mm and the temperature ranges from 18°C during winter and to a maximum 38°C during the summer.</p>																				
11.5	Human Settlement	<p>The nearest habitations with the population is given as under</p> <table border="1"> <thead> <tr> <th>Direction</th> <th>Village</th> <th>Distance in Kms</th> <th>Population</th> </tr> </thead> <tbody> <tr> <td>North</td> <td>GOOLISANDRAM</td> <td>1.5Kms</td> <td>250</td> </tr> <tr> <td>East</td> <td>KOOTTUR</td> <td>1.0Kms</td> <td>200</td> </tr> <tr> <td>South</td> <td>VENKATESAPURAM</td> <td>1.0kms</td> <td>300</td> </tr> <tr> <td>West</td> <td>MUGALUR</td> <td>1.0Kms</td> <td>190</td> </tr> </tbody> </table>	Direction	Village	Distance in Kms	Population	North	GOOLISANDRAM	1.5Kms	250	East	KOOTTUR	1.0Kms	200	South	VENKATESAPURAM	1.0kms	300	West	MUGALUR	1.0Kms	190
Direction	Village	Distance in Kms	Population																			
North	GOOLISANDRAM	1.5Kms	250																			
East	KOOTTUR	1.0Kms	200																			
South	VENKATESAPURAM	1.0kms	300																			
West	MUGALUR	1.0Kms	190																			
11.6	Plan for Air, Dust Suppression	<p>Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc., will be <b>suppressed by periodical wetting of land by water spraying.</b></p>																				
11.7	Plan for Noise Control	<p>Quarrying of Rough Stone will be carried out by drilling and blasting by using low power explosives, and hence, noise will be very minimum. However, periodical noise level monitoring will be carried out to check the noise level in and around the quarry site.</p>																				
11.8	Environmental Impact Assessment Statement Describing Impact on mining on the next Five Years Only.	<p>Factors to be considered for EIA are,</p> <ol style="list-style-type: none"> <li>1. Dust generation,</li> <li>2. Land degradation</li> <li>3. Stabilization and vegetation of dumps</li> <li>4. Adverse effect on water regime</li> <li>5. Socio economic benefits arising out of Mining.</li> <li>6. Noise and Vibration.</li> </ol>																				
	a. Dust	<p>Dust is expected to be generated from drilling, hauling roads; place of excavation etc and it will be suppressed by periodical wetting of lands.</p>																				
	b. Land degradation	<p>Land degradation is by means of cutting the trees and removal of fertile soil does not arise. Proposed usage of land for the next Five Years Only shall be less than 2.80.0hectare. Afforestation will be started during the first year of mining operation itself.</p>																				
	c. Stabilization and vegetation of dumps	<p>The topsoil will be spread over the non-active dumps along the slope and edges to plant tree saplings to form vegetal cover over the dumps. Such vegetal cover will prevent erosion of dumps during rainy seasons.</p>																				
	d. Socio economic benefits arising out of mining	<ol style="list-style-type: none"> <li>1. To provide Employment opportunities of the nearby villagers.</li> <li>2. For the cultural development of the nearby villagers.</li> </ol>																				

*LS. elia*

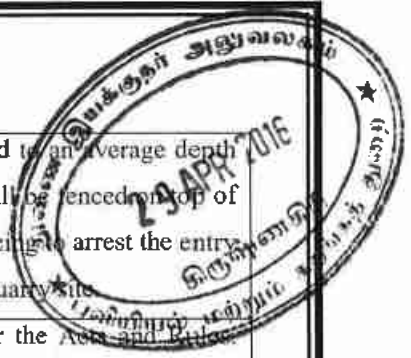
	e. Noise and vibration	:	Since, no deep hole blasting is proposed with <del>small</del> <sup>small</sup> dia explosives are used for breaking the hard rock and boulders, the noise and vibration will be very minimum and are within the permissible limits.
11.9	Proposal for Waste Management	:	The wastes are generated during the mining period, shall be proposed to Dumping the All Side of the 10.0m Boundary Barrier of the lease area.
11.10.	Proposal of Reclamation of Land affected during mining activities and at the end of mining.	:	The present mining is proposed to an average depth of 43m. The mined out area will be fenced on top of open cast working with S1 fencing. Low lying areas with water logging shall be used for fish culture. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
11.11	Program for Afforestation	:	Trees like tamarind, casuarinas etc will be planted along the lease boundary and avenues as well as over non active dumps at a rate 20 trees per annum with an interval of 5m. The rate of survival expected to be 80% in this area.
11.12	Proposed Financial Estimate / Budget for (EMP) Environment Management	:	
	<b>Fixed Asset Cost:</b>		
	1. Land Cost	:	Rs.61,50,000/- (Leased Amount for Government Poramboke Land)
	2. Labour Shed	:	Rs. 60,000/-
	3. Sanitary Facility	:	Rs. 50,000/-
	4. Fencing cost	:	Rs. 1,50,000/-
	Total=	:	Rs.64,10,000/-
	<b>Operational Cost:</b>		
	<b>Machinery cost</b>	:	Rs.20,00,000/-
	<b>EMP Cost:</b>		
	1. Drinking water facility	:	Rs. 1,10,000/-
	2. Safety kids	:	Rs. 55,000/-
	3. Water sprinkling	:	Rs. 55,000/-
	4. Afforestation	:	Rs. 25,000/-
	5. Water quality test	:	Rs. 50,000/-
	6. Air quality test	:	Rs. 25,000/-
	7. Noise/vibration test	:	Rs. 25,000/-
	8. Cost towards charity	:	Rs. 25,000/-
	Total=	:	Rs. 3,70,000/-
	<b>Total Project Cost</b>	:	Rs. 87,80,000/-



*LS. elina*

**12.0 MINE CLOSURE PLAN:**

12.1	Steps proposed for phased restoration, reclamation of already mined out area.	: The present mining is proposed to an average depth of 43m. The mined out area will be fenced on top of open cast working with S1 fencing to arrest the entry of cattles and public in to the quarry site.
12.2	Measures to be under taken on mine closure as per Act & Rules	: Measures will be taken as per the Act and Rules. The quarried pit will be fenced by using Barbed wire fencing. Green belt development at the rate of 20 trees per year will be proposed.
12.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	: The area applied for quarry lease was already held under the quarry lease. The pits were already opened by earlier Quarrying. Hence, the quarrying operation will be continued in the existing pit after making proper benches within the applied area for lease.



**13.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT**

- (i) Permission will be obtained from the <sup>Director</sup> District of Mines Safety for the extracting the Rough Stone from the Boundary barriers and for slopes.
- (ii) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.
- (iii) The applicant will endeavor every attempt to quarry the Rough Stone economically without any wastage and to improve the environment and ecology.
- (iv) The Mining Plan is prepared by incorporating the conditions stipulated in Lease granted Proceedings of the District Collector and also prepared by incorporating the details mentioned in the letter SEIAA/TN/Minor and Minerals/2012 dated 17.04.2013.
- (v) The average proposed production of Rough stone for Five Years is 330344m<sup>3</sup> and average production per year is 66069m<sup>3</sup>.

**This Mining Plan is approved based on guidelines / instruction issued and in corporation of the particulars specified in the letter Roc. No. 72/2016/NM of the Duputy Director of Geology and Mining, Krishnagiri and subject to further fulfillment of the conditions laid down under Tamil Nadu Minor Mineral Concession Rules, 1959 and Minor Mineral Conservation and Development Rule 2010.**

*(Signature)*  
**Deputy Director of Geology and Mining  
 Krishnagiri.**

*(Signature)*  
**S. DHANASEKAR**  
 RQP/MAS/225/2011/A

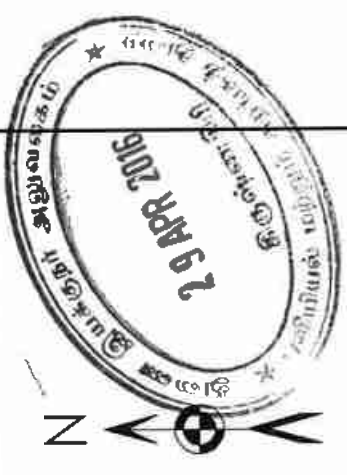
*(Signature)*  
 29/4/16

**This Mining Plan is approved subject to the conditions / Stipulation indicated in the Mining Plan Approval**

**Letter Roc. No. 72/2016/NM Dated 29.4.2016**

*(Signature)*





**PLATE NO-1**

**APPLICANT:**  
 THIRU.CHINNANA,  
 No.1-39A,  
 MACHINAICKANAPALLI VILLAGE,  
 PANCHAKSHIPURAM POST,  
 HOSUR TALUK,  
 KRISHNAGIRI DISTRICT.

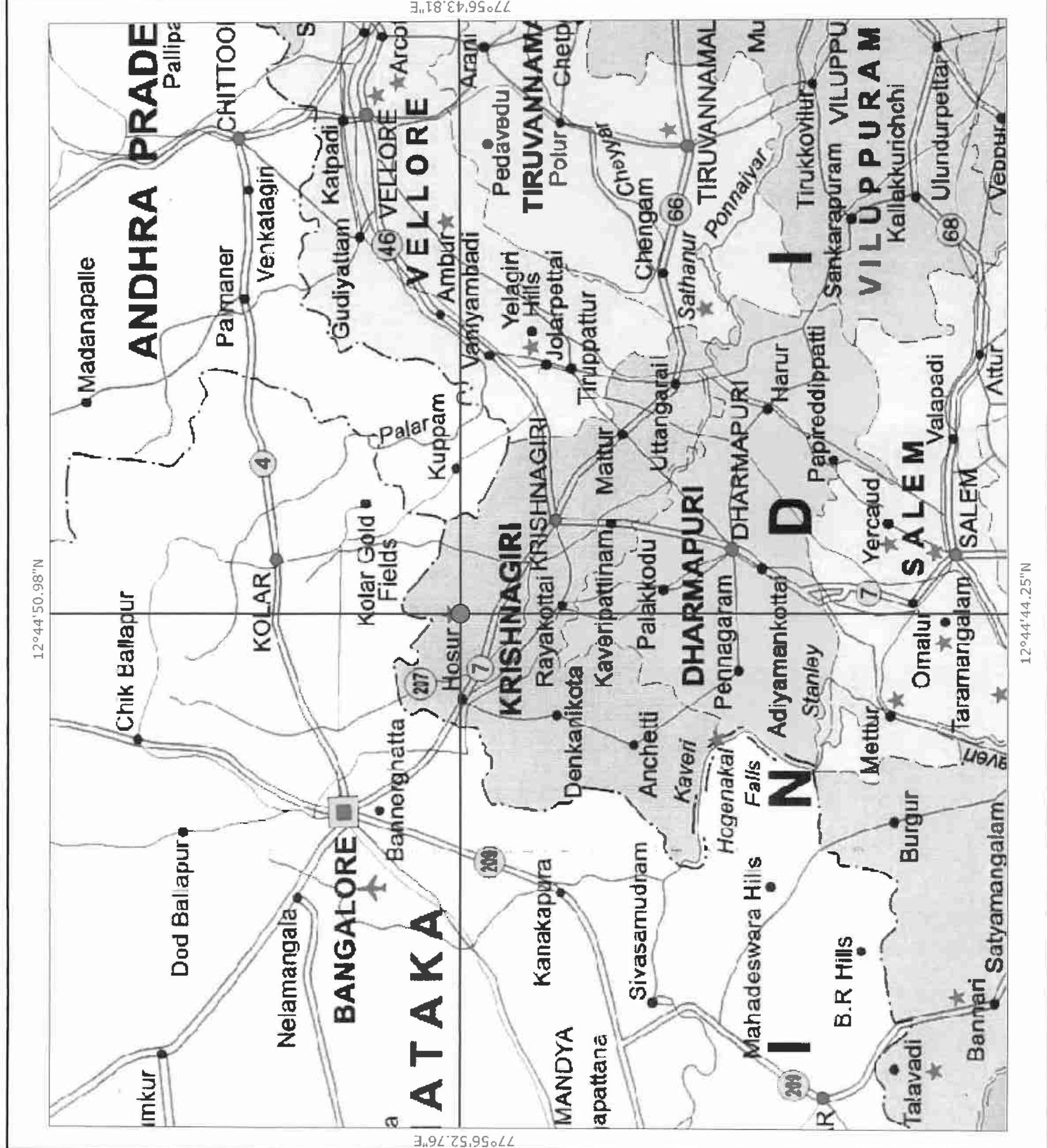
**LOCATION:**  
 S.F.NO : 136 (PART-1),  
 EXTENT : 2.80.0 Ha,  
 VILLAGE : VENKATESAPURAM,  
 TALUK : HOSUR,  
 DISTRICT : KRISHNAGIRI.

**INDEX**  
 MINE LEASE AREA : ●  
 TOPO SHEET NO : 57-H/14  
 LATITUDE : 12°44'50.98"N to 12°44'44.25"N  
 LONGITUDE: 77°56'52.76"E to 77°56'43.81"E

**LOCATION PLAN**  
 NOT TO SCALE

**Prepared By:**  
 I DO HEREBY CERTIFY THAT THE PLATE  
 HAS BEEN CHECKED BY ME AND IS CORRECT  
 TO THE BEST OF MY KNOWLEDGE

S.DHANASEKAR.M.Sc.,  
 RECOGNIZED QUALIFIED PERSON  
 RQP/MAS/225/2011/A



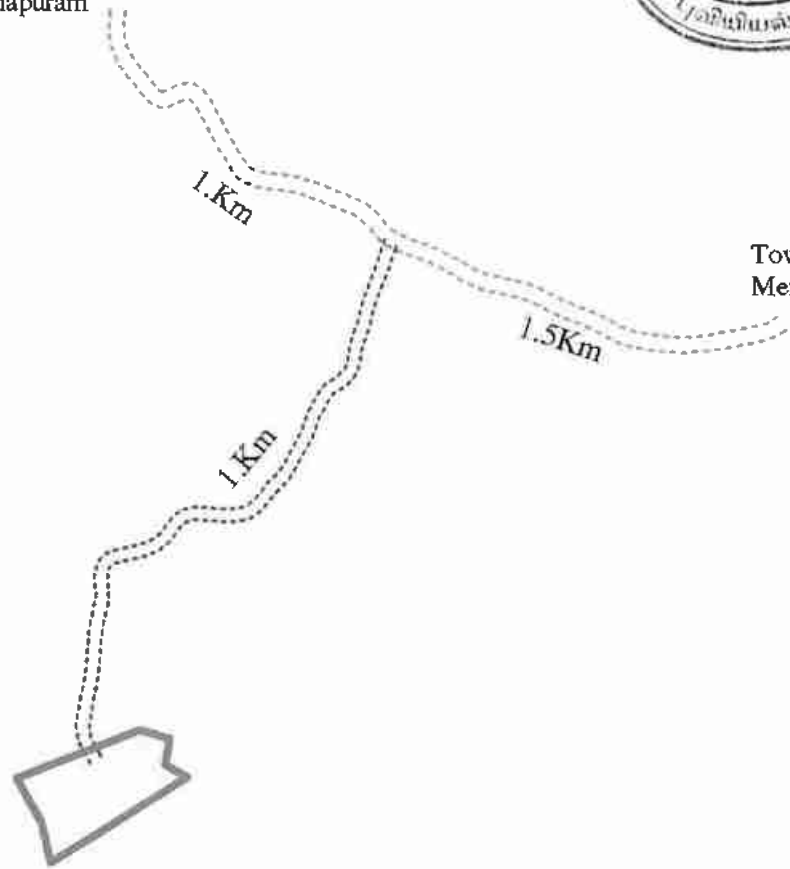
*Handwritten signature*



# KEY MAP



Towards  
venkateshapuram



Towards  
Mensendoddi

PLATE NO-IA

**APPLICANT:**

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

**INDEX**

MINE LEASE AREA

VILLAGE ROAD

APPROACH ROAD

**KEY MAP**

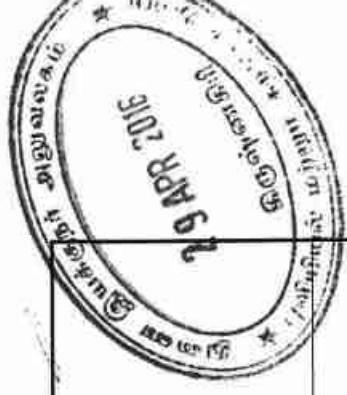
*Not to Scale*

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S.DHANASEKAR,M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A

*S. Dhanasekar*



**APPLICANT:**

THIRU.CHINNANA,  
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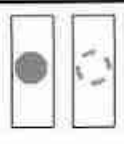
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TALUK : HOSUR,  
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**INDEX**

TOPO SHEET NO : 57-H/14  
LATITUDE : 12°44'50.98"N to 12°44'44.25"N  
LONGITUDE: 77°56'52.76"E to 77°56'43.81"E

**MINE LEASE BOUNDARY**



**10KM RADIOUS**



**TOPO SHEET MAP**

SCALE - 1:1,00,000

**Prepared By:**

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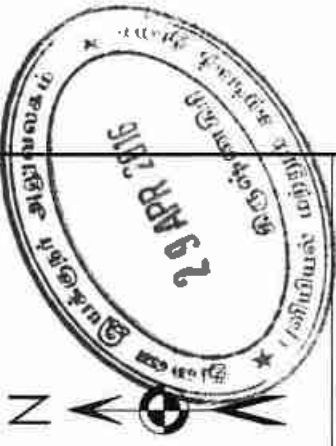
*S. Dhana Sekar*

S.DHANASEKAR,M.Sc,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A

*R.S. Anand*

**PLATE NO-IB**





**PLATE NO-IC**

**APPLICANT:**

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

**INDEX**

- MINE LEASE AREA 
- VILLAGE ROAD 
- APPROACH ROAD 
- 500m RADIUS 
- 1Km RADIUS 

TOPO SHEET NO : 57-H/14

LATITUDE : 12°44'50.98"N to 12°44'44.25"N

LONGITUDE: 77°56'52.76"E to 77°56'43.81"E

**SATELLITE IMAGINARY MAP**

SCALE - 1:5000

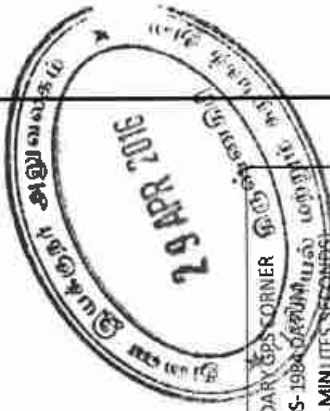
**Prepared By:**

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S.DHANASEKAR,M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A



*S. Dhanasekar*



BOUNDARY GPS CORNER  
WGS-1984 (DIPU) (U.S.) (LONGITUDE)  
(DEGREES, MINUTES, SECONDS)

LABEL	LATITUDE	LONGITUDE
1	12° 44' 48.63"N	77° 56' 43.81"E
2	12° 44' 50.98"N	77° 56' 50.28"E
3	12° 44' 50.52"N	77° 56' 51.87"E
4	12° 44' 49.18"N	77° 56' 51.62"E
5	12° 44' 48.53"N	77° 56' 52.76"E
6	12° 44' 44.25"N	77° 56' 45.40"E
7	12° 44' 46.33"N	77° 56' 45.02"E

**PLATE NO-II**

**APPLICANT:**

THIRU.CHINNANA,  
No. 1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

**INDEX**

- MINE LEASE BOUNDARY
- 10m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD

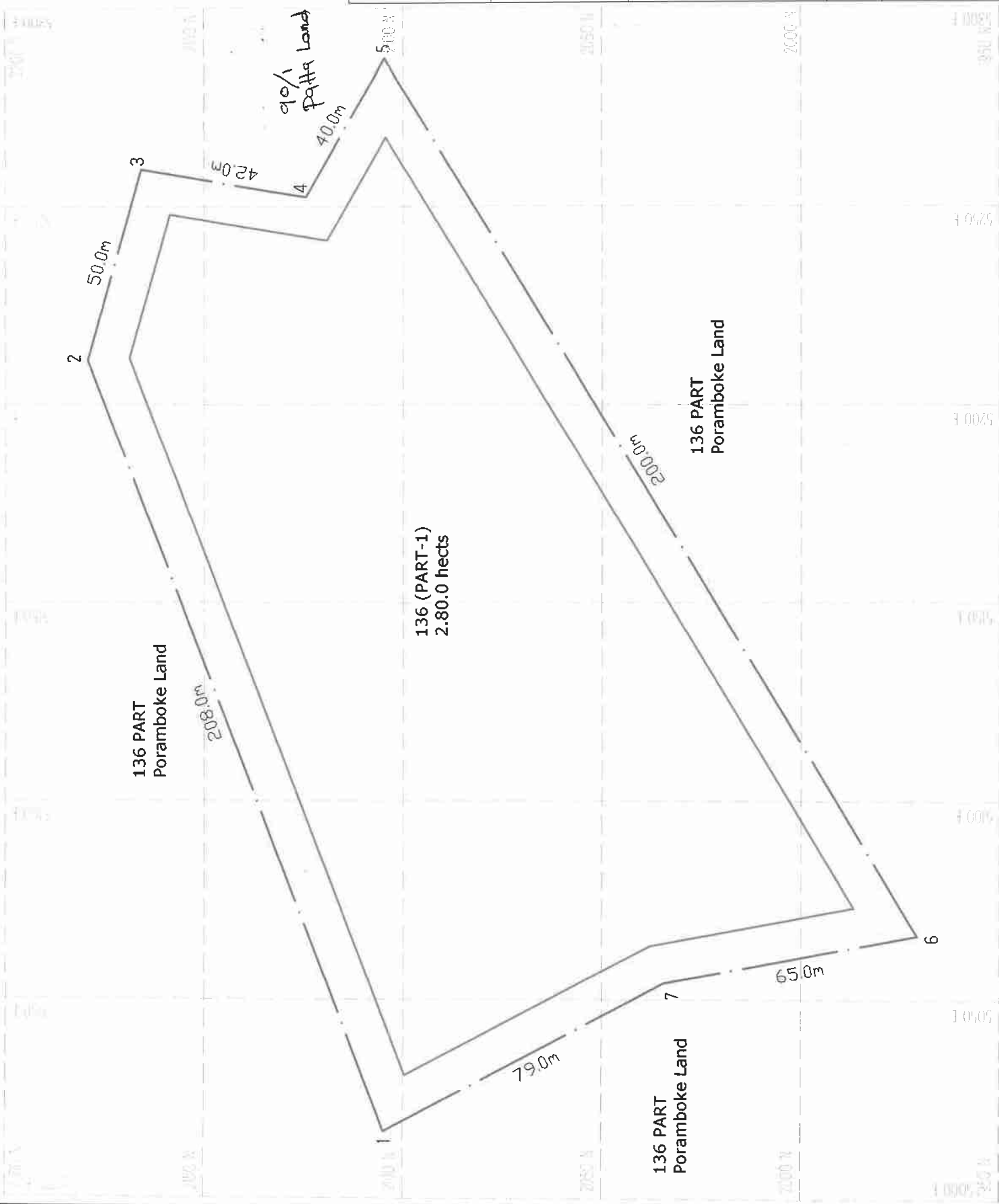
**MINE LEASE PLAN**

SCALE 1 : 1000

**Prepared By:**

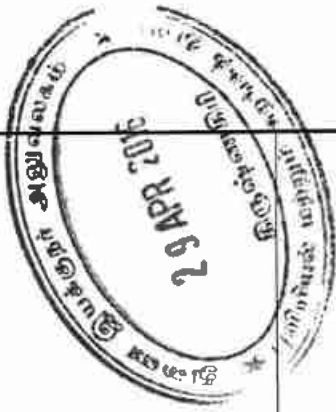
I DO HEREBY CERTIFY THAT THE PLATE  
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S. DHANASEKAR, M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A



*S. Dhanasekar*





**PLATE NO-III**

**APPLICANT:**

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

**INDEX**

- MINE LEASE BOUNDARY
- 10m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- STRIKE & DIP
- WORKING PIT
- ROUGH STONE
- SCRUB
- TOP SOIL

**SURFACE AND GEOLOGICAL PLAN**

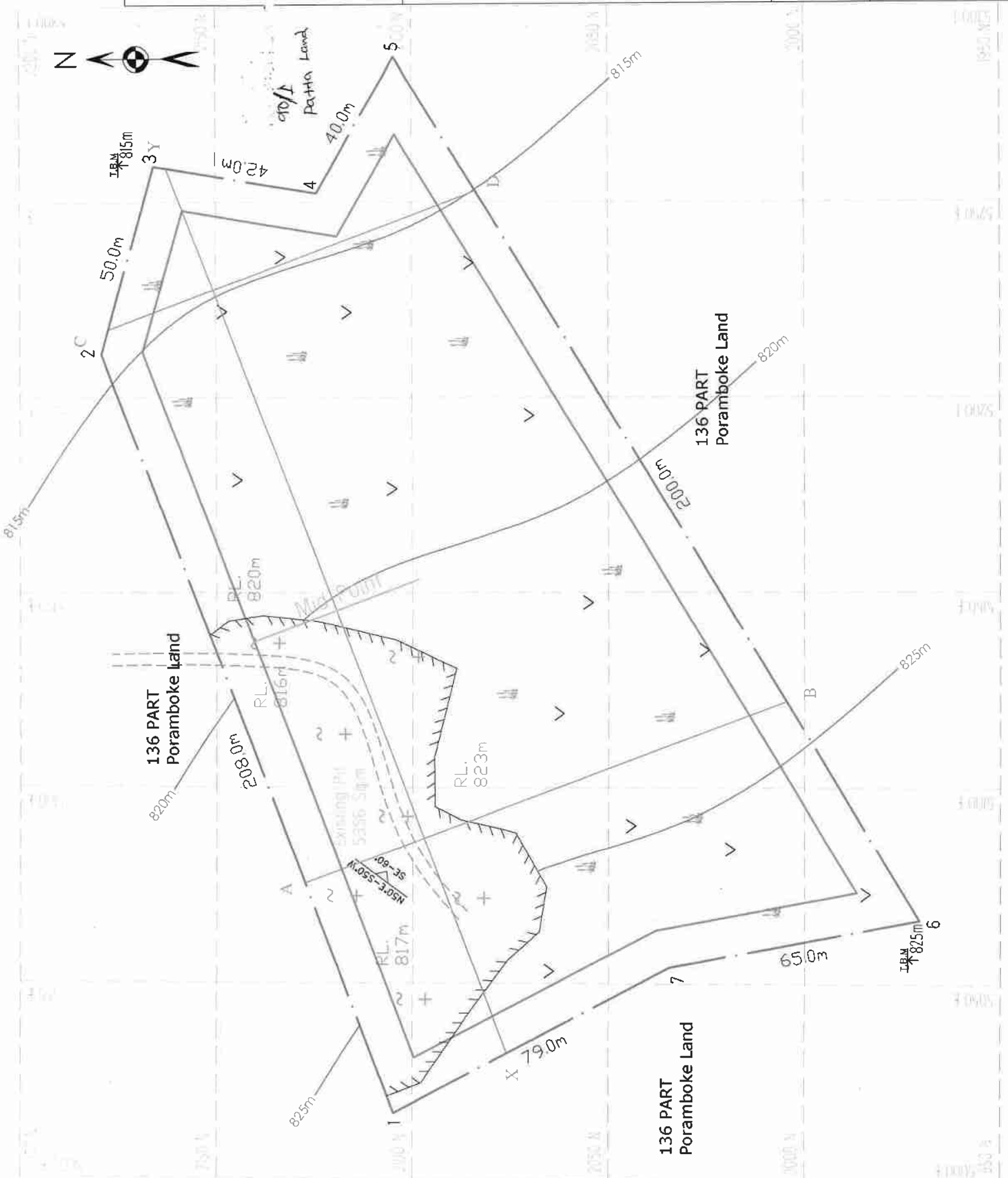
SCALE 1 : 1000

**Prepared By:**

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*S. Dhana Sekar*  
S.DHANASEKAR,M.Sc.,  
RECOGNIZED QUALIFIED PERSON

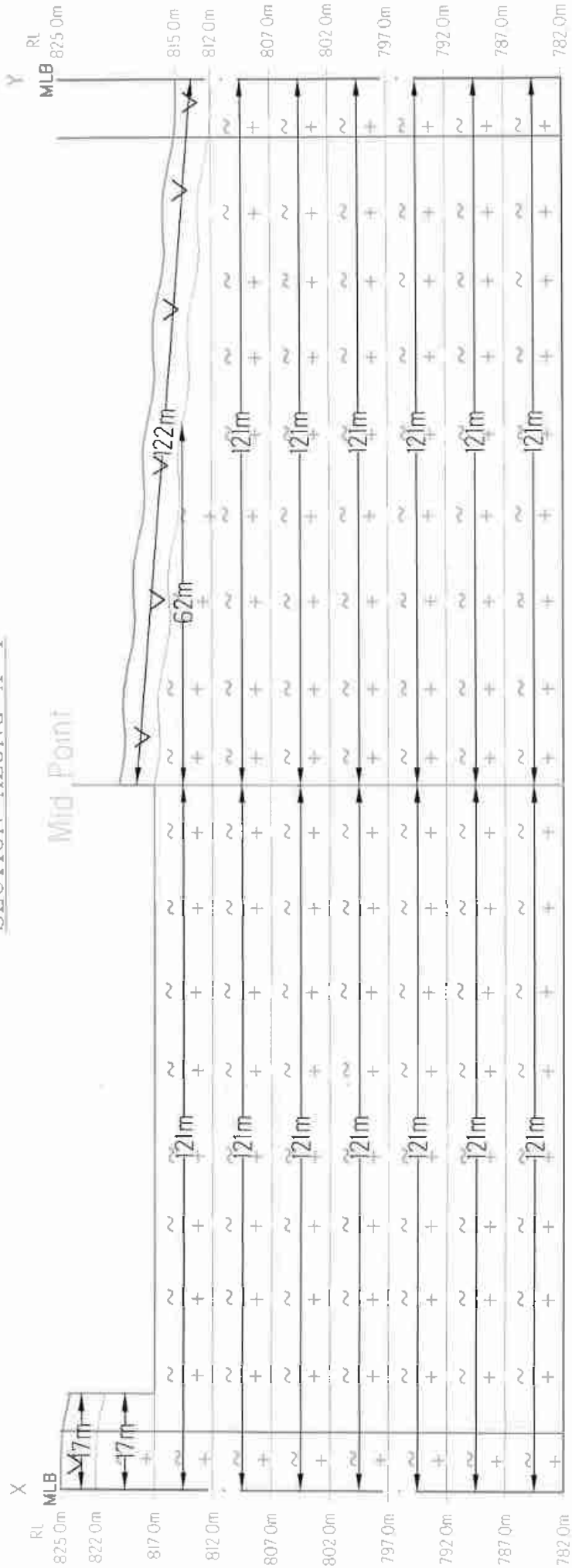
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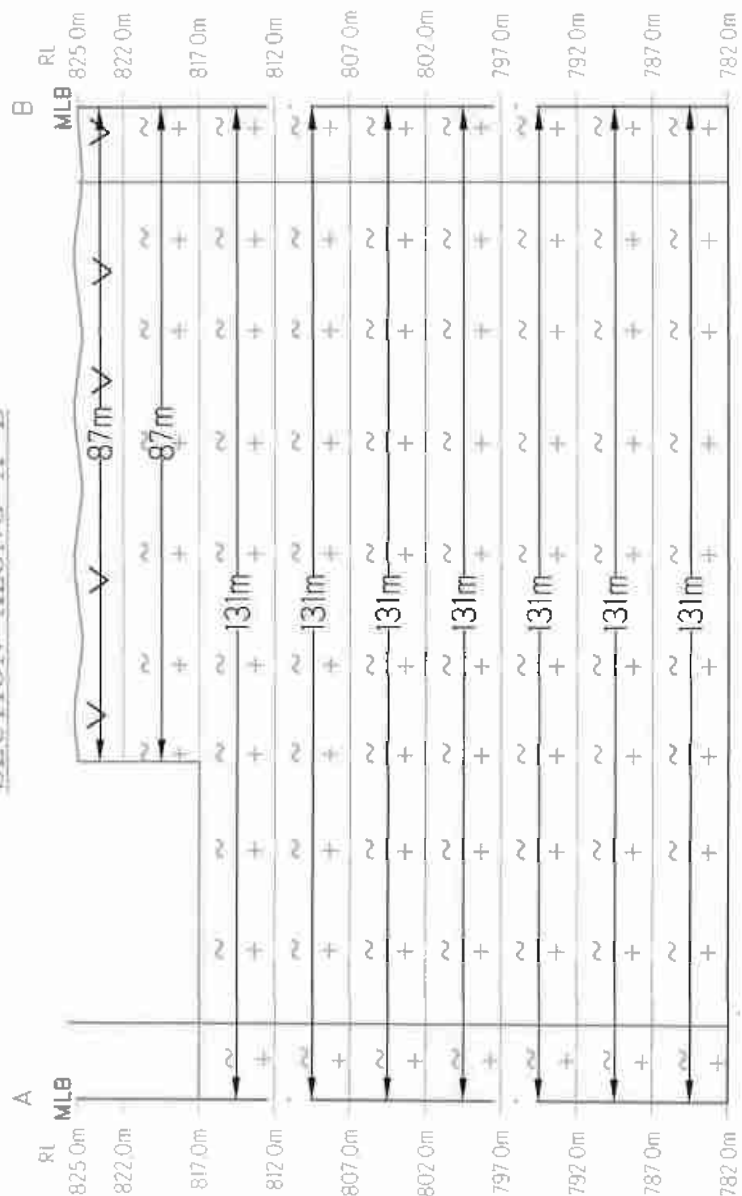
EXISTING PIT DETAILS

136 PART-I-5756 Section X-Davergins

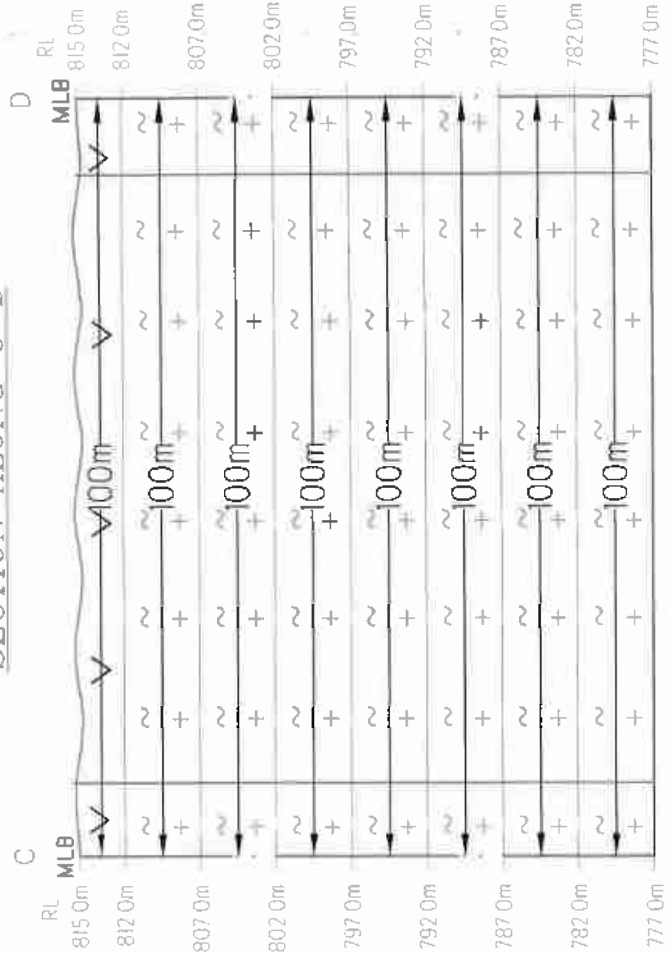
SECTION ALONG X-Y



SECTION ALONG A-B



SECTION ALONG C-D



Section	Bench	length In (m)	Width In (m)	Depth In (m)	Volume In M3	Geological Reserves In m3 @ 95%	Mine Waste In M3	Top Soil In M3
I	17	87	3	7395	7027	4437		
II	17	87	5	79255	75000	3963		
III	121	131	5	79255	75000	3963		
IV	121	131	5	79255	75000	3963		
V	121	131	5	79255	75000	3963		
VI	121	131	5	79255	75000	3963		
VII	121	131	5	79255	75000	3963		
VIII	121	131	5	79255	75000	3963		
IX	121	131	5	79255	75000	3963		
TOTAL				562180	534071	104337		
I	122	100	3	31000	29450	1550		
II	62	100	5	60500	57475	3025		
III	121	100	5	60500	57475	3025		
IV	121	100	5	60500	57475	3025		
V	121	100	5	60500	57475	3025		
VI	121	100	5	60500	57475	3025		
VII	121	100	5	60500	57475	3025		
VIII	121	100	5	60500	57475	3025		
TOTAL				394000	374300	19700	36600	
GRAND TOTAL				956180	908371	47809	43057	

PLATE NO-III-A

APPLICANT:

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

LOCATION:

S.F.NO : 136 (PART-1),  
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VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

INDEX

MINE LEASE BOUNDARY

10m SAFETY DISTANCE

ROUGH STONE

TOP SOIL

GEOLOGICAL SECTIONS

SECTION HOR 1 : 1000, VER 1 : 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE  
HAS BEEN CHECKED BY ME AND IS CORRECT  
TO THE BEST OF MY KNOWLEDGE

*S. Dhanasekar*

S.DHANASEKAR,M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A

*S. Dhanasekar*



**PLATE NO-IV**

**APPLICANT:**

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-I),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

**INDEX**

- MINE LEASE BOUNDARY
- 10m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
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- ROUGH STONE
- SCRUB
- TOP SOIL
- TREES
- MINE WASTE DUMP

**YEARWISE DEVELOPMENT & PRODUCTION PLAN**

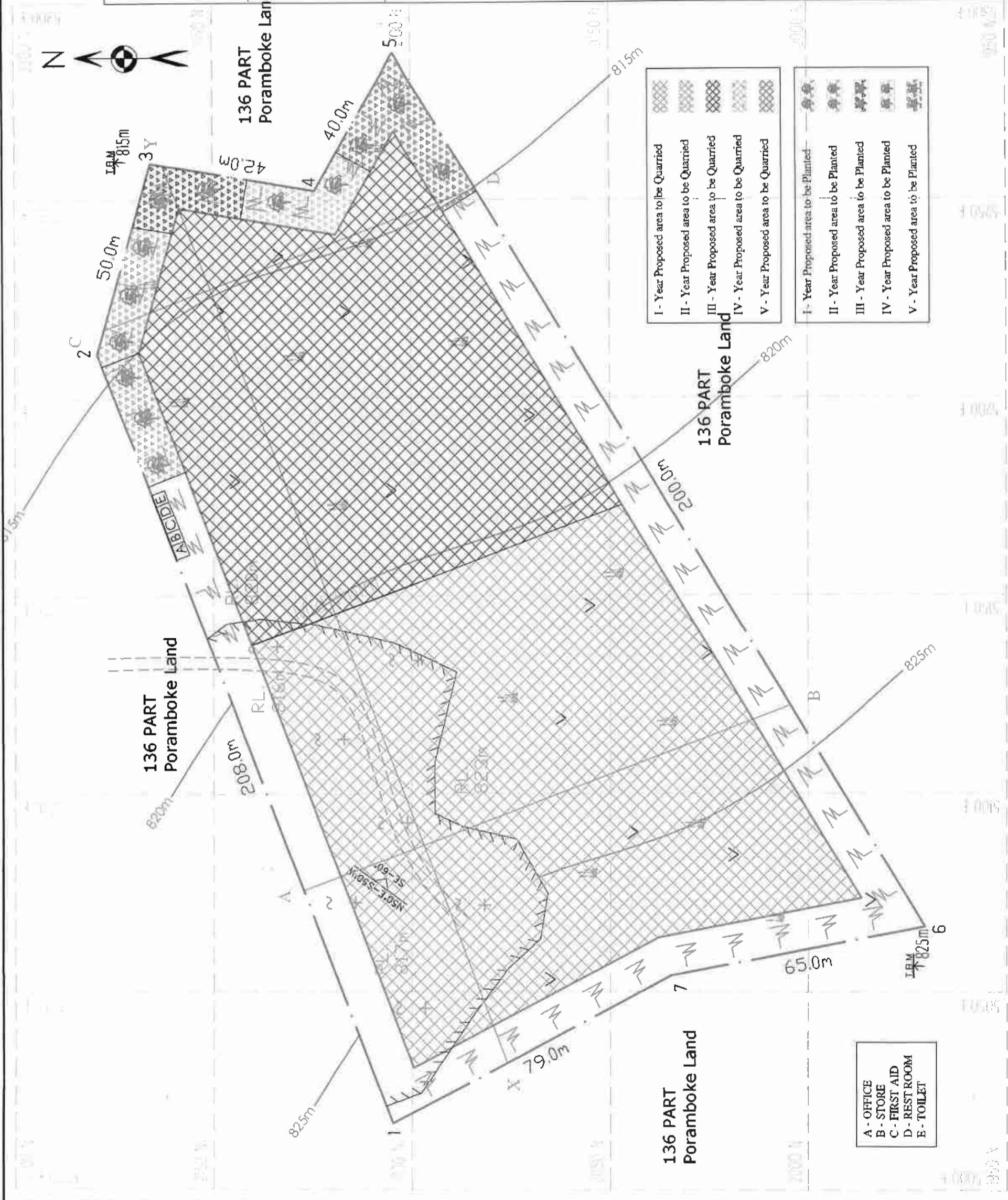
SCALE 1 : 1000

**Prepared By:**

I DO HEREBY CERTIFY THAT THE PLATE  
HAS BEEN CHECKED BY ME AND IS CORRECT  
TO THE BEST OF MY KNOWLEDGE

*S. Dhana Sekar*

S.DHANASEKAR,M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A



- I - Year Proposed area to be Quarried
- II - Year Proposed area to be Quarried
- III - Year Proposed area to be Quarried
- IV - Year Proposed area to be Quarried
- V - Year Proposed area to be Quarried
- I - Year Proposed area to be Planted
- II - Year Proposed area to be Planted
- III - Year Proposed area to be Planted
- IV - Year Proposed area to be Planted
- V - Year Proposed area to be Planted

- A - OFFICE
- B - STORE
- C - FIRST AID
- D - REST ROOM
- E - TOILET

**DUMP WASTE DETAILS**

Top Soil Dump = 24456 Cbm (3791 Sqm X 6.45m(H))  
Mine Waste Dump = 17383 Cbm (1864 Sqm X 9.32m(H))

*AS*





YEARWISE PRODUCTION									
Section	Year	Bench	length in (m)	Width in (m)	Depth in (m)	Volume In MB	Recovery Rate in %	Top Soil In m3	Waste in m3 @ 5%
XY-AB	I-Year	I	5	75	3	1480	406	1480	74
		II	4	74	5	48925	126479	48925	24462
		III	103	95	5	41650	99568	41650	2082
		IV	98	85	5	34875	8131	34875	1744
		V	93	75	5	101	77	3	3331
XY-CD	III-Year	II	62	74	5	22940	5994	22940	1147
		III	108	64	5	34560	8837	34560	1728
		VI	88	65	5	28600	7310	28600	1430
XY-AB	IV-Year	IV	103	54	5	27810	7140	27810	1390
		V	98	44	5	21560	5482	21560	1078
XY-AB	V-Year	VII	83	55	5	22825	5884	22825	1141
		VIII	78	45	5	17550	4463	17550	877
		IX	73	35	5	12775	3236	12775	638
		VI	93	34	5	15810	4020	15810	790
		VII	88	24	5	10560	2715	10560	528
XY-CD	VIII	83	14	5	5810	1452	5810	290	
<b>TOTAL</b>						<b>347730</b>	<b>89394</b>	<b>17883</b>	<b>24456</b>

**PLATE NO-IV-A**

**APPLICANT:**  
 THIRU.CHINNANA,  
 No.1-39A,  
 MACHINAICKANAPALLI VILLAGE,  
 PANCHAKSHIPURAM POST,  
 HOSUR TALUK,  
 KRISHNAGIRI DISTRICT.

**LOCATION:**  
 S.F.NO : 136 (PART-1),  
 EXTENT : 2.80.0 Ha,  
 VILLAGE : VENKATESAPURAM,  
 TALUK : HOSUR,  
 DISTRICT : KRISHNAGIRI.

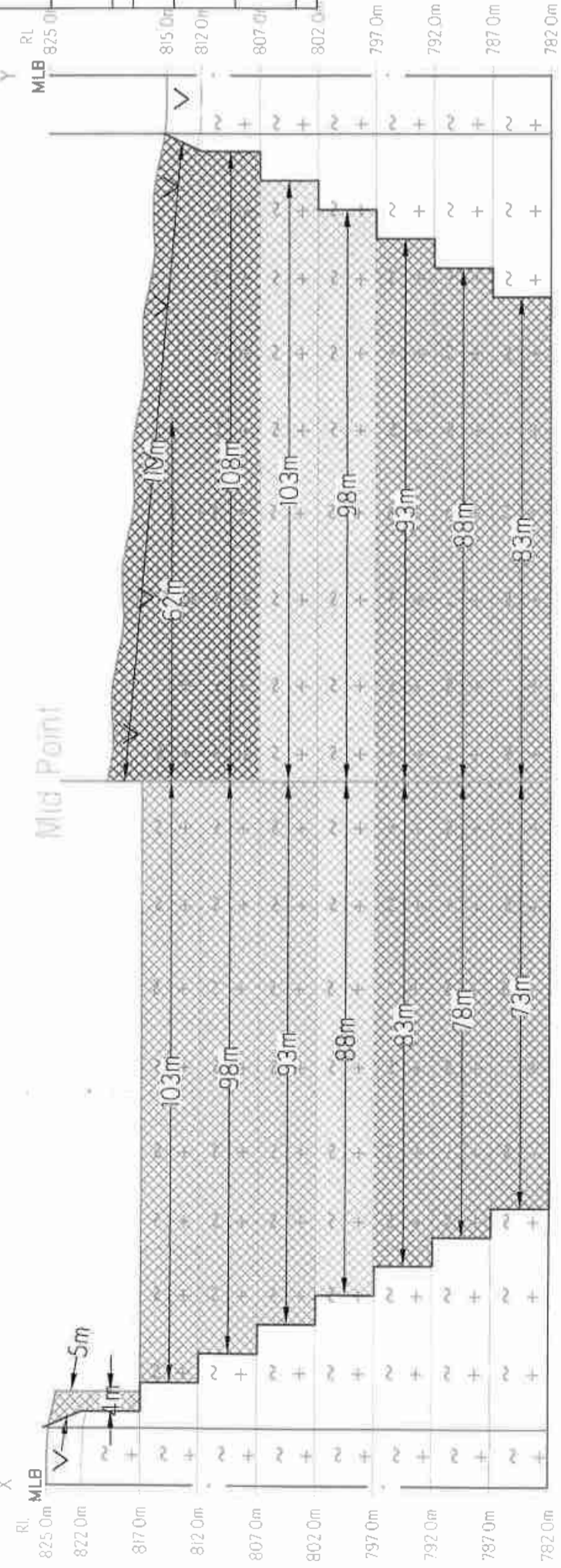
- INDEX**
- MINE LEASE BOUNDARY
  - 10m SAFETY DISTANCE
  - ROUGH STONE
  - TOP SOIL

**YEARWISE DEVELOPMENT & PRODUCTION SECTIONS**  
 SECTION HOR 1 : 1000, VER 1 : 500

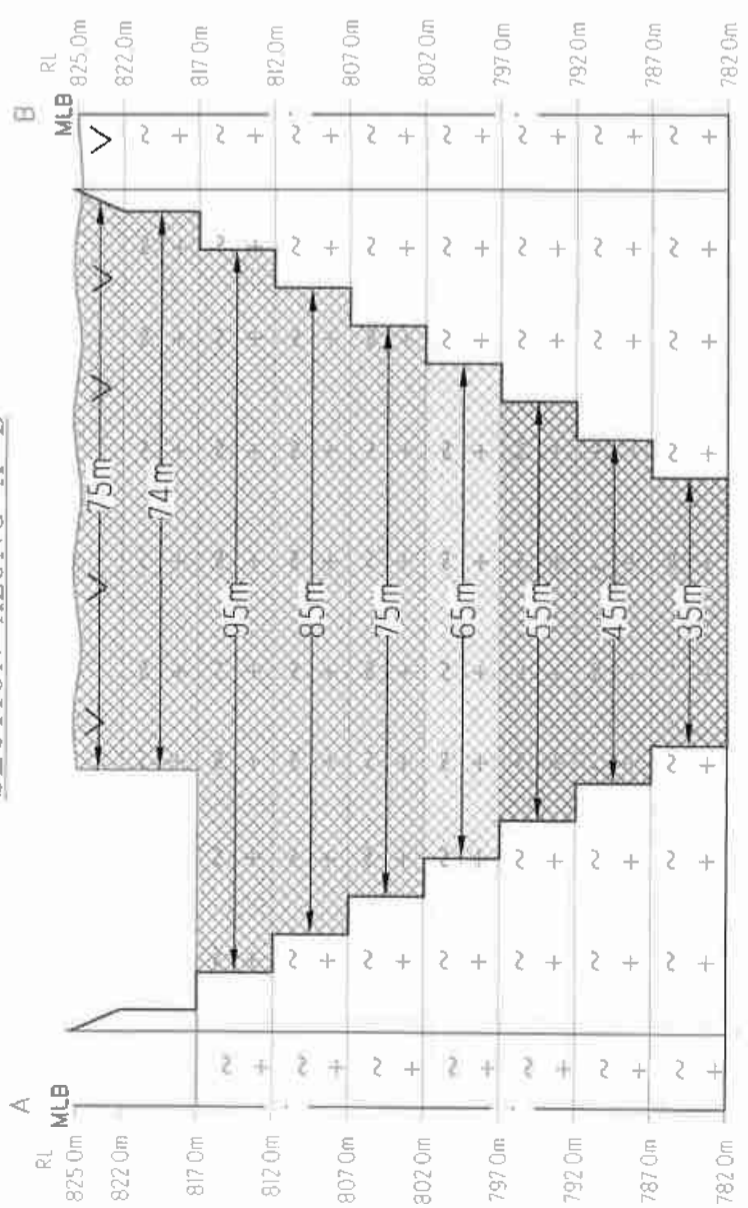
**Prepared By:**  
 I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

*S. Dhanasekar*  
 S.DHANASEKAR, M.Sc.,  
 RECOGNIZED QUALIFIED PERSON  
 RQP/MAS/225/2011/A

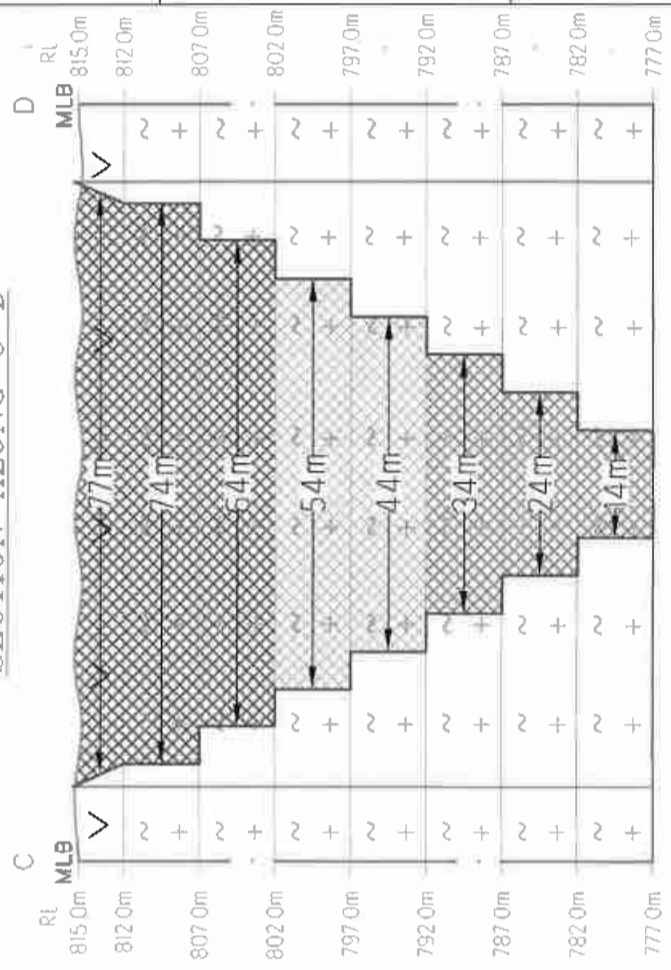
**SECTION ALONG X-Y**



**SECTION ALONG A-B**



**SECTION ALONG C-D**



*L.S. eai*



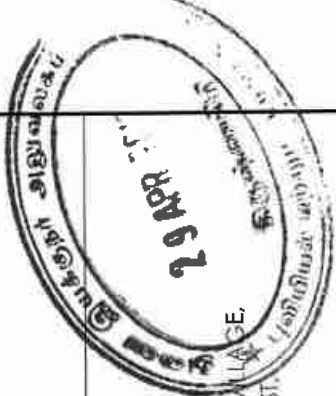


PLATE NO-V

**APPLICANT:**

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Hq.,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

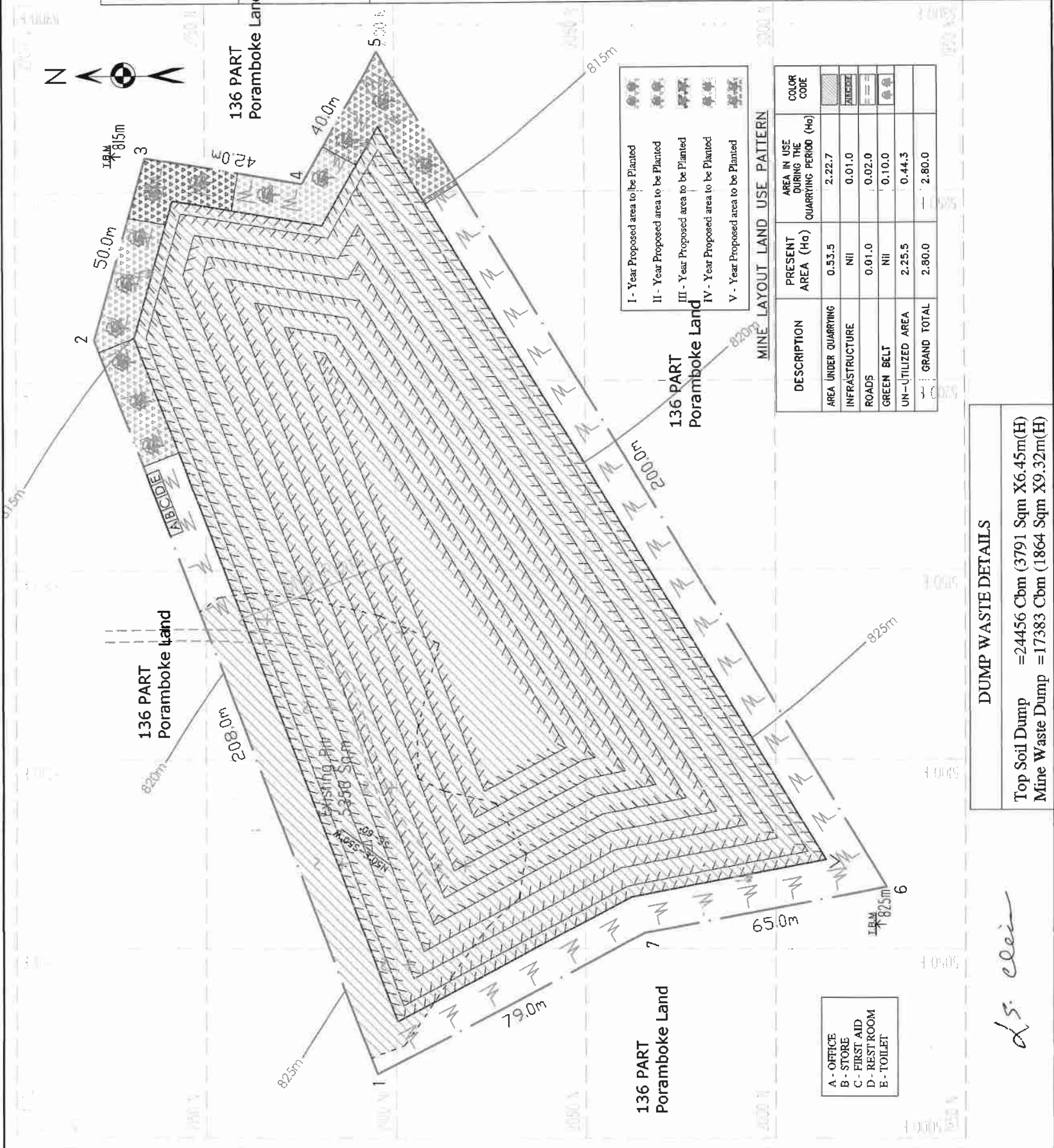
**INDEX**

- MINE LEASE BOUNDARY
- 10m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- STRIKE & DIP
- WORKING PIT
- ROUGH STONE
- SCRUB
- TOP SOIL
- TREES
- MINE WASTE DUMP

MINE LAYOUT PLAN AND  
LAND USE PATTERN  
SCALE 1 : 1000

**Prepared By:**  
I DO HEREBY CERTIFY THAT THE PLATE  
HAS BEEN CHECKED BY ME AND IS CORRECT  
TO THE BEST OF MY KNOWLEDGE

*S. Dhanasekar, M.Sc.*  
S.DHANASEKAR, M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A



**MINE LAYOUT LAND USE PATTERN**

DESCRIPTION	PRESENT AREA (Ha)	AREA IN USE DURING THE QUARRYING PERIOD (Ha)	COLOR CODE
AREA UNDER QUARRYING	0.53.5	2.22.7	[Pattern]
INFRASTRUCTURE	NII	0.01.0	[Pattern]
ROADS	0.01.0	0.02.0	[Pattern]
GREEN BELT	NII	0.10.0	[Pattern]
UN-UTILIZED AREA	2.25.5	0.44.3	[Pattern]
<b>GRAND TOTAL</b>	<b>2.80.0</b>	<b>2.80.0</b>	

**MINE LAYOUT LAND USE PATTERN**

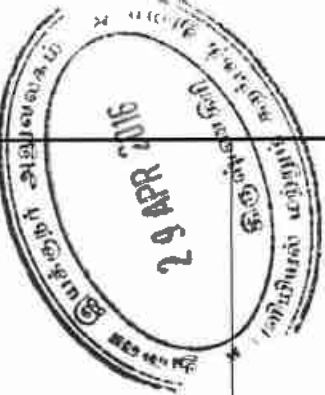
DESCRIPTION	PRESENT AREA (Ha)	AREA IN USE DURING THE QUARRYING PERIOD (Ha)	COLOR CODE
AREA UNDER QUARRYING	0.53.5	2.22.7	[Pattern]
INFRASTRUCTURE	NII	0.01.0	[Pattern]
ROADS	0.01.0	0.02.0	[Pattern]
GREEN BELT	NII	0.10.0	[Pattern]
UN-UTILIZED AREA	2.25.5	0.44.3	[Pattern]
<b>GRAND TOTAL</b>	<b>2.80.0</b>	<b>2.80.0</b>	

**DUMP WASTE DETAILS**

Top Soil Dump = 24456 Cbm (3791 Sqm X 6.45m(H))  
Mine Waste Dump = 17383 Cbm (1864 Sqm X 9.32m(H))

- A - OFFICE
- B - STORE
- C - FIRST AID
- D - RESTROOM
- E - TOILET

*S. elain*



**PLATE NO-VI**

**APPLICANT:**

THIRU.CHINNANA,  
No.1-39A,  
MACHINAICKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

**INDEX**

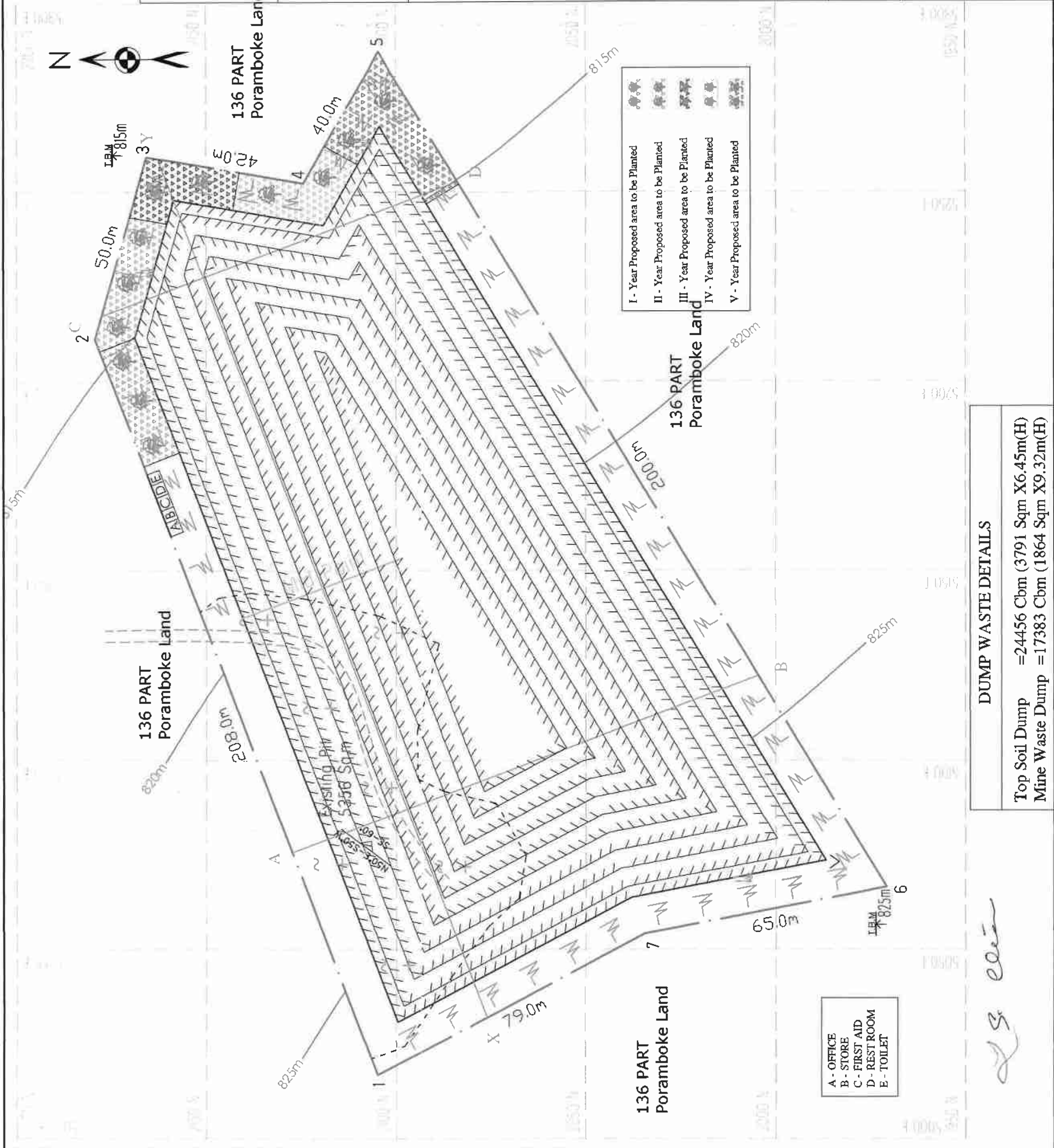
- MINE LEASE BOUNDARY
- 10m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- APPROACH ROAD
- STRIKE & DIP
- WORKING PIT
- ROUGH STONE
- SCRUB
- TOP SOIL
- TREES
- MINE WASTE DUMP

CONCEPTUAL / FINAL MINE  
CLOSURE PLAN  
SCALE 1 : 1000

**Prepared By:**

I DO HEREBY CERTIFY THAT THE PLATE  
HAS BEEN CHECKED BY ME AND IS CORRECT  
TO THE BEST OF MY KNOWLEDGE

*S. DHANASEKAR, M.Sc.,*  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A

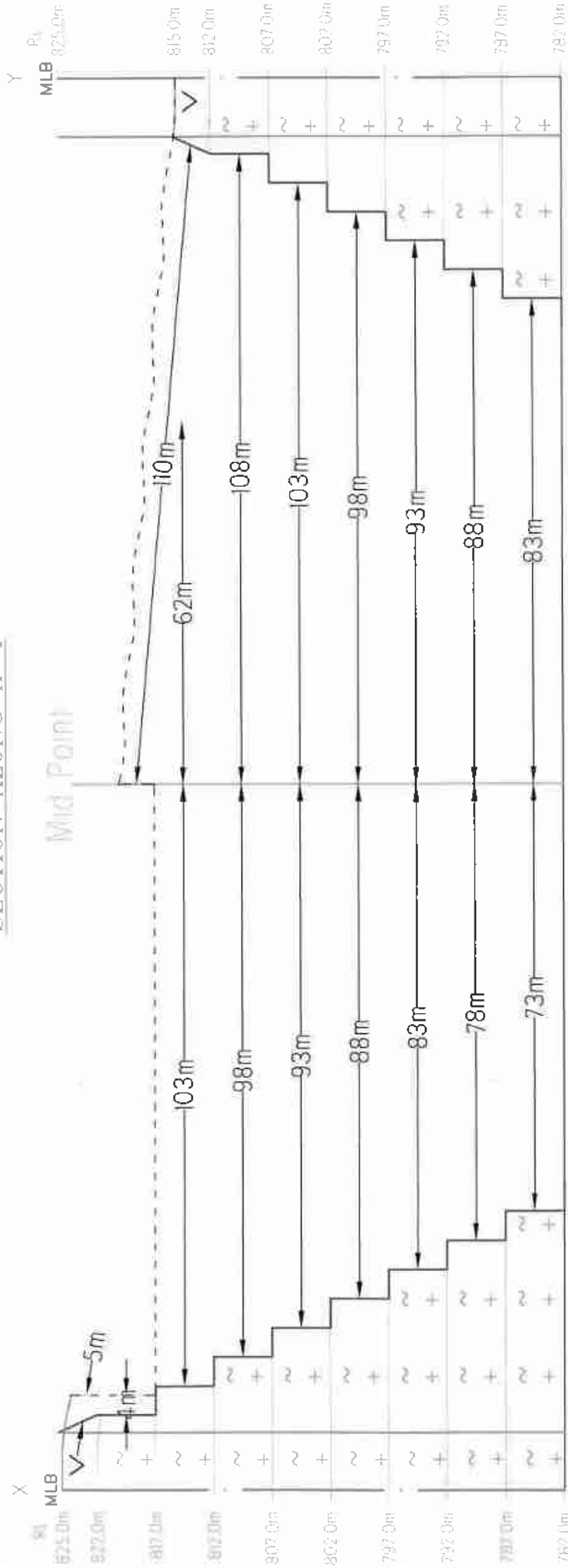


**DUMP WASTE DETAILS**

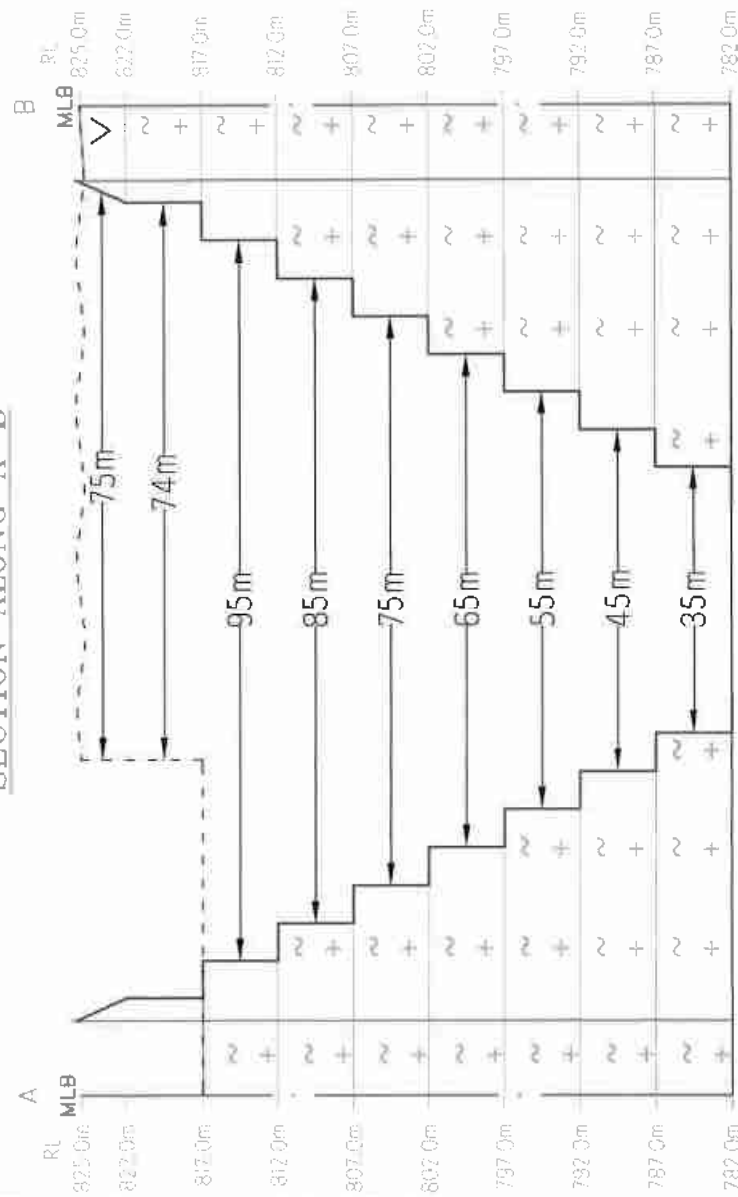
Top Soil Dump = 24456 Cbm (3791 Sqm X 6.45m(H))  
Mine Waste Dump = 17383 Cbm (1864 Sqm X 9.32m(H))

*S. Dhanasekar*

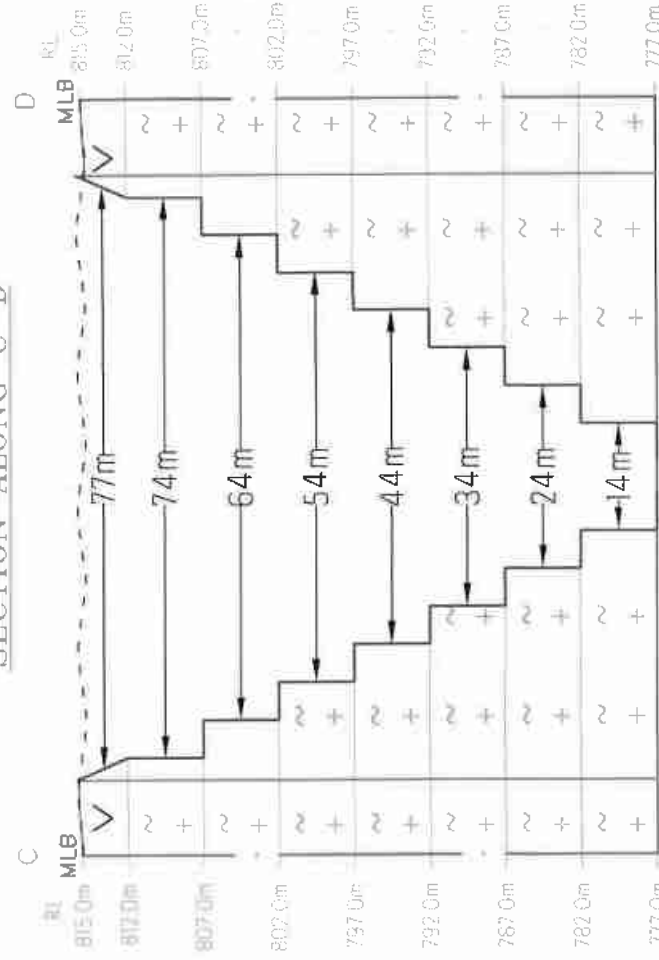
SECTION ALONG X-Y



SECTION ALONG A-B



SECTION ALONG C-D



ULTIMATE PIT DIMENSION			
Section	Bench	length in (m)	Depth in (m)
XY-AB	I	5	3
	II	4	5
	III	103	5
	IV	98	5
	V	93	5
	VI	88	5
	VII	83	5
	VIII	78	5
	IX	73	5
XY-CD	I	101	3
	II	62	5
	III	108	5
	IV	103	5
	V	98	5
	VI	93	5
	VII	88	5
	VIII	83	5
	IX	78	5

Section	Bench	length in (m)	Width in (m)	Depth in (m)	Volume in M3	MINEABLE RESERVES		
						Reserve in m3 @ 5%	Top Soil in m3	
XY-AB	I	5	75	3	1480	106		
	II	4	74	5	48925	5479		
	III	103	95	5	41650	3568	2082	
	IV	98	85	5	34875	3331	1744	
	V	88	65	5	28600	1720	1331	
	VI	83	55	5	22825	1220	1031	
	VII	78	45	5	17550	16673	877	
	VIII	73	35	5	12775	12136	638	
	IX	TOTAL			208680	10432	1125	
XY-CD	I	101	77	3	22940	21793	1147	
	II	62	74	5	34560	32832	1728	
	III	108	64	5	27810	26420	1390	
	IV	103	54	5	21560	20482	1078	
	V	98	44	5	15810	15020	790	
	VI	93	34	5	10560	10032	528	
	VII	88	24	5	5810	5520	290	
	VIII	83	14	5	13060	136309	6951	
	IX	TOTAL			347780	1981347	17383	
GRAND TOTAL						347780	1981347	23331

PLATE NO-VI-A

APPLICANT:

THIRU.CHINNANA,  
No. 1-39A,  
MACHINAIKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

LOCATION:

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

INDEX

MINE LEASE BOUNDARY

10m SAFETY DISTANCE

ROUGH STONE

TOP SOIL

CONCEPTUAL / FINAL MINE

CLOSURE SECTIONS

SECTION HOR 1 : 1000, VER 1 : 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE  
HAS BEEN CHECKED BY ME AND IS CORRECT  
TO THE BEST OF MY KNOWLEDGE

*S. Coen*

*S. Dhanasekar, M.Sc.*

S.DHANASEKAR, M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A





**PLATE NO-VII**

**APPLICANT:**

THIRU.S. CHINNANNA,  
S/O.SRINIVASAPPA,  
No.1-39A, MACHINAIKANAPALLI VILLAGE,  
PANCHAKSHIPURAM POST,  
HOSUR TALUK,  
KRISHNAGIRI DISTRICT.

**LOCATION:**

S.F.NO : 136 (PART-1),  
EXTENT : 2.80.0 Ha,  
VILLAGE : VENKATESAPURAM,  
TALUK : HOSUR,  
DISTRICT : KRISHNAGIRI.

1Km Radius :   
500m Radius :   
Mine lease Area :

TOPO SHEET NO : 57-H/14  
LATITUDE : 12°44'50.98"N to 12°44'44.25"N  
LONGITUDE: 77°56'52.76"E to 77°56'43.81"E

**INDEX**

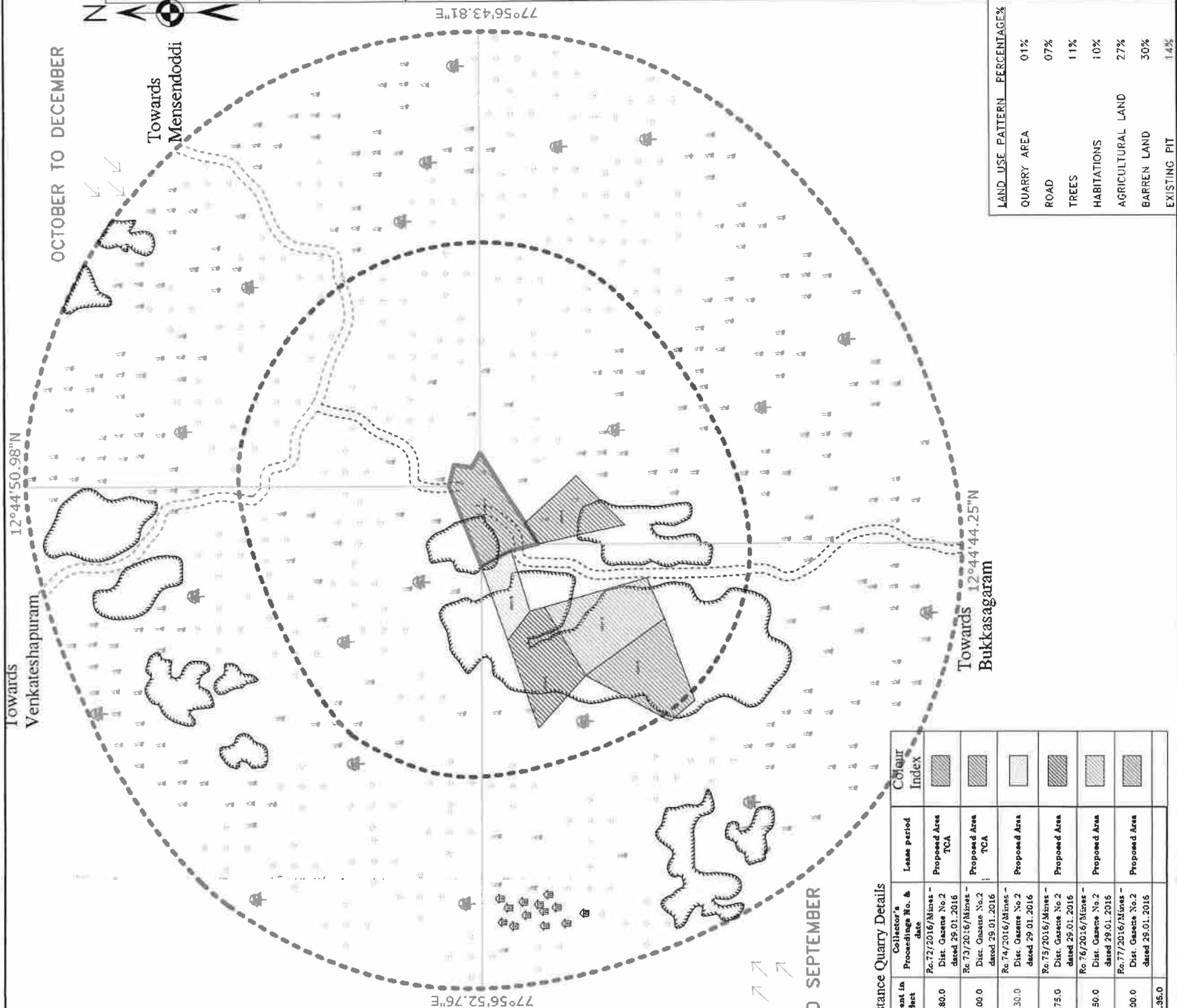
- VILLAGE ROAD
- APPROACH ROAD
- HABITATIONS
- TREES
- AGRICULTURAL LAND
- BARREN LAND
- WORKING PIT

ENVIRONMENTAL PLAN  
SCALE - 1:10,000

**Prepared By:**

I DO HEREBY CERTIFY THAT THE PLATE  
HAS BEEN CHECKED BY ME AND IS CORRECT  
TO THE BEST OF MY KNOWLEDGE

S.DHANASEKAR,M.Sc.,  
RECOGNIZED QUALIFIED PERSON  
RQP/MAS/225/2011/A



LAND USE PATTERN	PERCENTAGE%
QUARRY AREA	01%
ROAD	07%
TREES	11%
HABITATIONS	10%
AGRICULTURAL LAND	27%
BARREN LAND	30%
EXISTING PIT	14%

**500m Radius Distance Quarry Details**

Sl. No.	Name of the lessee	Village	S.F.No.	Extent in Hect	Collector's Proceeding No. & date	Lease period	Color Index
1	Thiru. Chinnanna	Venkatesapuram	136 (Part-1)	2.80.0	Re.72/2016/Mines - Dist. Gasete No.2 dated 29.01.2016	Proposed Area TCA	
2	N.Jaya prakash	Venkatesapuram	136 (Part-4)	2.00.0	Re.73/2016/Mines - Dist. Gasete No.2 dated 29.01.2016	Proposed Area TCA	
3	D.Muniraj	Venkatesapuram	136 (Part-3)	1.30.0	Re.74/2016/Mines - Dist. Gasete No.2 dated 29.01.2016	Proposed Area	
4	N.Harish	Venkatesapuram	136 (Part-6)	2.75.0	Re.75/2016/Mines - Dist. Gasete No.2 dated 29.01.2016	Proposed Area	
5	Y.Jagathish	Venkatesapuram	136 (Part-7)	3.50.0	Re.76/2016/Mines - Dist. Gasete No.2 dated 29.01.2016	Proposed Area	
6	V.Madath	Venkatesapuram	136 (Part-9)	3.00.0	Re.77/2016/Mines - Dist. Gasete No.2 dated 29.01.2016	Proposed Area	
<b>Total =</b>				<b>15.95.0</b>			

JULY TO SEPTEMBER

**ANNEXURE-VII**  
**VAO CERTIFICATE**



Thiru. S. CHINNANNA, Roughstone quarry in the S.F.No.136(Part-1) over an extent of 2.80.0ha. in Venkatesapuram Village, Sreepalli Taluk, Krishnagiri District.

**GENERAL VIEW OF THE QUARRY LEASE AREA**



*S. Chinnanna*  
(Deponent)

*[Signature]*  
(VAO)  
Village Administrative Officer  
33, VENKATESAPURAM,  
Sreepalli Tk, Krishnagiri Dt.





**ANNEXURE-VIII**  
**BLASTING CERTIFICATE**





# VISHNU EXPLOSIVES

Blasting Contractor



Office : Door No. 273-A, Keelpaiyur, Paiyur Village, Kaveripattinam, Krishnagiri Dt. Pin - 635 112.

Magazine at : SF No. 344/3B, Paiyur Village, Kaveripattinam, Krishnagiri Dt.

Cell : 98427 44073, 99655 44073, 94437 44073

*Ref:*

To

Thiru. S. Chinnanna,  
S/o. Srinivasappa,  
No.1- 39A-, Machinaickanapalli Village,  
Panchakshipuram Post,  
Hosur Taluk,  
Krishnagiri District.

Sir,

Sub: Willingness to do Explosives Blasting Works – Reg.

With respect to the above subject, we would like to introduce myself as the Explosives Blasting Contractors, for which our LICENCE NO: E/HQ/TN/22/335(E64278) & E/SC/TN/22/463(E37227) S.F.No.344/3B, Paiyur Village, Krishnagiri Taluk magazine is situated in No.273-A, Keel Paiyur Village, Kaveripattinam, Krishnagiri, Tamilnadu-635 112.

We were engaged in professional blasting contract works with all facilities and License holders to carry out blasting works in specified time and period covered under Explosives Rules, 2008.

We kindly request yourself to engage us to do Explosives Blasting Works in your proposed Rough stone Quarry situated at S.F.No: 136 (Part-1) in VenkatesapuramVillage, Hosur Taluk, Krishnagiri District over an extent of 2.80.00 hectares.

SERVING BEST AT ALL TIMES

Thanking you.

For VISHNU EXPLOSIVES,

Enclosure: Magazine License Copy.

## अनुज्ञापित प्रारूप एल. ई.-3 | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (घ) देखिए।)  
(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

(ग) उपयोग के लिए एक समय पर वर्ग 1, 2, 3, 4, 5 या वर्ग 7 के विस्फोटक या किसी मैगजीन में वर्ग 6 के विस्फोटक रखने के लिए अनुज्ञापित  
Licence to possess : (c) for use, explosives of class 1, 2, 3, 4, 5, 6 or 7 in a magazine

अनुज्ञापित सं. (Licence No.): E/SC/TN/22/463(E37227)  
वार्षिक फीस रुपए (Annual Fee Rs): 10400/-

1. Licence is hereby granted to

M/s Vishnu Explosives (अधिभोगी / Occupier : Shri G V.Sai Supramanian), Vishnu Explosives, 273-A, Keelpaiyur Village, Kaveripattinam Taluk, Town/Village - Kaveripattinam, District-KRISHNAGIRI State-Tamil Nadu, Pincode - 635112



को अनुज्ञापित अनुदत्त की जाती है।

2. अनुज्ञापितधारी की प्रास्थिति Status of licensee : Proprietorship Firm

3. अनुज्ञापित निम्नलिखित प्रयोजनों के लिए विधिमान्य है।

Licence is valid only for the following purpose

possess for use of Detonators, Slurry Explosives, Detonating Fuse, Safety Fuse, के उपयोग के लिए

4. अनुज्ञापित विस्फोटकों के निम्नलिखित किस्मों प्रकार और मात्रा के लिए विधिमान्य है।

Licence is valid for the following kinds and quantity of explosives: -- (क) (ख)

क्र. सं.	नाम और विवरण	वर्ग और प्रभाग	उप-प्रभाग	मात्रा किसी एक समय में
Sr. No.	Name and Description	Class & Division	Sub-division	Quantity at any one time
1	Slurry Explosives	2, 0	0	4500 Kg.
2	Detonating Fuse	6, 2	0	20000 Mtrs
3	Safety Fuse	6, 1	0	10000 Mtrs
4	Detonators	6, 3	0	44000 Nos.

(ख) किसी एक कतौडर मात्रा में खरीदे जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञापित के लिए)

20 times  
as above.

(b) Quantity of explosives to be purchased in a calendar month (applicable for licence under article 3(b) and (c)) :

5. निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञापित परिसर की पुष्टि होती है।  
The licensed premises shall conform to the following drawing(s):

रेखाचित्र क्र. (Drawing No.) E/SC/TN/22/463(E37227)  
दिनांक (Dated) 18/06/1990

6. अनुज्ञापित परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address

Survey No. 344/3B, ग्राम (Town/Village) : Palyur, Krishnagiri-taluk  
जिला (District) KRISHNAGIRI राज्य (State) Tamil Nadu  
दूरभाष (Phone) ई.मेल (E-Mail)

पुलिस थाना (Police Station) : Kaveripattinam  
पिनकोड (Pincode) 635112  
फैक्स (Fax)

7. अनुज्ञापित परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं।

The licensed premises consist of following facilities.

main HE magazine, lobby & detonator room

8. अनुज्ञापित समय समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उसके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपायधर्तों के अधीन रहते हुए अनुदत्त की जाती है।

The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2004 framed there under and the conditions, additional conditions and the following Annexures

1. उपर्युक्त क्रम सं. 5 में यथा कथित रेखाचित्र (स्थान, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)।

Drawings (showing site, constructional and other details) as stated in serial No 5 above

2. अनुज्ञापित प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञापित की शर्तों और अतिरिक्त शर्तों।

Conditions and Additional Conditions of this licence signed by the licensing authority.

3. दूरी प्रारूप DE-2 (Distance Form DE-2)

9. यह अनुज्ञापित तारीख 31 मार्च 1992 तक विधिमान्य रहेगी। This licence shall remain valid till 31st day of March 1992.

यह अनुज्ञापित, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 1 के प्रति निर्दिष्ट सेट-VI के अधीन तथा उपरोक्त इस अनुज्ञापित की शर्तों का अधिकरण करने या यदि अनुज्ञापित परिसर योजना या उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहत की जा सकती है, जहां वह लागू हो।

This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

तारीख The Date - 18/06/1990

संयुक्त मुख्य विस्फोटक नियंत्रक | Joint Chief Controller of Explosives  
South Circle, Chennai

## Amendments :

- Change in Postal Address dated : 11/01/2017
- Amendment of Quantity of Explosives-Monthly Purchase Limit dated : 15/01/2018
- Amendment of Quantity of Explosives-Monthly Purchase Limit dated : 15/03/2018
- Amendment in Drawings/Facilities/Premises dated : 11/10/2021
- Amendment of Quantity of Explosives-Monthly Purchase Limit dated : 11/10/2021

## Transfers :

- Change in Licensee Name/Address/Status dated : 23/08/2011
- Change in Licensee Name/Address/Status dated : 08/10/2021

नवीनीकरण के पृष्ठकन के लिए स्थान  
Space for Endorsement of Renewal

नवीकरण की तारीख  
Date of Renewal

समाप्ति की तारीख  
Date of Expiry

अनुज्ञापित प्राधिकारी के हस्ताक्षर और स्टम्प  
Signature of licensing authority and stamp

10/03/2022

31/03/2027

Controller of Explosives, Vellore  
विस्फोटक नियंत्रक, वेल््लूर  
Controller of Explosives, Vellore

S. C. C.

**ANNEXURE-IX**  
**AFFIDAVIT AND CER DETAILS**





தமிழ்நாடு தமில்நாடு TAMILNADU 23-6. 2023 / க-50 - BH 521943

S. Chinnanna  
Krishnagiri

M. K. Srinivasan  
முத்திரைத்தாள் கிழ்ப்பணியாளர்  
உரிமம் எண். 1/2003  
சுப்ரமணிய நகர் விரிவாக்கம்,  
சூரமங்கலம், சேலம்-5, தமிழ்நாடு

**AFFIDAVIT TO SEIAA, TAMIL NADU**

I, **S. Chinnanna**, S/o. Srinivasappa residing at No.1-39A, Machinaickanapalli Village, Panchakshipuram Post, Hosur Taluk, Krishnagiri District, do hereby solemnly declare and sincerely affirm that, I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone quarry over an extent of 2.80.0 Ha with Survey No. 136 (Part-1), in Venkatesapuram Village, Hosur Taluk, Krishnagiri District, Tamil Nadu.

1. I swear to state and confirm that none of the following is situated within 10km radius of the quarry site for which, i have applied for environmental clearance,
  - a. Notified Protected areas under the wild life (Protection) Act, 1972 (NBWL).
  - b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and control of Pollution) Act 1974.
  - c. Eco sensitive area as notified.
  - d. Interstate boundaries and international boundaries within 10km radius from the boundary of the proposed quarry site.



S. Chinnanna

SIGNED BEFORE ME  
G. Munusamy  
17/7/23

2. The following Corporate Environment Responsibility (CER) activities will be completed before commencement of the quarrying activities.

CER Activity	Project cost (Rs)	CER cost (Rs)
Carrying out various developmental works in the nearby region based on the need of the locals.	Rs.87,80,000/-	Rs.7,00,000/-
<b>Total cost Allocation</b>	<b>Rs.87,80,000/-</b>	<b>Rs.7,00,000/-</b>

3. Details of quarry within 500m radius from the applied area:

a. Existing Quarries						
S.No	Name of the lessee	Village & Taluk	SF.No.	Extent in Hectare	Go. No. & date	Lease Period.
1.	Thiru. Y. Jagadesh, Annaidoddi, Jigini Hobbli, Anekal Taluk, Bangalore- 560 083.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-7)	3.50.0Ha.	Rc.No:76/2016/ Mines dt:02.07.2018	13.07.2018 To 12.07.2023
2.	Thiru.Manjunaika, S/o. ShamaNaik, Sevanayakana Doddi, Ragihalli Post, Anekal Taluk, Bangalore District.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-3)	4.10.0Ha.	Rc.No:219/2018/ Mines dt:08.03.2019	08.03.2019 To 07.03.2024
3.	Thiru. P. Selvaraju, S/o. Periyasamy, No. 57-B1, Kalliyannan Nagar, kumarapalayam, Thiruchengodu, Namakkal District.	Venkatesapuram Village & Shoolagiri Taluk	86 (Part-6)	2.50.0Ha.	Rc.No:69/2016/ Mines dt:13.10.2016	17.10.2016 To 16.10.2021
4.	J. Shanmugam, S/o.Jaganathan, S.S Blue Metals, No. 4 Pillaiyar Koil Street, Marandapalli Post, Palacode Taluk, Dharmapuri District.	Venkatesapuram Village & Shoolagiri Taluk	86 (Part-7)	2.50.0Ha.	Rc.No:70/2016/ Mines dt:28.09.2016	03.10.2016 To 02.10.2026
<b>Total</b>				<b>12.60.0Ha.</b>		



SIGNED BEFORE ME

*H. Chinn*  
17/7/25

*S. Chinn*



## b. Details of Abandoned /Old Quarries

S.No	Name of the lessee	Village & Taluk	SF.No.	Extent in Hectare	Go. No. & date	Lease Period.
1.	Thiru. A.D. Mohan, S/o.Late, A.C. Devaiah, Koppa Gate, Jigani Hobli, Anekal Taluk, Bangalore, Kamataka State.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-2)	4.00.0Ha.	Rc.No:78/2012/ Mines dt:21.05.2012	13.07.2012 To 12.07.2017
2.	Thiru. V. Jayaprakash, S/o.Venkatesappa, No.488 B, Singiripalli Village, B Gurubarapalli Post, Hosur Taluk, Krishnagiri District.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-4)	2.00.0Ha.	Rc.No:73/2016/ Mines dt:08.08.2016	24.08.2016 To 23.08.2021
3.	Thiru. T. Muniraj, Koppa Village, Gigini, Aneekal Taluk, Bangalore.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-5)	1.30.0Ha.	Rc.No:74/2016/ Mines dt:08.08.2016	22.08.2016 To 21.08.2021
4.	Thiru. N. Haries Koppa Village, Gigini, Annnekal Taluk, Bangalore.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-6)	3.00.0Ha.	Rc.No:75/2016/ Mines dt:09.08.2016	24.08.2016 To 23.08.2021
5.	Thiru. V. Madesh, No. 1/271, Vannapalli Village, Mugalur Post, Hosur Taluk, Krishnagiri District.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-9)	3.00.0Ha.	Rc.No:77/2016/ Mines dt:09.08.2016	24.08.2016 To 23.08.2021

## c. Details of Proposed Quarries

S.No	Name of the lessee	Village & Taluk	SF.No.	Extent in Hectare	Go. No. & date	Lease Period.
1.	Thiru. S. Chinnanna, No.1.39 Masinaickanapalli Village, Panchatchipuram Post, Hosur Taluk, Krishnagiri District.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-1)	2.80.0	Rc.No:72/2016 / Mines dt:29.02.2016	Instant Proposal
2.	Tvl. S. V. Blue Metals, Prop V. Nagaraja, S.F.No.268/4, 5B, 6 & 7, Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-12)	2.70.0	-	Precise Area Given



SIGNED BEFORE ME

17/7/23

S. Cliv

c. Details of Proposed Quarries						
S.No	Name of the lessee	Village & Taluk	SF.No.	Extent in Hectare	Go. No. & date	Lease Period.
3.	M/s. Sri Vinayaga Enterprises, Beggli Village, Venkatesapuram, Shoolagiri TK, Krishnagiri.	Venkatesapuram Village & Shoolagiri Taluk	136 (Part-8)	2.85.0	Rc.No:1263/2018/ Mines dt:02.11.2018	Precise Area Given

c. Details of Proposed/ Applied Quarries						
S.No	Name of the lessee	Village & Taluk	SF.No.	Extent in Hectare	Go. No. & date	Lease Period.
---Nil---						

4. There will not be hindrance or disturbance to the people living on enrooted/ nearby my quarry site while transporting the mineral and due to quarrying activities.
5. There is no approved habitation within 300m radius from the periphery of my applied quarry.
6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
7. Insurance coverage will be arranged for the laborers working in my quarry site.
8. The existing road from the main road to quarry is in good condition and the same will be maintained and utilized for Transportation of Rough Stone.
9. I will not engage any child labor in my quarry site and I am aware that engaging child labor is punishable under the law.
10. All types of safety / protective equipment will be provided and used by all the laborers working in my quarry.
11. No permanent structures, temple etc., are located within 500m radius from the periphery of my quarry.

I ensure to do the social and Environment commitment as mentioned in the Mining plan to the best of my knowledge.



SIGNED BEFORE ME

*G. Chinnanna*  
17/7/23

*S. Chinnanna*

**S. Chinnanna**  
(Deponent)

SIGNED BEFORE ME

**G. MUNUSAMY, M.A., B.L.,**  
ADVOCATE ENo:Ms.624/2002  
Notary Public / GOI / R.No: 017562  
229/4, New Ambedkar Nagar,  
Jagir Reddipatty, SALEM-636 302.  
Cell: 94432 55122  
munusamyadvsim@gmail.com

**ANNEXURE- X**  
**NABET CERTIFICATE**





QUALITY COUNCIL  
OF INDIA  
Creating an Ecosystem for Quality



## National Accreditation Board for Education and Training



### Certificate of Accreditation

#### Eco Tech Labs Pvt Ltd.,

48, 2nd Main Road, Ram Nagar South Extension, Pallikaranai, Chennai- 600100, T.N.

The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –

S. No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals - including Open cast only	1	1 (a) (i)	B
2	Thermal power plants	4	1(d)	A
3	Coal washeries	6	2 (a)	B
4	Metallurgical industries - Ferrous only	8	3 (a)	B
5	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	21	5 (f)	A
6	Airports	29	7 (a)	A
7	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	A
8	Building and construction projects	38	8 (a)	B
9	Townships and Area development projects	39	8 (b)	B

**Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated Apr. 20, 2021 and supplementary minutes dated Oct.19, 2021 posted on QCI-NABET website**

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACO/22/2217 dated Jan. 19, 2022. The accreditation needs to be renewed before the expiry date by Eco Tech Labs Pvt. Ltd., Chennai following due process of assessment.

# NABET

Sr. Director, NABET  
Dated: Jan. 19, 2022

Certificate No.  
NABET/EIA/2124/SA 0147

Valid up to  
Sep. 15, 2023

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.





QCI/NABET/ENV/ACO/24/3167

March 07, 2024

To,

**Eco Tech Labs Pvt Ltd.,**  
48, 2nd main road, Ram Nagar South Extn,  
Pallikaranai, Chennai-600100, Tamil Nadu  
(**Kind Attention:** Mr. A Dhamodharan)

**Sub.:** Extension of Validity of Accreditation till June 06, 2024– regarding  
**Ref.:** 1. Certificate no. NABET/EIA/2124/SA 0147  
2. Request e-mail dated March 02, 2024

Dear Sir,

This has reference to the Accreditation of your organization under the QCI-NABET EIA Scheme and your request email dated March 02, 2024. It is to inform your good self that the validity of **Eco Tech Labs Pvt Ltd.**, is hereby extended till **June 06, 2024**, or the completion of the accreditation process, whichever is earlier.

2. The above extension is subject to the submission of required documents/information concerning your existing application, timely submission/closure of NC/Obs (if any), and applicable fee (pending if any) during the application process.
3. You are requested not to use this letter after the expiry of the above-stated date.

With best regards.

**(A K Jha)**  
Senior Director  
QCI-NABET