

Application Form (Draft EIA Report)

For

Rough stone Quarry – 2.30.0 Ha

at

S.F.No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri
Taluk, Krishnagiri District, Tamilnadu State

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

Category of the Project: B1 Cluster Mining

Baseline Period: January - March 2022

*Environmental Consultant
& Laboratory details:*

Ecotech Labs Pvt Ltd,



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

Proponent details:

Thiru V. Sekar

S/o.Venkatesappa,

D.No.4/165/B,

Karukondapalli Village,

Bayaramangalam Post

Denkanikottai Taluk,

Krishnagiri - 635 113.

Mob: No: 9843333943.

Date:

From

Thiru V. Sekar
S/o.Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post
Denkanikottai Taluk,
Krishnagiri - 635 113.

To

The District Environmental Engineer

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

Sir,

Sub: Request to conduct Public Hearing – Environmental Clearance for the Thiru.V Sekar Rough Stone Quarry over an extent of 2.30.0 Ha at S.F.No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State – Regarding.

Ref: Letter No. SEIAA-TN/F. No. 8801/SEAC/ToR-1324/2023 Dated: 09.02.2023

With Reference to the above subject, I, Thiru.V Sekar propose to establish Rough Stone Quarry over an extent of 2.30.0 Ha at S.F.No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State.

In this regard, we had obtained the Terms of Reference (ToR) from State Environmental Impact Assessment Authority (SEIAA), Tamil Nadu for conducting EIA studies vide letter cited in reference. Further, we have prepared the draft EIA report complying with all the conditions imposed in the TOR issued.

We herewith submitting hard & soft copies of Draft EIA Report, Executive Summaries (English & Tamil) along with necessary enclosures towards conducting public hearing for the Thiru.V Sekar Rough Stone Quarry over an extent of 2.30.0 Ha at S.F.No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State.

We have also enclosed a Demand Draft for Rs. _____ /- vide DD No _____ dated _____ as initial Public Hearing fee and agree to pay the difference amount in the publication cost.

We kindly request the TNPCB to make the necessary arrangements for conducting the Public hearing for the Rough stone Quarry.

Thanking you

Yours Sincerely

Authorized Signatory

Enclosures: Draft EIA report

Thiru V. Sekar
S/o.Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post
Denkanikottai Taluk,
Krishnagiri - 635 113.
Mob: No: 9843333943.

UNDERTAKING

I, Thiru V Sekar, undertaking that the Draft Environmental Impact Assessment (EIA) Report for Rough Stone Quarry over an extent of 2.30.0 Ha at S.F.No. 270 (Part-1) of 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. 8801/SEAC/ToR-1324/2023 Dated: 09.02.2023

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.

Place: Krishnagiri

Date:

Yours faithfully

Thiru. V Sekar

Plot No.48A, 2nd Main Road,
Ram Nagar, South Extension,
Palikkaranal, Chennai - 600 100
GST NO. 33AADCE8103A2ZHF
PAN NO. AADCE8103A



Eco Tech Labs Pvt Ltd

Cell No. 98400 87542
Email : info@ecotechlabs.in
Website : www.ecotechlabs.in
CIN : U74900TN2014PTTC054895

UNDERTAKING

I, Dr. A. Dhamodharan, Managing Director confirms that this Draft EIA Report of Rough Stone Quarry over an extent of 2.30.0 Ha at S.F.No. 270 (Part-1) 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 misleading 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

Date:

Place: Chennai

Project	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
Project Proponent	<i>Thiru.V. Sekar</i>	
Project Location	<i>Venkatesapuram village, Shoolagiri taluk, Krishnagiri district</i>	

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<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri taluk, Krishnagiri district</i>	

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

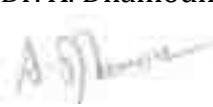

SC- Soil conservation

Project	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	Draft EIA Report
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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.V. Sekar over an extent of 2.30.0 Ha is situated at S.F.Nos. 270 (Part-1), Venkatesapuram village, Shoologiri taluk, Krishnagiri district, Tamil Nadu State.


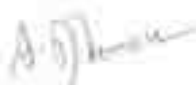
I, hereby certify that I was a part of the EIA team in the following capacity that developed the above EIA.

Project	Rough Stone Quarry-2.30.0 Ha
Type & Category	1 (a) Mining of Minerals
Project Proponent	Thiru.V. Sekar
Environment Consultant with their Accreditation Status	M/s. Eco Tech Labs Pvt. Ltd., QCI Accredited
NABET Certificate No.	NABET/ EIA/2124/ SA 0147
EIA Coordinator Name	Dr. A. Dhamodharan (Mining of Minerals)
Signature	
Period of Involvement	 January 2022 – Till now
Contact Information	M/s. Eco Tech Labs Pvt. Ltd. No. 48, 2nd Main Road, Ram Nagar South Extension Pallikaranai, Chennai - 600 100 Mobile: +91 9789906200 E-mail: dhamo@ecotechlabs.in

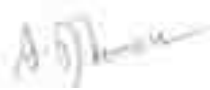

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Functional Area Experts




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 expert/s	Involvement (Period and task)	Signature and date
1	AP	Mrs. K. Vijayalakshmi	Selection of Baseline Monitoring stations based on the wind direction, Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area. Identification of sources of air pollution and suggesting mitigation measures to minimize impact.	
2	WP	Dr. A. Dhamodharan	Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface to be studied, Preparing water balance for the project based on the anticipated occupancy load. Interpretation of baseline data collected, Identification of impacts based on the baseline.	






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3	SHW	Dr. A. Dhamodharan	Identification of nature of solid waste generated, 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, Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated.	
4	SE	Mr. S. Pandian	Primary data collection through the census questionnaire, Secondary data interpretation from authenticated sources, Impact assessment & proposing suitable mitigation plan. CSR budget allocation	

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5	EB	Dr. A. Dhamodharan	Primary data collection through field survey and sheet observation for ecology and biodiversity, Secondary Collection through various authenticated sources, Prediction of anticipated impacts and suggesting appropriate mitigation measures.	
6	HG	Dr. T. P. Natesan	Field survey for assessing regional and local geology, aquifer distribution, water resource evaluation, change in ground water level throughout the year. Determination of groundwater use pattern, development of rainwater harvesting program, estimation of ground water direction.	
7	GEO	Dr. T. P. Natesan	Field survey for assessing regional and local geology, aquifer distribution. Determination of groundwater use pattern, development of rainwater harvesting program.	

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8	SC	Dr. A. Dhamodharan	Interpretation of baseline report, Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures.	
9	AQ	Mrs. K. Vijayalakshmi	Collection of Meteorological data for the baseline study period, Plotting wind rose diagram and thereby selecting the monitoring locations based on the wind pattern, estimation of sources of air emissions and air quality modeling is done. Interpretation of the results obtained, Identification of the impacts and suggesting suitable mitigation measures.	
10	NV	Mrs. K. Vijayalakshmi	1. Selection of monitoring locations 2. Interpretation of baseline data 3. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures	
11	LU	Dr. T. P. Natesan	Preparation of land use, land cover maps for the study area using satellite imagery.	
12	RH	Mrs. K. Vijayalakshmi	1. Identification of the risk 2. Interpreting consequence contours 3. Suggesting risk mitigation measures	

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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.Nos. 270 (Part-1), 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: NABET/EIA/2124/SA 0147

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri taluk, Krishnagiri district</i>	

EXECUTIVE SUMMARY

1. Project Background:

The Proposed project is a quarrying of Rough Stone with a total extent area is 2.30.0 Ha, It is a Government Poramboke Land in Venkatesapuram village, Shoolagiri taluk, Krishnagiri district. It is a proposed Rough Stone quarry. The. The category of the project is B1 (cluster), the lease area exhibits Undulated area gently sloping towards South Eastern side covered with Rough Stone.

The quarry operation is proposed to carry out with conventional Opencast – semi mechanised method with 5.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

The quarry operation is proposed up to depth of 51m (2.0m Topsoil + 49.0m Rough Stone) Surface Ground Level Above-10m and Surface Ground Level Below - 41m for the period of (Five) 5 Years only. Geological Resources is estimated at 9,51,601 m³ of Rough stone up to a depth of 51.0m (Max). The Mineable Reserves is 4,97506 m³ of Rough Stone up-to the depth of 51.0 meters. Production Schedule is proposed an average production of 99,501m³ of Rough Stone for the period of five years. The fresh Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Roc No.81/2016/Mines-1 dated: 25.04.2016 for a period of 2016-2017 to 2020-2021. Accordingly, the Lessee had obtained Environmental Clearance from SEIAA-TN vide Lr. No. SEIAA- TN/F.No.5355/1(a)/EC.No:3269/2016 dated 09.07.2016. The Mining Lease was granted in Rc.No.81/2016/Mines dated:09.08.2016 for the period of Ten years. The lease deed was executed on 24.08.2016. The lease will expire on 23.08.2026. Hence, Scheme of Mining is prepared and the same was approved by Geology and Mining department of Krishnagiri district letter vide no.Roc.No:668/2021 dated: 23.04.2021. The project area does not fall in Hill Area Conservation Authority region. There is no interstate boundary, CRZ zone, Western Ghats, notified Bird sanctuaries, wild life sanctuaries as per Wild life protection Act 1972, within the radius of 15Km.

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram village, Shoolagiri taluk, Krishnagiri district	

PRESENT QUARRY ACTIVITY

The Quarrying activity has been proposed for Rough Stone in Government Poramboke Land S.F.Nos. 270 (Part-1) over an extent of 2.30.0 Ha in Venkatesapuram village, Shoolagiri taluk, Krishnagiri district.

The fresh Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Roc No.81/2016/Mines-1 dated: 25.04.2016 for a period of 2016-2017 to 2020-2021. Accordingly, the Lessee had obtained Environmental Clearance from SEIAA-TN vide Lr. No. SEIAA- TN/F.No.5355/1(a)/EC.No:3269/2016 dated 09.07.2016.

The Mining Lease was granted in Rc.No.81/2016/Mines dated:09.08.2016 for the period of Ten years. The lease deed was executed on 24.08.2016. The lease will expire on 23.08.2026.

Hence, Scheme of Mining is prepared and the same was approved by Geology and Mining department of Krishnagiri district letter vide no.Roc.No:668/2021 dated: 23.04.2021.

The mining operations are done by opencast mechanized methods with jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.

2. Nature & Size of the Project

The Rough Stone Quarry over an extent of 2.30.0 Ha land is located at Venkatesapuram Village of Shoolagiri Taluk, Krishnagiri District.

Mineral intends to quarry	: Rough stone
District	: Krishnagiri
Taluk	: Shoolagiri
Village	: Venkatesapuram
S. F. Nos.	: 270(Part-1)
Extent	: 2.30.0 Ha

Table 1: Brief Description of the Project

S. No	Particulars	Details
1	Latitude	Latitude : N 12 ° 43' 58.7014" to N 12 ° 44' 3.1722"
2	Longitude	Longitude : E 77° 56' 12.8213" to E 77° 56' 8.3746"
3	Site Elevation above MSL	826 m MSL
4	Topography	Undulated
5	Land use of the site	Government Poramboke Land

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6	Extent of lease area	2.30.0 Ha
7	Nearest highway	NH 7/NH 44 (Bangalore – Madurai Road) – 5km, SW
8	Nearest railway station	Hosur Railway Station – 13.0 km, W
9	Nearest airport	Chennai Airport – 260km, E
10	Nearest town / city	Town - Shoolagiri - 10 Km -SE City - Krishnagiri – 38km, SE District - Krishnagiri - 38 Km - SE
11	Rivers / Canal / Dam	<ul style="list-style-type: none"> • Ponnaiyar River – 4km - W
12	Lake	<ul style="list-style-type: none"> ❖ Muthali lake – 4.68 km NNW ❖ Pedakulla Lake – 4.53 km, NW ❖ Kasavugattu Lake – 8.38km, W ❖ Tippalam Lake – 7.88km, W ❖ Kamandoddi Lake – 5km, S ❖ Old Lake – 5.92km, S ❖ Konerapalli lake – 7.12km, SSE ❖ Chapadi lake – 7.99km, SSE ❖ Kalavarapalli Reservoir – 7.98km, SW
13	Hills / valleys	Nil in 15 km radius
14	Archaeologically places	Nil in 15 km radius
15	National parks / Wildlife Sanctuaries	Nil in 15 Km radius
16	Reserved / Protected Forests	<ul style="list-style-type: none"> • Sanamavu Reserve Forest – 5.64km, S
17	Seismicity	Proposed Lease area come under Seismic zone-II (low risk area)
18	Defense Installations	Nil in 15 Km radius

3. Need for the Project

- ❖ The 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.

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- ❖ After quarrying the entire reserves mined out, the area will be used as water reservoir to have an artificial recharge to the nearby wells.
- ❖ No damage to the land is caused, no reclamation or back filling is required.

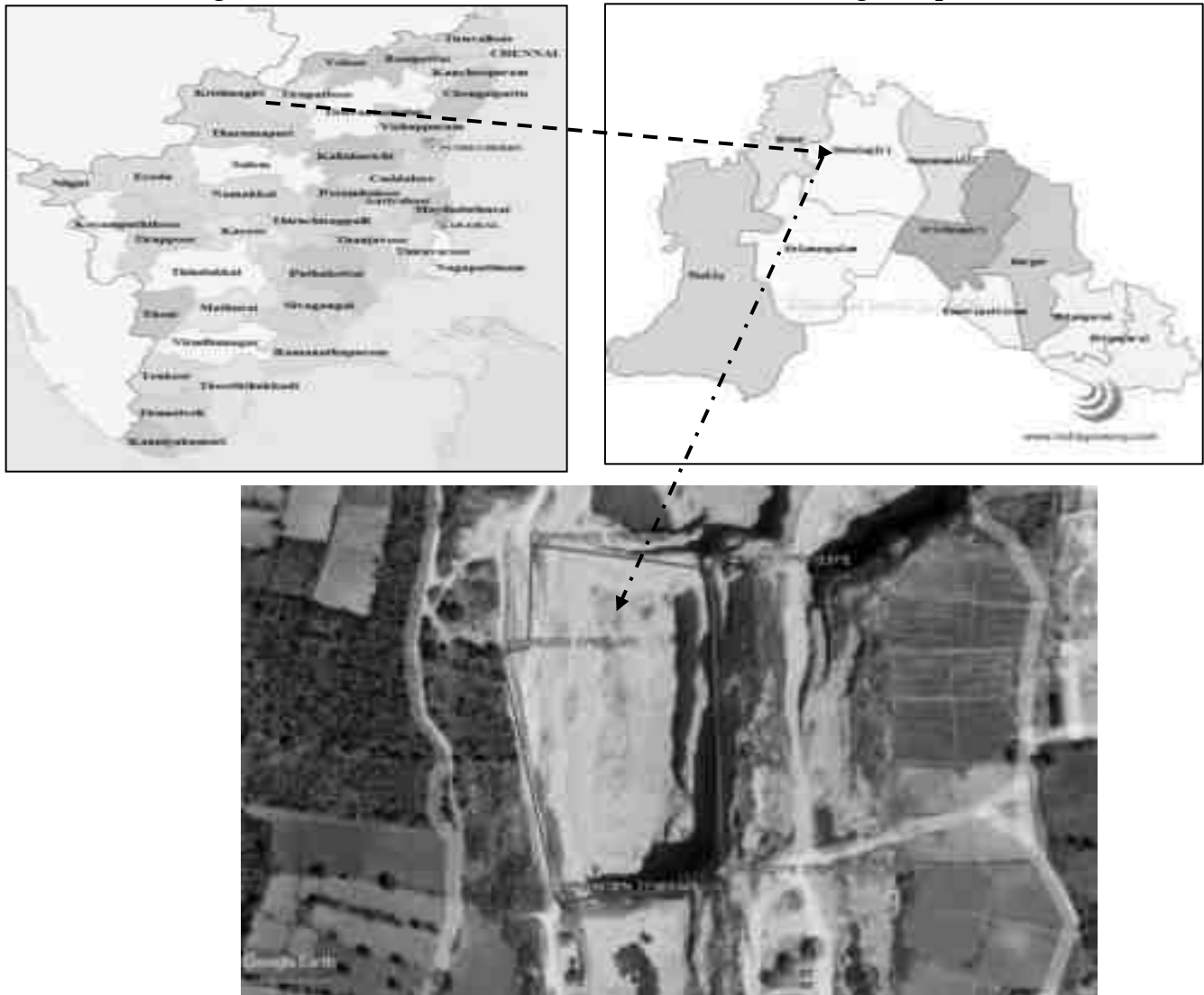


Figure 1: Location Map of the Project Site

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Figure 2: Google Image of the Project Site

4. Charnockite

Krishnagiri District is comprised of Archaean peninsular gneisses such as Charnockites, Hornblende gneisses, Biotite gneisses and migmatites, dolerites and are intruded by younger formations like pegmatite

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

5. Geological Resources

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

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Table 2. Geological resources

GEOLOGICAL RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Geological Reserves in m3 (100%)	Top Soil in m3
XY-AB	I	13	48	2			1248
	II	22	66	7	10164	10164	
	III	107	127	7	95123	95123	
	IV	107	127	7	95123	95123	
	V	107	127	7	95123	95123	
	VI	107	127	7	95123	95123	
	VII	107	127	7	95123	95123	
	VIII	107	127	7	95123	95123	
Total=					580902	580902	1248
XY-CD	I	12	29	2			696
	II	14	29	4	1624	1624	
	III	91	111	7	70707	70707	
	IV	96	111	7	74592	74592	
	V	96	111	7	74592	74592	
	VI	96	111	7	74592	74592	
	VII	96	111	7	74592	74592	
Total=					370699	370699	696
Grand Total=					951601	951601	1944

Table 3. Year wise Production Plan

Yearwise Development and Production							
Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Recoverable Reserves in m3 (100%)	Top Soil in m3
24.08.2021 -	I	13	31	2			806
23.08.2022	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	I	1	11	2			22
	II	2	9	4	72	72	
Total=					78906	78906	828
24.08.2022 -							
23.08.2023	IV	107	86	7	64414	64414	
	III	79	86	7	47558	47558	

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Total=					111972	111972	
24.08.2023 -							
23.08.2024	V	107	76	7	56924	56924	
	IV	79	76	7	42028	42028	
Total=					98952	98952	
24.08.2024 -							
23.08.2025	VI	107	66	7	49434	49434	
	V	74	66	7	34188	34188	
Total=					83622	83622	
24.08.2025 -							
23.08.2026	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					124054	124054	
GRAND Total =					497506	497506	828

6. Mining

Opencast mining

The quarry operation is proposed to carry out with conventional Opencast – semi mechanised method with 5.0 meter vertical bench with a bench width of 5.0 meter. The Quarry operation involves shallow jack hammer drilling, slurry blasting, loading and transportation.

Process Description

- The reserves and resource are arrived based upon the Geological investigation.
- Removal of Topsoil by Excavators and directly Loaded Into Tippers.
- Removal of Rough Stone by Excavators by Drilling and Blasting.
- Shallow Drilling With Jackhammer of 25.5mm Dia.
- Minimum Blasting With Class 3 Explosives.
- Loading of Rough Stone By Excavators Into Tippers.

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7. Water Requirement

Total water requirement for the mining project is 1.50 KLD. Domestic water will be sourced from nearby Bukkasagaram which is about 0.87 Km south of the area and other water will be source from nearby road tankers supply.

Table 4. Water Balance

Purpose	Quantity	Sources
Drinking Water	0.5KLD	Packaged Drinking water vendors available in Bukkasagaram which is about 0.87 Km south of the area .
Green belt	0.5KLD	Other domestic activities through road tankers supply
Dust suppression	0.5KLD	From road tankers supply
Total	1.5 KLD	

8. Man Power

Total manpower required for the project is approximately 14 persons. Workers will be from nearby villages.

Table 5. Man Power

1.	Skilled	Mine Foreman/ Permit Mines Manager	1 No
		Jack Hammer Operator	6 Nos
		Blaster/ Mate	1 No
		Excavator operator	1 No.
		Co- operator	1 No.
2.	Semi skilled		3
3.	Unskilled	Helper	1 Nos
Total			14Nos

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

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9. Solid Waste Management

Table 6 Solid Waste Management

S. No	Type	Quantity	Disposal Method
1	Organic	3.24 kg/day	Municipal bin including food waste
2	Inorganic	4.86 kg/day	TNPCB authorized recyclers

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

Table 7. 500m Radius Cluster Mine

1) Existing other quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	G.O No & Date	Lease Period
1.	Thiru V.Sekar S/o R.Venkatesppa, D.No.4/165/B Karukondahalli village, Bataramangalam Post, Denkanikottai Taluk.	Shoolagiri Taluk Venkatesapuram	270 (part 1)	2.30.0	RoC.81/2016/M Dt:-09.08.2016	24.08. 2016 to 23.08. 2026 Instant proposal
2.	Thiru C.Paramesh, S/o.Chinnasamy, D.No.21242 H.Chettipalli village, J.Karupalli post, Hosur Taluk	Shoolagiri Taluk Venkatesapuram	269 (Part-D)	3.00.0	RoC.80/2016/M Dt.08.08.2016	24.08. 2016 to 23.08. 2021
3.	M/s. Munichandrappa Co.D.No.4/407, Ramchandram village, Bukkasagaram village,	Shoolagiri Taluk Venkatesapuram	269 (Part-C)	3.50.0	RoC.79/2016/M -2Dt:-18.8.2016	2.09.2 016 to 01.09. 2021

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	Shoolagiri Taluk					
			Total	8.80.0		

2) Proposed Area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	G.O No. & Date	Extent
NIL	NIL	NIL	NIL	NIL	NIL

3) Details of Abandoned quarry/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	GO No & Date	Lease Status
1.	Thiru.G.Sathish, S/o. Gopal D.No.87 New Vasanth Nagar, Krishnagiri Bye pass Road, Hosur Krishnagiri 635 109	Shoolagiri Taluk Venkatesapuram	269 (part- A)	4.00.0	RoC.74/2012/M- 2 Date- 12.06.2024	16.06.2014 to 15.06.2019
2.	Thiru.V.Nagabushnam, S/o. Venkatsamy, D.No.2-116, H.Chettipalli Village, J.Karupalli Post, Hosur Taluk.	Shoolagiri Taluk Venkatesapuram	269 (part- B)	3.25.0	RoC.78/2016/M- 2 Dt.10.08.2014	16.06.2014 to 15.06.2019
			Total	7.25.0		

The Total extent of the Existing / Lease expired / proposed quarries are **16.05.0 Ha**.

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10. Land Requirement

The total extent area of the project is 2.30.0 Ha, Government Poramboke Land in Venkatesapuram Village of Shoolagiri Taluk, Krishnagiri District.

Table 8 Land Use Breakup

Sl. No.	Description	Present Area (Ha.)	Area in use during the quarrying period (Ha.)
01.	Area under Quarrying	1.38.0	1.84.0
02.	Infrastructure	Nil	0.01.0
03.	Roads	0.01.0	0.01.0
04.	Green Belt	Nil	0.44.0
05.	Unutilized Area	0.91.0	Nil
	TOTAL	2.30.0	2.30.0

11. Human Settlement

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

Table 9 Habitation

Name of Hamlet	Population	Direction from the area	Distance
Venkatesapuram	500	North	2.5 kms.
Bukkasagaram	400	South	1.0km.
Sundatti	300	West	2.0 kms.
Punnagaram	350	East	4.0 kms.

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.

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13. Scope of the Baseline Study

This chapter contains information on existing environmental scenario on the following parameters.

1. Micro – Meteorology
2. Water Environment
3. Air Environment
4. Noise Environment
5. Soil / Land Environment
6. Biological Environment
7. Socio-economic Environment

13.1 Micro – Meteorology

Meteorology plays a vital role in affecting the dispersion of pollutants, once discharged into the atmosphere. Since meteorological factors show wide fluctuations with time, meaningful interpretation can be drawn only from long-term reliable data.

- i) Average Minimum Temperature : 33.7 °C
- ii) Average Maximum Temperature. : 24.2 °C
- iii) Average Annual Rainfall of the area : 922.8 mm

13.2 Air Environment

Ambient air monitoring was carried out on monthly basis in the surrounding areas of the Mine Lease area to assess the ambient air quality at the source. To know the ambient air quality at a larger distance i.e. in the study area of 5 km. radius, air quality survey has been conducted at 5 locations. Major air pollutants like Particulate Matter (PM10), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO_x) were monitored, and the results are summarized below.

The baseline levels of PM10 (59-42 µg/m³), PM2.5 (29-18 µg/m³), SO₂ (3-13 µg/m³), NO_x (27-8 µg/m³), all the parameters are well within the standards prescribed by National Ambient Air Quality during the study period from January - March 2022.

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13.3 Noise Environment

Ambient noise levels were measured at 5 locations around the proposed project site. The maximum Day noise and Night noise were found to be 55 dB(A) and 45 dB(A) respectively in Devasanapalli. The minimum Day Noise and Night noise were 45 dB(A) and 38 dB(A) respectively which was observed in Project Site.

13.4 Water Environment

- The average pH ranges from 7.41-7.88
- TDS value varied from 428 mg/l to 969 mg/l
- Hardness varied from 225 to 596 mg/l
- Chloride varied from 32.3 to 198 mg/l

13.5 Land Environment

The analysis results shows that the majority of soil in the project and surrounding area is slightly alkaline in nature and pH value ranges from 6.47 with organic matter 0.08 % to 1.07 %. The concentration of Nitrogen, Phosphorus & Potassium has been found to be in good amount in the soil samples.

13.6 Biological Environment

The proposed Mining lease area is mostly dry barren ground with small shrubs and bushes. No specific endangered flora & fauna exist within the mining lease area.

14. Rehabilitation/ Resettlement

- The overall land of the mine is Government Poramboke Land. There are no displacement of the population within the project area and adjacent nearby area. Social development of nearby villages will be considered in this project.
- The mine area does not cover any habitation. Hence the mining activity does not involve any displacement of human settlement.

15. Greenbelt Development

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major component of Environmental Management Plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like Vilvam, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 500 trees per annum with interval 5m.

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4. The rate of survival expected to be 60% in this area

Table.10 Plantation/ Afforestation Program

Scientific Name	Local Name
<i>Diospyro sebum</i>	Karungali
<i>Aegle marmelos</i>	Vilvam
<i>Lagerstromia speciosa</i>	Poo Marudhu
<i>Toona ciliate</i>	Sandhana Vembu
<i>Azadirachta Indica</i>	Neem
<i>Pongamia Pinnata</i>	Pungam
<i>Prosopis cinera</i>	Vannimaram
<i>Syzygium cumini</i>	Naval
<i>Premna tomentosa</i>	Purangai Naari
<i>Litsea glutinosa</i>	Pisinpattai
<i>Chloroxylon sweitenia</i>	Purasamaram
<i>Borassus Flabellifer</i>	Panai

- The development of greenbelt in the periphery of the mine area.
- Trees will be planted along the sides of the lease boundary and avenues as well as Non-active dumps at a rate of 1300 trees with an interval of 5m in 3 rows with tall and long tree species alternative rows.

16. Anticipated Environmental Impacts

16.1 Air Environment and Mitigation Measures

1. Water sprinkling will be done on the roads & unpaved roads.
2. Proper mitigation measures like water sprinkling will be adopted to control dust emissions.
3. Plantation will be carried out on approach roads, solid waste site & nearby mine premises.
4. To control the emissions regular preventive maintenance of equipments will be carried out.

16.2 Noise Environment and Mitigation Measures

1. Periodical monitoring of ambient noise will be done as per CPCB guidelines.

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2. No other equipment except the transportation vehicles and excavator for loading will be allowed.
3. Noise generated by these equipments shall be intermittent and does not cause much adverse impact.

17. Responsibilities for Environmental Management Cell (EMC)

The responsibilities of the EMC include the following:

- i. Environmental Monitoring of the surrounding area
- ii. Developing the green belt/Plantation
- iii. Ensuring minimal use of water
- iv. Proper implementation of pollution control measures

18. Environmental Monitoring Program

A monitoring schedule with respect to Ambient Air Quality, Water & Wastewater Quality, Noise Quality as per Tamil Nadu State Pollution Control Board (TNPCB), shall be maintained.

19. Project Cost

The total project cost is **Rs. 1,37,90,000/-** for deployment of machinery and creation of infrastructural facilities like approach road, Mine office / Workers Shed, First Aid Room etc., including electrifications and water supply.

Table .11 Project Cost details

S. No.	Description	Cost
1	Project Cost	97,90,000/-
2	Operational Cost	40,00,000/-
	Total	1,37,90,000/-

20. Corporate Environmental Responsibility

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

Table 12 CER Cost

S.No.	CER Activity	CER 2% of the project cost (Rs.)

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1.	Developing Sports facilities and Providing Toilet, Water Filter facilities to Government Schools in Bukkasagaram Village	5,00,000
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21. Benefits of the Project

- There is positive impact on socio-economics of people living in the villages. Mining operations in the subject area has positive impact by providing direct and indirect jobs opportunities
- The project is environmentally compatible, financially viable and would be in the interest of construction industry thereby indirectly benefiting the masses.
- Quarrying in this area is not going to have any negative impact on the social or cultural life of the villagers in the near vicinity.

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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 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

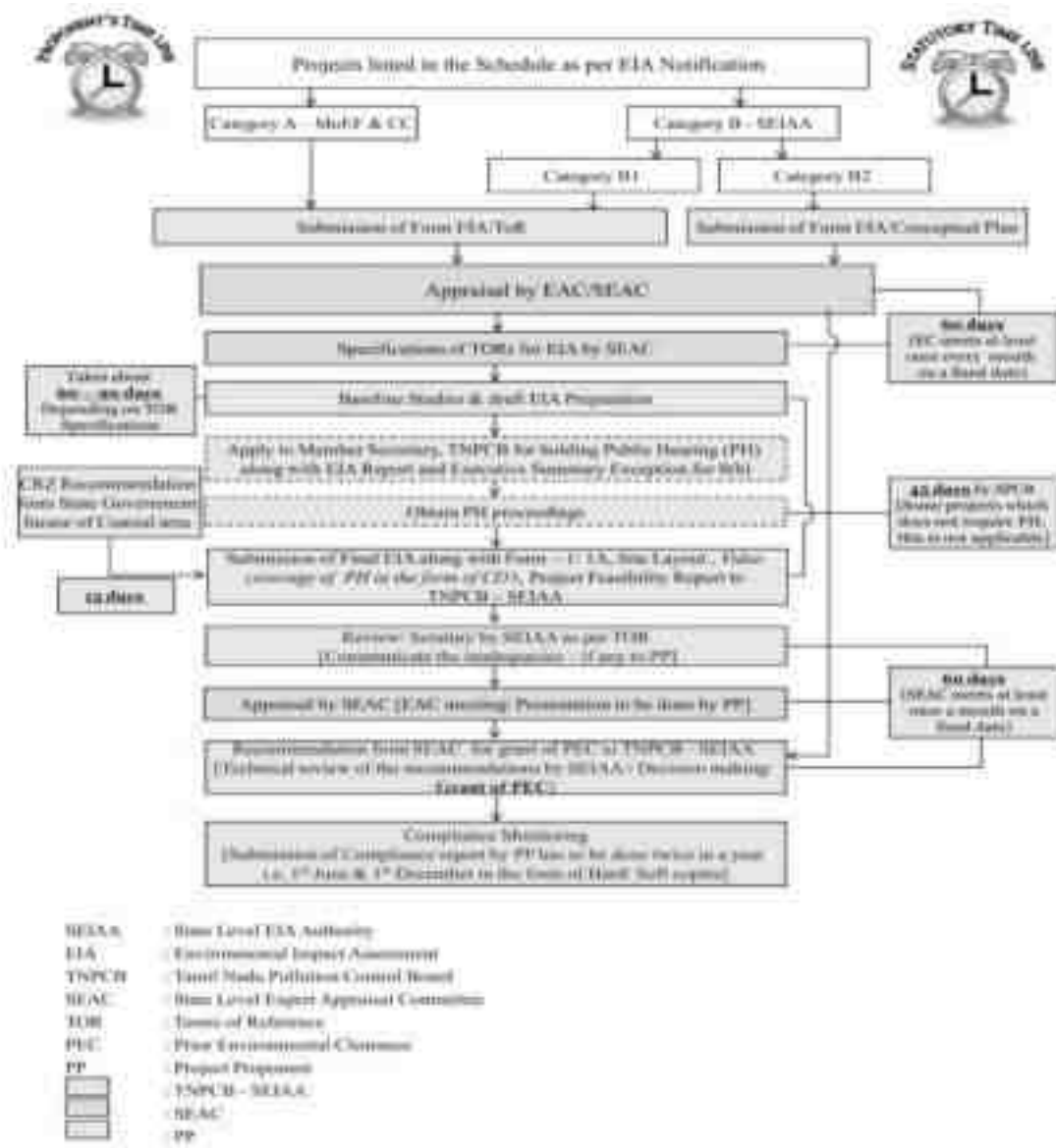
Krishnagiri District is covered with wide range of metamorphic rocks of peninsular gneissic complex. These rock formations occur as massive hillocks all over the district in government lands and patta lands, and extensively weathered formations are over lined by soil / alluvium deposits with an average thickness of 1 to 5 mts. Rough stone deposits suitable for the production of Jelly, cut stones and Pillar Stones are available throughout the Krishnagiri District. Rough stones are widely used in this district as building stones, boulders, cut stones and for the production of Jelly, M.Sand, and Crusher Dust. The rock products which are produced not only used in the Krishnagiri District alone but also transported to the neighboring districts. These products enter into the market in different parts of the country.

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

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.

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram village, Shoologiri taluk, Krishnagiri district	



1.4 Terms of Reference (ToR)

The terms of Reference has been issued by SEAC TN vide Letter No. SEIAA-TN/F.No. 8801/SEAC/ToR-1324/2023 Dated: 09.02.2023 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.

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram village, Shoologiri taluk, Krishnagiri district	

1.5 Post Environmental Clearance Monitoring

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

S. No.	Description	Frequency of Monitoring
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 the general information on the mining of minerals, major sources of environmental impacts in respect of mining projects and details of 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 be also included.

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.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoologiri taluk, Krishnagiri district</i>	

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, neighbourhood, 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.

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.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri taluk, Krishnagiri district</i>	

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

1.7 Details of Project Proponent

Project Proponent : Thiru. V. Sekar
Status of the Proponent : Private & Individual
Proponent's Name & Address : S/o Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri - 635 113

1.8 Brief Description of the Project

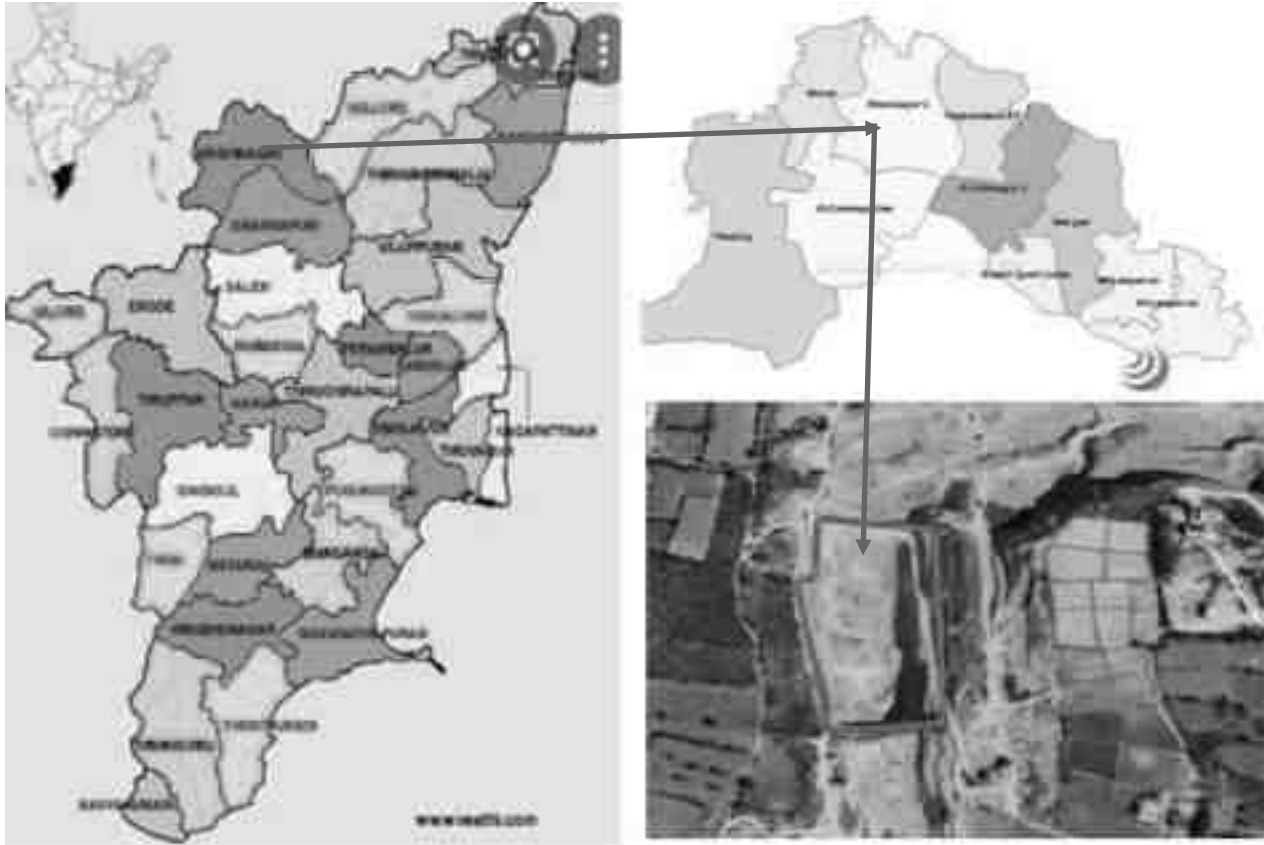
1.8.1 Project Nature, Size & Location

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 12th 2018) project comes under category B1 cluster & schedule 1(a) under item 1.

Proposed proposal pertains to rough stone mining project by Opencast – semi mechanised method on allotted mine lease area at Venkateshapuram village, Shoolagiri taluk, Krishnagiri district, Tamil Nadu. The lease area is in undulated topography. The total allotted mine lease for the proposed project is 2.30.0 Ha with their maximum production capacity i.e. **497506 m³** of Rough stone and **828 m³** for (Sixty months) Five years only for the depth of Surface Ground Level Above-10m and Surface Ground Level Below-41m and **497506 m³** of Rough stone for next (Sixty Months) five years only for the depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone).. Total depth for the period of ten years is Surface Ground Level Above-10m and Surface Ground Level Below-41m.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoologiri taluk, Krishnagiri district</i>	

Figure 1-1: Location Map of the Project site



<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram 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

The Mining plan has been approved and has been proposed for Rough Stone Quarry in Government Poramboke Land S.F.Nos.270 (Part-1) over an extent of 2.30.0 Ha. In Venkatesapuram village, Shoolagiri taluk, Krishnagiri district. The lease area is in undulated topography. The fresh Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Roc No.668/2021/Mines dated: 23.04.2021.

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 12th 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 final 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 has been incorporated in the Final EIA Report.

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

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District	

Table 2-3-1: Quarry within 500m Radius

1) Existing other quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	G.O No & Date	Lease Period
1.	Thiru V.Sekar S/o R.Venkatesppa, D.No.4/165/B Karukondahalli village, Bataramangalam Post, Denkanikottai Taluk.	Shoolagiri Taluk Venkatesapuram	270 (part 1)	2.30.0	RoC.81/2016/M Dt:-09.08.2016	24.08. 2016 to 23.08. 2026 Instant proposal
2.	Thiru C.Paramesh, S/o.Chinnasamy, D.No.21242 H.Chettipalli village, J.Karupalli post, Hosur Taluk	Shoolagiri Taluk Venkatesapuram	269 (Part-D)	3.00.0	RoC.80/2016/M Dt.08.08.2016	24.08. 2016 to 23.08. 2021
3.	M/s. Munichandrapa Co.D.No.4/407, Ramchandrain village, Bukkasagaram village, Shoolagiri Taluk	Shoolagiri Taluk Venkatesapuram	269 (Part-C)	3.50.0	RoC.79/2016/M -2Dt:-18.8.2016	2.09.2 016 to 01.09. 2021
			Total	8.80.0		

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

2) Proposed Area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	G.O No. & Date	Extent
NIL	NIL	NIL	NIL	NIL	NIL

3) Details of Abandoned quarry/Old quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	GO No & Date	Lease Status
1.	Thiru.G.Sathish, S/o. Gopal D.No.87 New Vasanth Nagar, Krishnagiri Bye pass Road, Hosur Krishnagiri 635 109	Shoolagiri Taluk Venkatesapuram	269 (part- A)	4.00.0	RoC.74/2012/M- 2 Date- 12.06.2024	16.06.2014 to 15.06.2019
2.	Thiru.V.Nagabushnam, S/o. Venkatsamy, D.No.2-116, H.Chettipalli Village, J.Karupalli Post, Hosur Taluk.	Shoolagiri Taluk Venkatesapuram	269 (part- B)	3.25.0	RoC.78/2016/M- 2 Dt.10.08.2014	16.06.2014 to 15.06.2019
			Total	7.25.0		

The Total extent of the Existing / Lease expired / proposed quarries are **16.05.0 Ha**.

2.1.1 Need for the 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 form the primary building material.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

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 project area is dry lands showing only less chance for crop growth and development of vegetation. Rocks and minerals of economic importance found to occur in Krishnagiri District are Multicolour Granite, Rough Stone, Red soil, Gravel, Savudu, Pebbles with traces of occurrence of Quartz and Feldspar. As a result of developmental activities and market demand for minor minerals, mining of minor mineral is vital. In addition to that, geological reserves of rough stone is abundant in the project area which is evident from the mine activities carried out in the nearby sites.

2.2 Brief Description of the project

Table 2-3-2 Salient Features of the Project

S. No.	Description	Details
1	Project Name	Rough Stone Quarry – 2.30.0 Ha
2	Proponent	Thiru.V. Sekar
3	Mining Lease Area Extent	2.30.0 Ha
4	Location	S.F.No. 270 (Part-1), Venkatesapuram village, Shoolagiri taluk, Krishnagiri district.
5	Latitude	Latitude : N 12 ° 43' 58.7014" to N 12 ° 44' 3.1722"
6	Longitude	Longitude : E 77° 56' 12.8213" to E 77° 56' 8.3746"
7	Topography	Undulated
8	Site Elevation above MSL	826 m from MSL
9	Topo sheet No.	57-H/ 13
10	Minerals of Mine	Rough Stone

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

11	Proposed production of Mine	Proposed capacity of Rough stone: 497506 m ³ (First Five years – 497506 m ³)
12	Ultimate depth of Mining	Surface Ground Level Above-10m and Surface Ground Level Below-41m.
13	Method of Mining	Opencast – semi mechanised method
14	Water demand	1.50 KLD
15	Source of water	Water will be supplied through tankers supply from Bukkasagaram which is about 1.0 Km south of the area.
16	Manpower	14 Nos.
17	Precise Area Communication	Precise Area communication letter was approved by District Collectorate, Krishnagiri vide Letter RoC.No. 81/2016/Mines dated 09.08.2016
18	Mining Plan Approval	Mining Plan was approved by Asst. Director, Dept. of Geology and Mining, Collectorate Krishnagiri vide Letter Roc.No.668/2021/Mines dated 23.04.2021
19	Production details	Geological reserves of Rough Stone: 951601m ³ Proposed year wise recoverable reserves of Rough Stone: 4,97,506 m ³ for five years
20	Boundary Fencing	10 m along the boundary. Fencing will be provided.
21	Disposal of overburden	The topsoil of the lease area is 828 m ³ . Topsoil formation will be dumped in all sides of the boundary barrier of the lease area. It will be utilized for road low lying areas and plantation purposes.
22	Ground water	The quarry operation is proposed up to a depth of Surface Ground Level Below- 41m.The water table is below 60 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 500m radius of the Project Site	There is no Habitation within 500m radius of the project site.
24	Drinking water	Packaged Drinking water vendors available in Bukkasagaram which is about 1.0 Km south of the area.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoologiri Taluk, Krishnagiri District</i>	

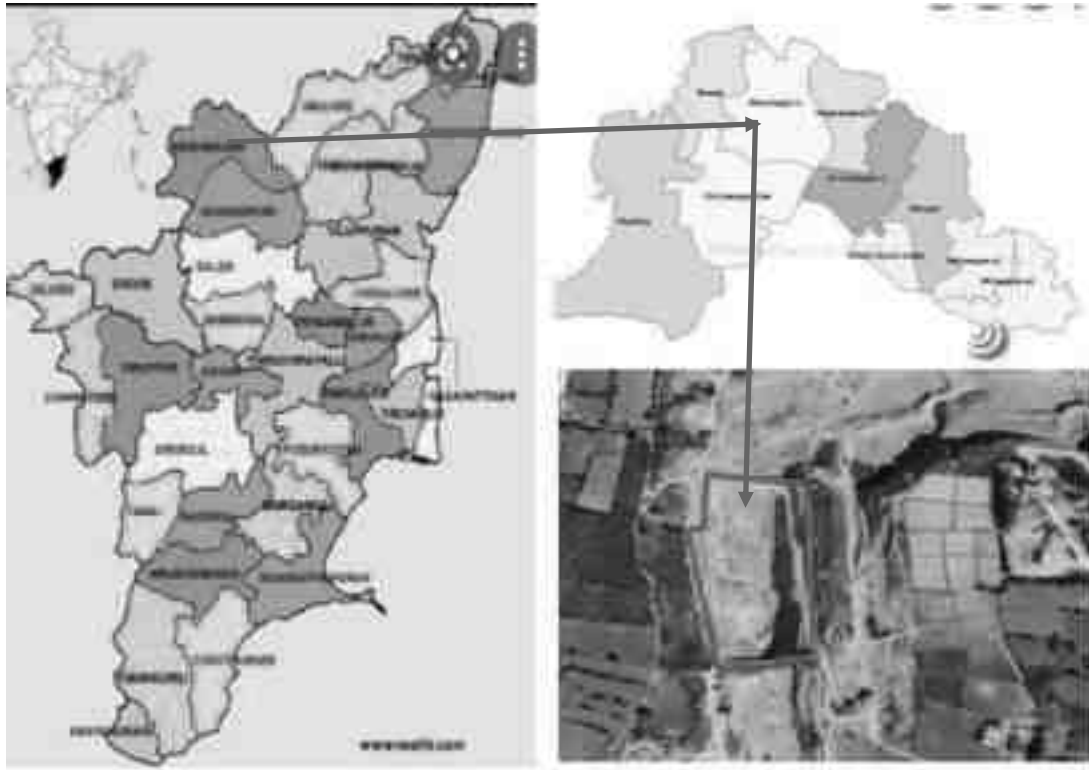


Figure 2.3-1 Location of the Project Site



Figure 2.3-2 Google Earth Image of the Project Site

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District	

2.2.1 Site Connectivity:

The site is connected to Bukkasandiram Road) – 843 m, South side.



Figure 2.3-3 Site Connectivity

2.3 Location Details:

Table 2-3-3: Location Details

S. No	Particulars	Details
1.	Latitude	Latitude : N 12 ° 43' 58.7014" to N 12 ° 44' 3.17"
2.	Longitude	Longitude : E 77° 56' 12.8213" to E 77° 56' 8.37"
3.	Site Elevation above MSL	826 m from MSL
4.	Topography	Undulated
5.	Land use of the site	Government Poramboke Land
6.	Extent of lease area	2.30.0 Ha

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoologiri Taluk, Krishnagiri District</i>	

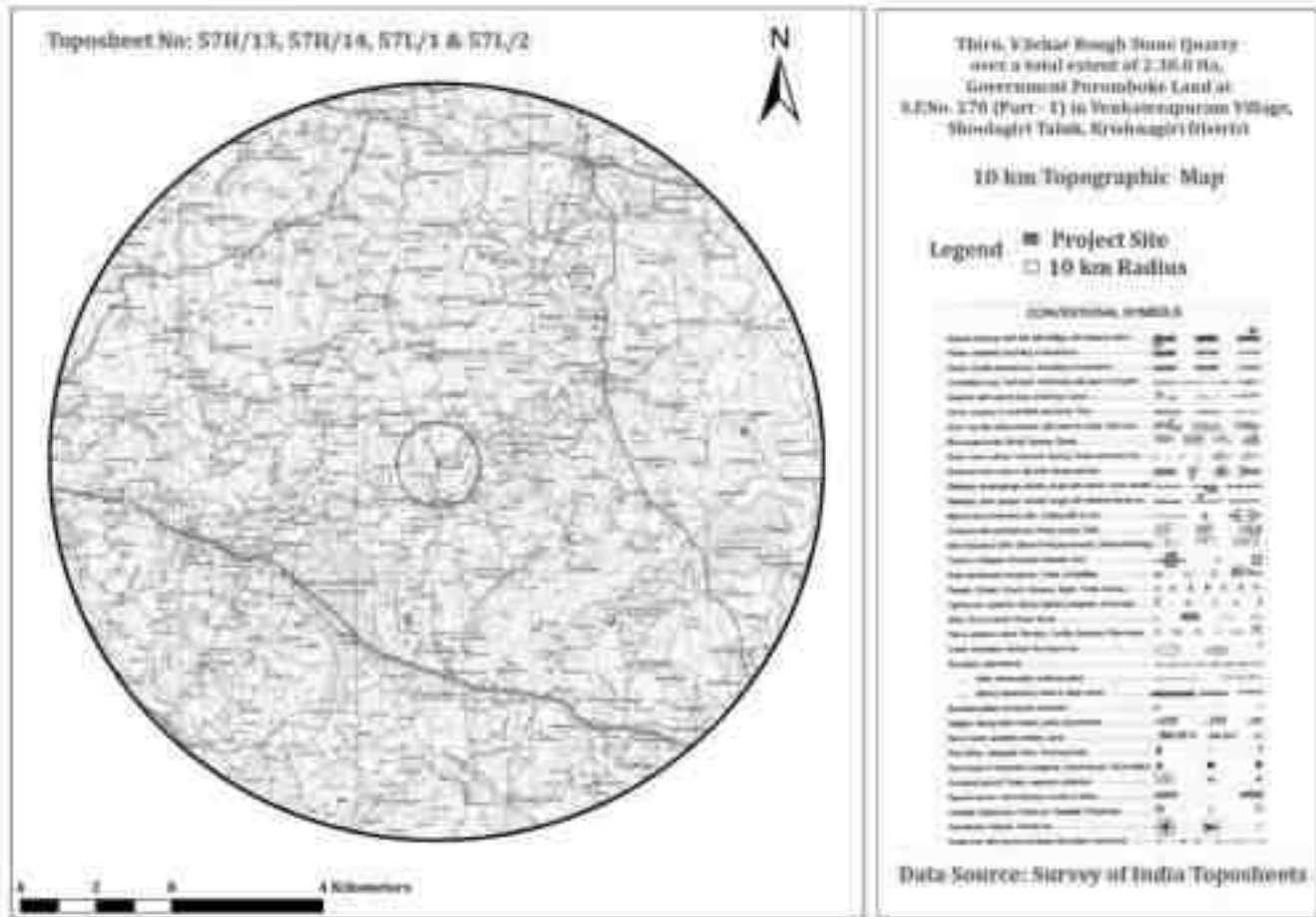


Figure 2.3-4: Topo Map of Project Site

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

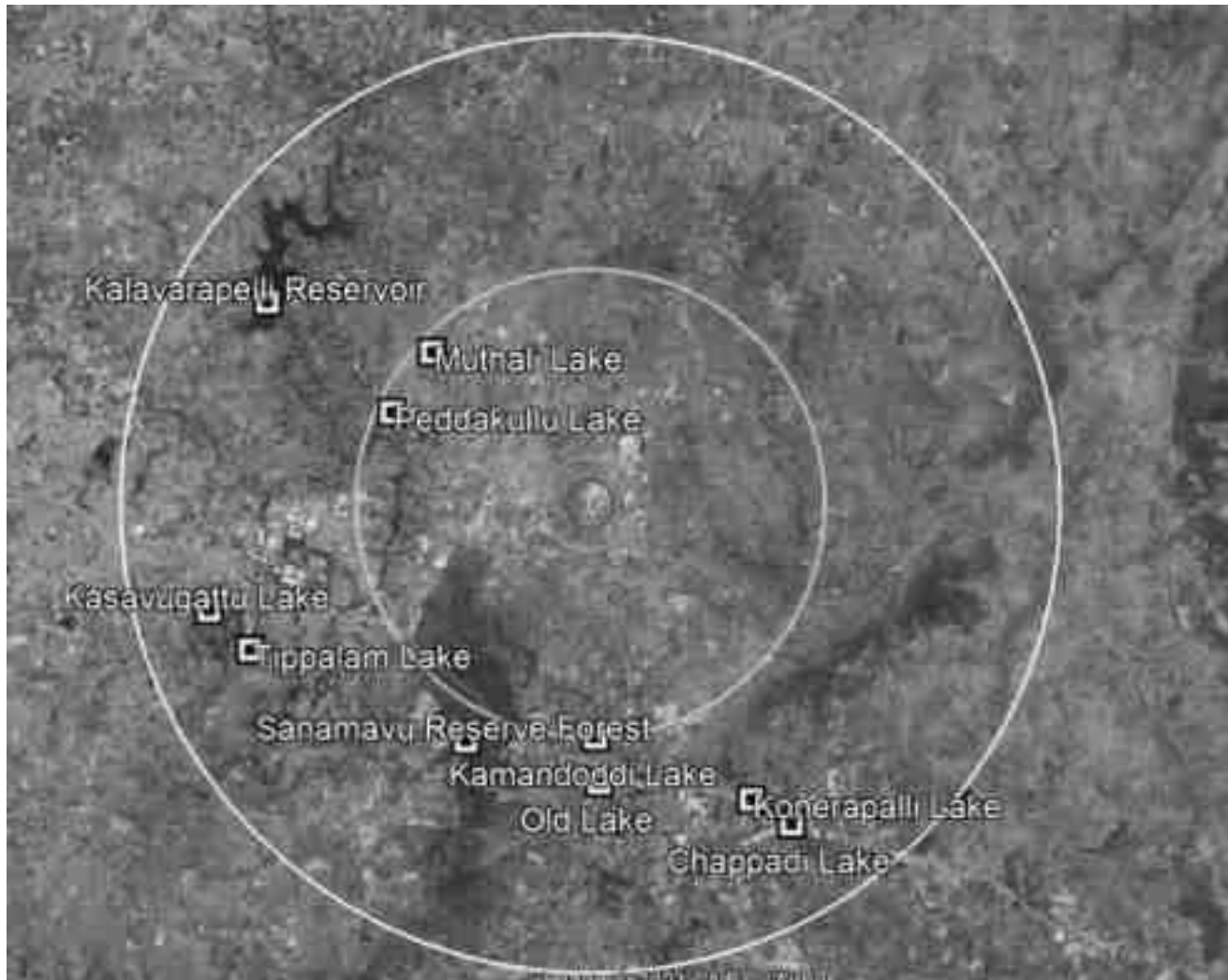


Figure 2.3-5: Environmental Sensitivity within 10 km radius

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

2.3.1 Site Photographs

The site photographs of the project site are as follows:

NORTH



SOUTH



EAST



WEST



Figure 2.3-6: Site Photographs

2.3.2 Land Use Breakup of the Mine Lease Area

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

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

Table 2-3-4: Land use pattern

Sl. No.	Description	Present Area (Ha.)	Area in use during the quarrying period (Ha.)
01.	Area under Quarrying	1.38.0	1.84.0
02.	Infrastructure	Nil	0.01.0
03.	Roads	0.01.0	0.01.0
04.	Green Belt	Nil	0.44.0
05.	Unutilized Area	0.91.0	Nil
	TOTAL	2.30.0	2.30.0

2.3.3 Human Settlement

There are no habitations within the radius of 500m. The nearby habitations are as follows.

Table 2-3-5: Habitation

Name of Hamlet	Population	Direction from the area	Distance
Venkatesapuram	500	North	2.5 kms.
Bukkasagaram	400	South	1.0km.
Sundatti	300	West	2.0 kms.
Punnagaram	350	East	4.0 kms.

2.4 Leasehold Area

The Rough Stone Quarry mine of 2.30.0 Ha is a Government Poramboke Land. The lease area falls in S.F.Nos.270 (Part-1) of Venkatesapuram village, Shoolagiri taluk, Krishnagiri district. There is no reserve forest or protected forest land within the lease area. There is neither human settlement within 500m radius from the lease area.

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram village, Shoologiri Taluk, Krishnagiri District	

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

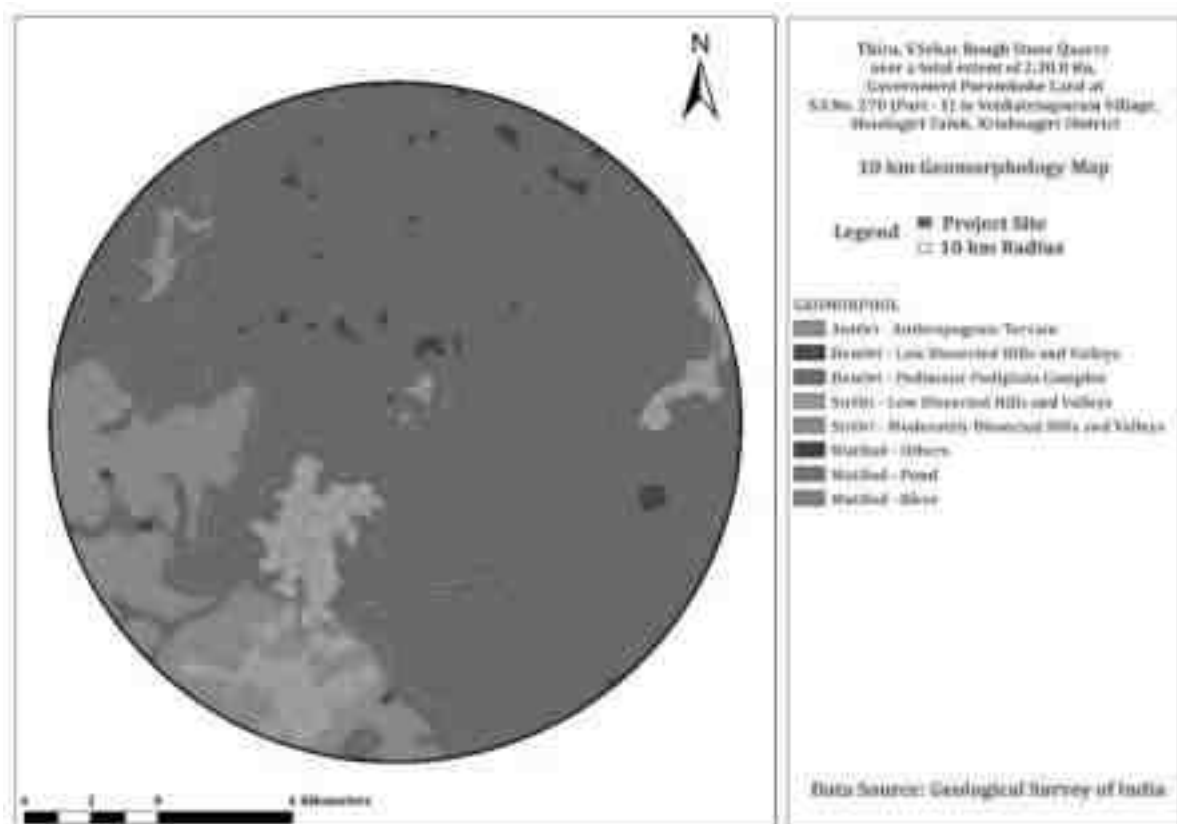


Figure 2.3-7: Geomorphology

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

The area applied for quarry lease is undulated terrain sloping towards Western side covered with Rough stone which does not sustain any type of vegetation.

The 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 the phreatic condition and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.

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. Depth of well in hard rock generally ranges between 8 and 15m below ground level. Generally yield in open wells ranges from 30 to 250m³ /day and in bore well between 260 and 430 m³ /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 Lime stone, Calcareous sand - stone and marl. The Tertiary formation is argillaceous comprising of Silty clay stones, argillaceous Lime stone. 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, sand stone of tertiary formation are the potential groundwater reservoirs.

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
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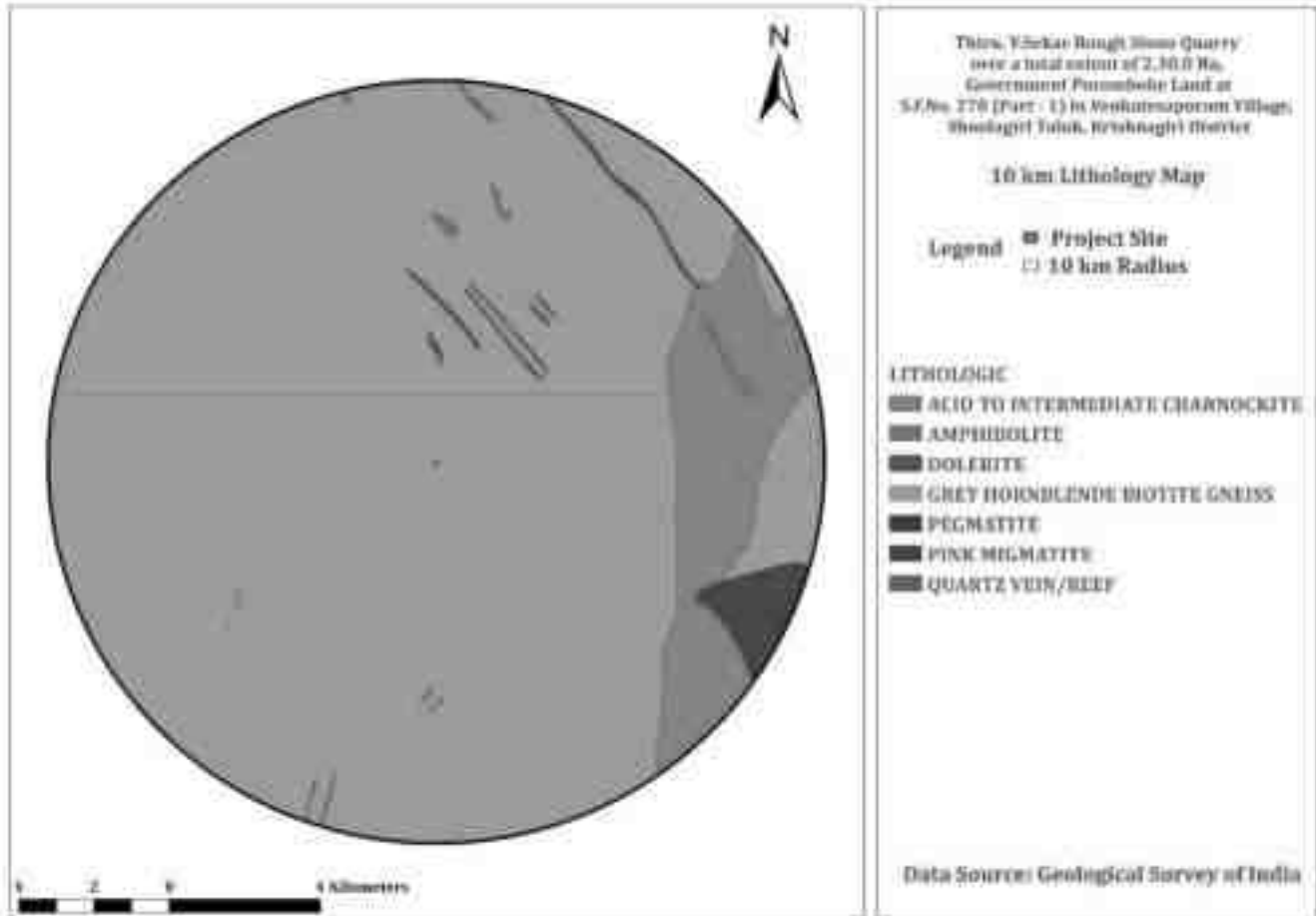


Figure 2.3-8 Lithology

2.6 Quality of Reserves:

The mining lease area is of 2.30.0 Ha, with production capacity of **497506 m³** of Rough Stone, Due to significant role in the domestic as well as infrastructural market, making the mining of Stone along with associated minor minerals is economically viable.

Table 2-3-6: Details of Mining

S. No	Particulars	Details
1	Method of Mining	Open Cast mechanized
2	Geological Reserves	Rough stone – 951601m ³
3	Recoverable Reserves	Rough stone – 497506 m ³
4	Proposed Production	Rough stone – 497506 m ³

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram village, Shoolagiri Taluk, Krishnagiri District</i>	

5	Elevation Range of the Mine Site	826 m MSL
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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 Reserves as 951601Cu.m of Rough Stone.

2.6.2 Geological Reserves

Table 2-3-7: Geological Reserves

GEOLOGICAL RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Geological Reserves in m3 (100%)	Top Soil in m3
XY-AB	I	13	48	2			1248
	II	22	66	7	10164	10164	
	III	107	127	7	95123	95123	
	IV	107	127	7	95123	95123	
	V	107	127	7	95123	95123	
	VI	107	127	7	95123	95123	
	VII	107	127	7	95123	95123	
	VIII	107	127	7	95123	95123	
Total=					580902	580902	1248
XY-CD	I	12	29	2			696
	II	14	29	4	1624	1624	
	III	91	111	7	70707	70707	
	IV	96	111	7	74592	74592	
	V	96	111	7	74592	74592	
	VI	96	111	7	74592	74592	

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	VII	96	111	7	74592	74592	
Total=					370699	370699	696
Grand Total=					951601	951601	1944

Top Soil:

The Thickness of Top Soil in this area is 1 m and the total volume of Top Soil will be 828 m³.

Rough Stone:

The Available Geological Reserve is estimated as 951601 m³ respectively, at the rate of 100% Recovery upto the permissible depth. Top Soil is calculated upto a depth of 2 m and Rough Stone at a depth of 49 m. Total Depth-51 m.

2.6.3 Mineable Reserves

The Mineable reserves are calculated by deducting 7.5m & 10.0m Safety distance and Bench Loss. The Mineable Reserve is calculated upto a depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m.

Table 2-3-8: Mineable Reserves

MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Mineable Reserves in m3 (100%)	Top Soil in m3
XY-AB	I	13	31	2			806
	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	IV	107	86	7	64414	64414	
	V	107	76	7	56924	56924	
	VI	107	66	7	49434	49434	
	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
Total=					326004	326004	806
	I	1	11	2			22

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XY- CD	II	2	9	4	72	72	
	III	79	86	7	47558	47558	
	IV	79	76	7	42028	42028	
	V	74	66	7	34188	34188	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					171502	171502	22
Grand Total=					497506	497506	828

Mineable reserves have been computed as 497506 cum at the rate of 100% recovery up to a depth of 51m (2.0m Topsoil + 49.0m Rough Stone). The Mineable reserves are calculated by deducting 7.5m & 10.0m Safety distance Bench Loss.

2.6.4 Year wise Production Plan

The proposed rate of production of Rough Stone is about 497506cu.m for Five Years. The average proposed rate of production of Rough Stone is about 99501cu.m. at the rate of 100% recovery up to a 51m depth (2.0m Top soil + 49.0 m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m.

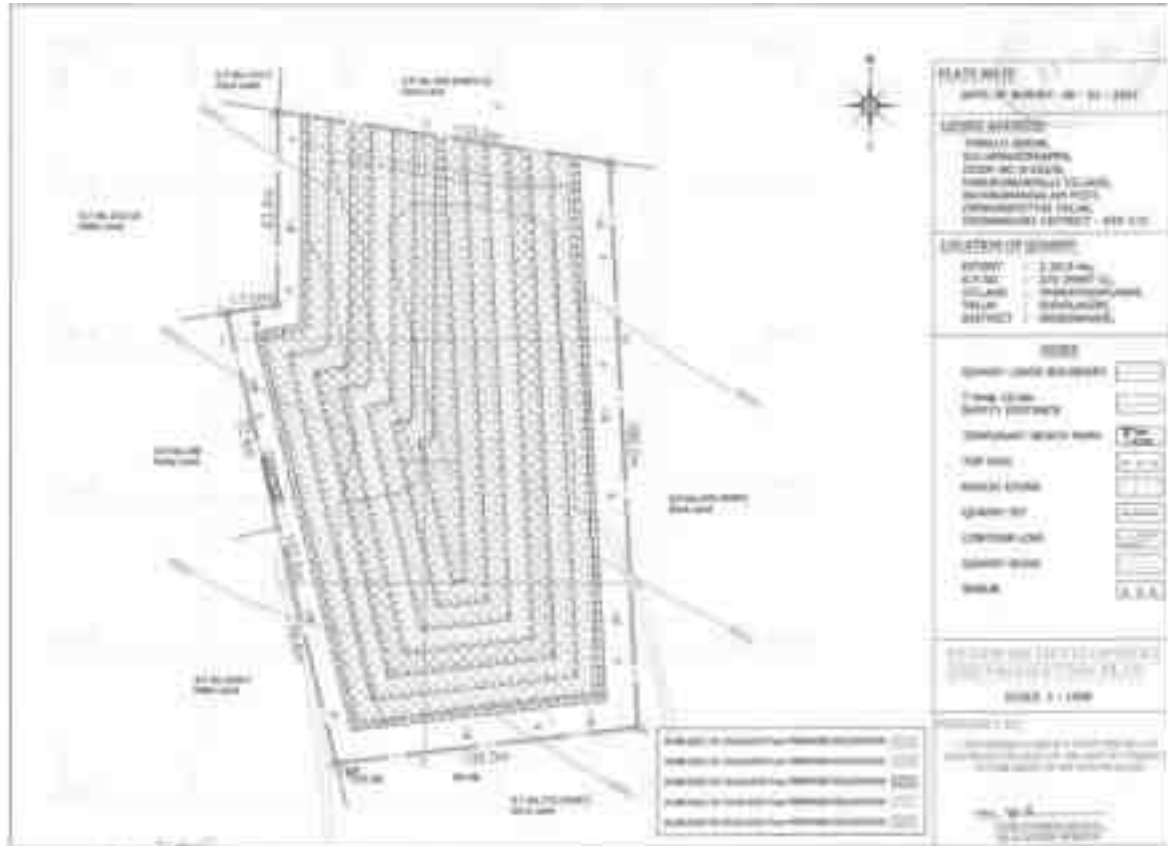
Table 2-3-9: Year wise Production Plan

YEARWISE DEVELOPMENT AND PRODUCTION							
Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m3)	Recoverable Reserves in m3 (100%)	Top Soil in m3
24.08.2021 - 23.08.2022	I	13	31	2			806
	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	I	1	11	2			22
	II	2	9	4	72	72	
Total=					78906	78906	828
24.08.2022 - 23.08.2023	IV	107	86	7	64414	64414	

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	III	79	86	7	47558	47558	
Total=					111972	111972	
24.08.2023 - 23.08.2024							
	V	107	76	7	56924	56924	
	IV	79	76	7	42028	42028	
Total=					98952	98952	
24.08.2024 - 23.08.2025							
	VI	107	66	7	49434	49434	
	V	74	66	7	34188	34188	
Total=					83622	83622	
24.08.2025 - 23.08.2026	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					124054	124054	
GRAND Total =					497506	497506	828

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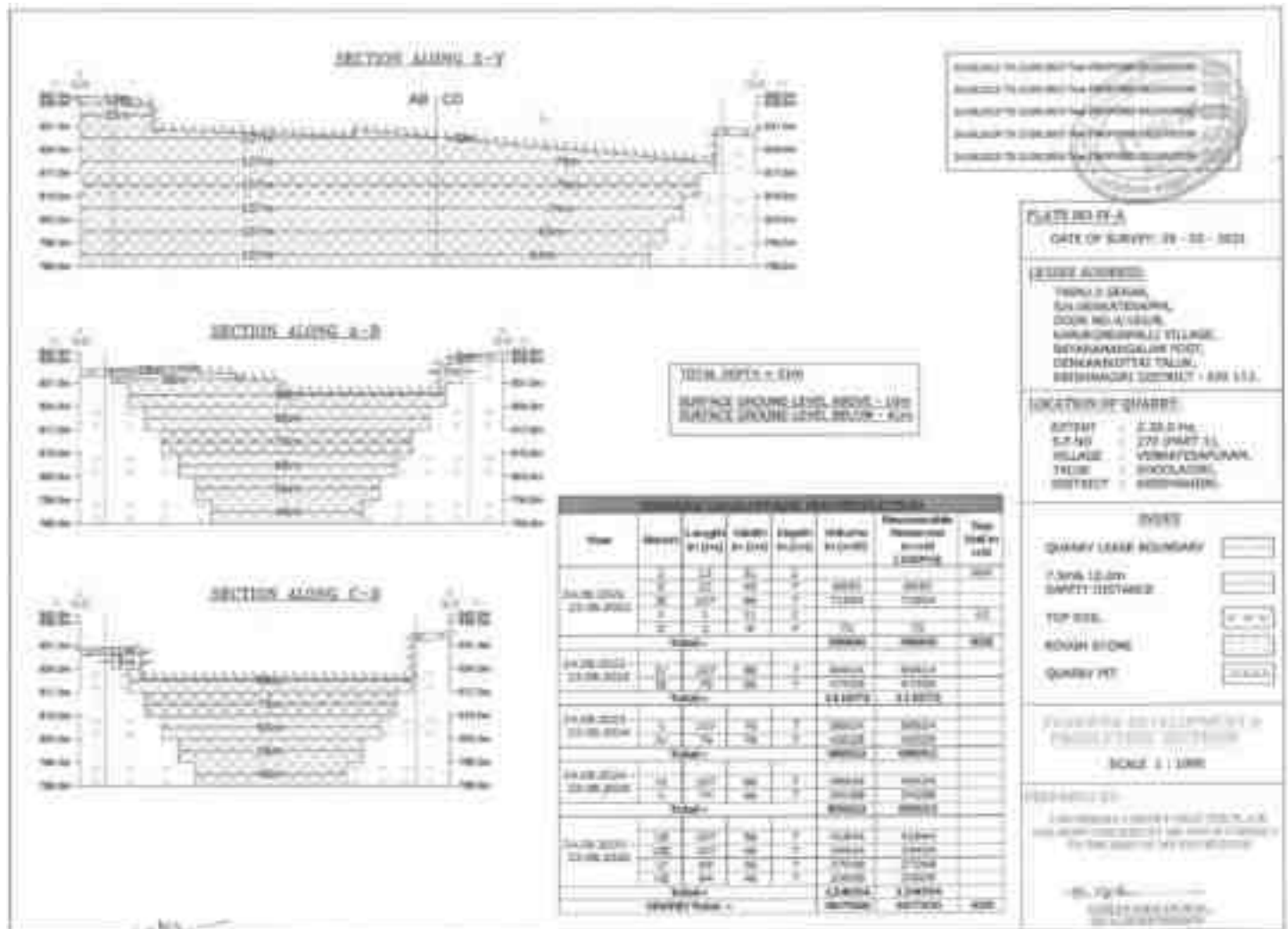


Figure 2.3-9 Year wise Production Plan

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>B.S.Thimmasandram Village, Shoolagiri Taluk, Krishnagiri District</i>	

2.7 Type of Mining

The proposed project is an Opencast – semi mechanised method with one 5.0 m bench for Topsoil & Rough Stone followed by 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 quarry specifically used for the basement stones. The quarry operation involves manual jack hammer drilling, slurry explosives blasting and transportation of the rough stone to the needy residential & industrial customers. The removed mass is manually dressed into small building stones for foundation purpose and the loaded manually into tippers for transportation to the needy customers. If huge volume of rough stone accumulates the same will be loaded with the help of hired excavators.

2.7.2 Overburden

The overburden is in the form of topsoil and weathered rock formation. It will be quarried for filling purposes to nearby end users and part of soil will be preserved all along the boundary as barrier for afforestation and other infrastructure development work in and around the District.

2.7.3 Machineries to be used

Type of machineries proposed for quarrying operation for the entire project is listed below.

Table 2-3-10: List of Machineries used

S.No.	Machinery	Capacity	Numbers
1	Excavator (0.90 m ³ bucket capacity) (with rock breaker attachment)	0.90 m ³	1
2	Compressor	--	2
3	Jack Hammer	-	6
4	Tipper	10/20T	4

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2.7.4 Blasting:

2.7.4.1 Blasting Pattern:

The blasting design will be properly planned with ideal spacing and burden, ensuring appropriate stemming column with optimized explosive charge, so that ground vibratory effect, fly rocks, etc., are properly regulated and controlled.

Necessary approvals for using of explosives are already obtained from explosive department. Blasting is and will be carried out at designed time with proper safety measures to prevent unauthorized entry and to avert mishaps. The blasting is proposed by adopting all the safety measures as per "MMR 1961' and with due permission of DGMS.

2.7.4.2 Drilling & Blasting:

Drilling and Blasting Parameters are as follows

Table 2-3-11: Drilling and Blasting Parameters

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 ⁰ from the horizontal.
Quantity of rock broken	:	0.45 MT x 2.6 = 1.17 MT
Control 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	:	331.67 m ³ .

2.7.4.3 Types of Explosives to be used:

Small diameter 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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2.7.4.4 Measures to minimize ground vibration due to blasting:

Controlled blasting measures will be adopted for minimizing ground vibration and fly rock. Shallow depth drilling and smooth blasting is proposed to carry out with minimum usage of explosive mainly to give shattering effect in Rough stone for easy excavation and control of fly rocks.

Table 2-3-12: Blasting Details

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 ⁰ from the horizontal.
Quantity of rock broken	:	0.45 MT x 2.6 = 1.17 MT
Control 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	:	331.67 M ³ .

2.7.4.5 Storage & Safety measures taken during blasting:

The project proponent “Thiru. V. Sekar” 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.

Table 2-3-13: Man Power Requirements

1.	Skilled	Mine Foreman/ Permit Mines Manager	1 No
		Jack Hammer Operator	6 Nos

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		Blaster/ Mate	1 No
		Excavator operator	1 No.
		Co- operator	1 No.
2.	Semi-skilled		3
3.	Unskilled	Helper	1 Nos
Total			14Nos

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

Table 2-3-14: Water Requirement

Purpose	Quantity	Sources
Drinking Water	0.5KLD	Packaged Drinking water vendors available in Bukkasagaram which is about 1.0 Km south of the area.
Green belt	0.5KLD	Other domestic activities through road tankers supply
Dust suppression	0.5KLD	From road tankers supply
Total	1.5 KLD	

2.9 Project Implementation Schedule

The implementation schedule of the proposed Mine Lease of Thiru. V. Sekar (2.30.0 Ha) is as Follows.

Table 2-3-15: Mining Schedule

MINING SCHEDULE					
Activity	Dec-23	Dec-24	Dec-25	Dec-26	Dec-27
Site Clearance					
Excavation - Top Soil Removal/Overburden					
I Year Production – 78906 Cu.m - Rough Stone, 828 Cu.m Topsoil					
II Year Production – 111972 Cum - Rough Stone					
III Year Production – 98952 Cum - Rough Stone					
IV Year Production - 83622 Cum - Rough Stone					

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V Year Production - **124054** Cum - Rough Stone

2.10 Solid Waste Management

The waste generated during quarrying activity is negligible rock mass handling and re handling. Hence, there is no waste in this quarrying operation. Small quantity of municipal solid waste will be disposed to local municipal bins.

2.11 Mine Drainage

The quarry operation is proposed upto a depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone) below ground level.

The ground Water Level is noticed at the depth of 60m below ground level by monitoring nearby bore hole, during the climatic conditions, the fluctuations of water level is 64m in Rainy seasons and 70m in Summer seasons of this quarry area.

2.12 Power Requirement

This rough stone quarry project does not require huge water and electricity for the project.

398004 litre diesel per hour for excavator for mining and loading for Rough Stone needed.

2.13 Project Cost

1	<u>A. Fixed Asset Cost:</u>	
	1. Land Cost	: Rs.94,00,000/- (Tender amount for Government Poramboke land)
	2. Labour Shed	: Rs. 2,00,000/-
	3. Sanitary Facility	: Rs. 90,000/-
	4. Fencing cost	: Rs. 1,00,000/-
	Total=	Rs. 97,90,000/-
2	<u>B. Operational Cost:</u>	
	<u>Machinery cost</u>	: Rs.40,00,000/-
	Total Project Cost(A+B)	: Rs. 1,37,90,000/-

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Description	Mitigation Measure	Provision for Implementation	Capital	Recurring
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	23000	23000
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	300000	15000
	Air Quality will be regularly monitored as per norms within ML area & near Reserve forest with necessary permission	Yearly Compliance as per CPCB norms	0	20000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	0
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance	25000	2500
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed	5000	0
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	46000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	40000	10000

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Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Ambient Noise will be regularly monitored as per norms within ML area & near Reserve forest with necessary permission	Yearly Compliance as per CPCB norms	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	200000
Water Environment	Water management	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	23000	5000
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	1000	5000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0

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Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	7000	1000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee)	56000	14000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	14000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4600
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	Barbed Wire Fencing to quarry area will be provisioned.	fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	200000	10000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	50000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	2000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 st Class / 2 nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	300000
Green Belt Development	Green belt development - 500 trees per one hectare (200 Inside Lease Area & 300 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of	92000	13800

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		saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)		
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	207000	20700
			1096000	745600

Year 1	Year 2	Year 3	Year 4	Year 5
1841600	782880	822024	863125	906281

EMP Cost = Rs 52,00,000/-

2.14 Greenbelt

1. The development of greenbelt in the peripheral buffer zone of the mine area.
2. Green belt has been recommended as one of the major component of Environmental Management plan, which will improve ecology, environment and quality of the surrounding area.
3. Local trees like, Vilvam, Pungam, Naval etc will be planted along the lease boundary and avenues as well as over Non-active dumps at a rate of 500 trees per annum with interval 5m.
4. The rate of survival expected to be 80% in this area

Table 2-3-16 Plantation/ Afforestation Program

Scientific Name	Local Name
<i>Diospyro sebum</i>	Karungali
<i>Aegle marmelos</i>	Vilvam
<i>Lagerstromia speciosa</i>	Poo Marudhu
<i>Toona ciliate</i>	Sandhana Vembu
<i>Azadirachta Indica</i>	Neem
<i>Pongamia Pinnata</i>	Pungam
<i>Prosopis cinera</i>	Vannimaram
<i>Syzygium cumini</i>	Naval
<i>Premna tomentosa</i>	Purangai Naari
<i>Litsea glutinosa</i>	Pisinpattai

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<i>Chloroxylon sweitenia</i>	Purasamaram
<i>Borassus Flabellifer</i>	Panai Maram

- The development of greenbelt in the periphery of the mine area.
- Trees will be planted along the sides of the lease boundary and avenues as well as Non-active dumps at a rate of 1300 trees with an interval of 5m in 3 rows with tall and long tree species alternative rows.

2.15 Corporate Social Responsibility

The following Corporate Environment Responsibility (CER) activities before the commencement of the quarrying activities.

Table 2-3-17 CER Cost

S.No.	CER Activity	CER (Rs in Crores)
1.	Developing the library, sports/Drinking water facilities in nearby school	5,00,000/-
Total		Rs. 5,00,000

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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 Lt.No.SEIAA–TN/F.No.8801/SEAC/ToR-1324/2023 dated 09.02.2023. The baseline monitoring is carried out in January - March 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
4. Sound Level Meter Model SL-4010
5. 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 January - March 2023.

3.1.4 Frequency of Monitoring

Table 3-1: Frequency of Sampling and Analysis

Attributes	Sampling	Frequency
Air environment – Meteorological (wind speed, wind direction, rainfall, humidity, temperature)	Project site	1 hourly continuous
Air environment – Pollutants PM 10 PM 2.5 SO ₂ NO _x Lead in PM	5 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	5 locations	24 hourly Once in 5 locations
Water (Ground water) pH, Temperature, Turbidity, Magnesium Hardness, Total Alkalinity, Chloride, Sulphate, Fluoride, Nitrate, Sodium, Potassium, Salinity, Total nitrogen, Total Coliforms, Fecal Coliforms	5 locations	Once in 5 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)	5 locations	Once in 5 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)

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3.1.6 Study area details

Table 3-2 Study area details

S. No	Description	Details	Source
1.	Project Location	S.F.Nos. 270 (Part-1)– 2.30.0 Ha, Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State	Field Study
2.	Latitude & Longitude	Latitude: N 12 ° 43' 58.7014" to N 12 ° 44' 3.1722" Longitude: E 77° 56' 12.8213" to E 77° 56' 8.3746"	Topo Sheet
3.	Topo Sheet No.	57-H/ 13	Survey of India Toposheet
4.	Mine Lease Area	2.30.0 Ha	--
Demography in the study area (as per Census 2011)			
5.	Total Population	1552	Census Survey of India
6.	Total Number of Households	357	
7.	Maximum Temperature (°C)	33.7	IMD
8.	Minimum Temperature (°C)	24.2	

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9.	Ecological Sensitive Areas - Wetlands, watercourses or other waterbodies, coastal zone, biospheres, mountains, forests	<ul style="list-style-type: none"> ❖ Muthali lake – 4.68 km NNW ❖ Pedakulla Lake – 4.53 km, NW ❖ Kasavugattu Lake – 8.38km, W ❖ Tippalam Lake – 7.88km, W ❖ Kamandoddi Lake – 5km, S ❖ Old Lake – 5.92km, S ❖ Konerapalli lake – 7.12km, SSE ❖ Chapadi lake – 7.99km, SSE ❖ Kalavarapalli Reservoir – 7.98km, SW ❖ Ponnaiyar River – 4km - W ❖ Perandapalli RF – 2.5km, S ❖ Sanamavu Reserve Forest – 5.64km, S 	Google Earth/Field Study																					
10.	Densely Populated area	Krishnagiri – 38 km, SE																						
11.	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	<table border="1"> <thead> <tr> <th>S. No.</th> <th>Places</th> <th>Dist. From Project Site</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">Schools & Colleges</td> </tr> <tr> <td>1</td> <td>Government High school, Alanatham</td> <td>2.66 km, N</td> </tr> <tr> <td>2</td> <td>Government Higher Secondary school, Punagaram</td> <td>5km, E</td> </tr> <tr> <td>3</td> <td>Govt school, Athimugam</td> <td>6 km, NNE</td> </tr> <tr> <td colspan="3" style="text-align: center;">Hospitals</td> </tr> <tr> <td>1</td> <td>ESI Hospital, Moranapali</td> <td>8km, W</td> </tr> </tbody> </table>	S. No.	Places	Dist. From Project Site	Schools & Colleges			1	Government High school, Alanatham	2.66 km, N	2	Government Higher Secondary school, Punagaram	5km, E	3	Govt school, Athimugam	6 km, NNE	Hospitals			1	ESI Hospital, Moranapali	8km, W	Google Earth/Field Study
S. No.	Places	Dist. From Project Site																						
Schools & Colleges																								
1	Government High school, Alanatham	2.66 km, N																						
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Hospitals																								
1	ESI Hospital, Moranapali	8km, W																						

3.1.7 Site Connectivity:

The site is connected to Bukkasagram Road - 808 km towards South side.

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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 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 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

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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.

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

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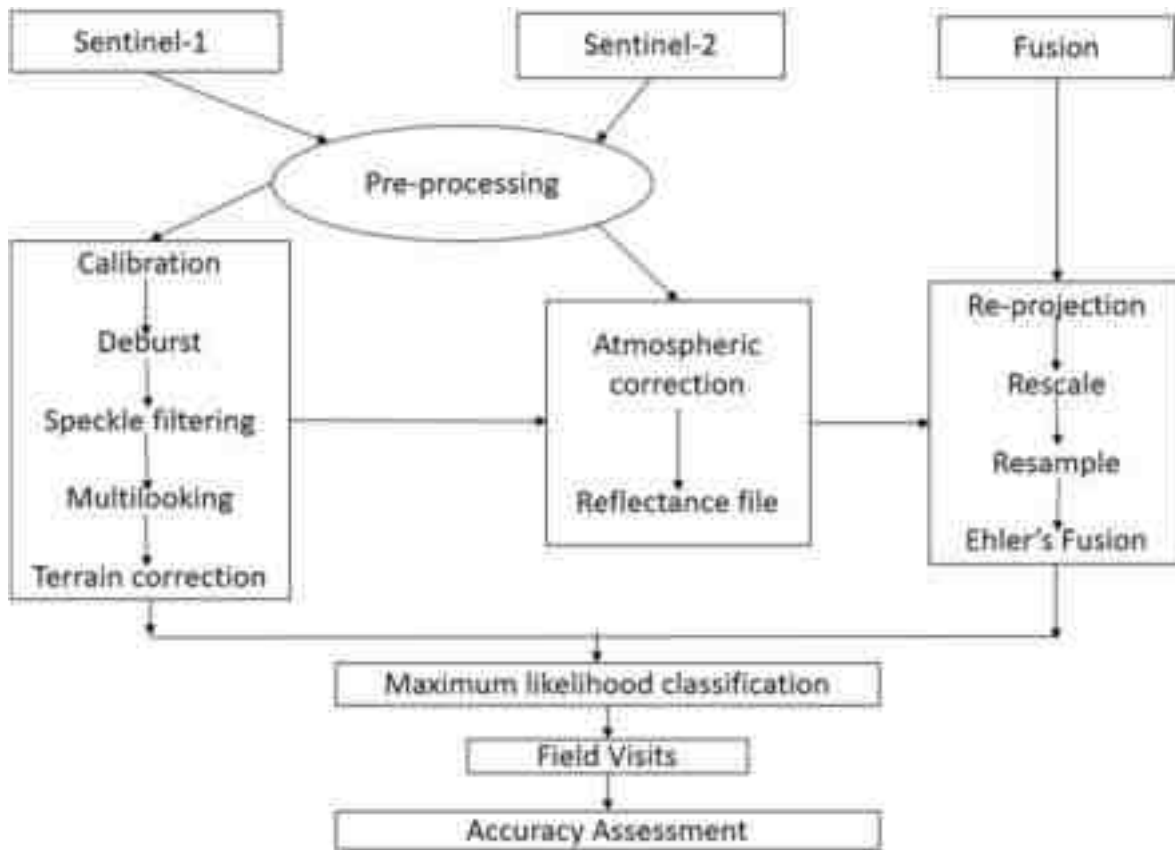


Figure 3-2 Flow Chart showing Methodology of Land use mapping Satellite Data

3.2.3 Scale of mapping

Sentinal multispectral satellite data of 11th April 2022 was utilized for the present study. Details of satellite data is given below. The rectification of imagery was carried out on to bring the digital data on the earth coordinate system by means of ground control point (GCP) assignments/SOI topo sheets.

3.2.4 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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February 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 IRS –P6 satellite image and SOI topo sheets of 47-F/01,02,03 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 -I being the broad classification about the land covers that is Built-up land, agriculture land, waste land, wet lands, and water bodies. These are followed by level –II where built-up land is divided into towns/cities as well 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

3.2.5 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 LU/LC classes in such a

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manner that all the different classes are covered by at least 5 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 below

3.2.6 Description of the Land Use / land cover classes

3.2.6.1 Built-up land

It is defined as an area of human settlements composed of houses, commercial complex, transport, communication lines, utilities, services, places of worships, recreational areas, industries etc. Depending upon the nature and type of utilities and size of habitations, residential areas can be aggregated into villages, towns and cities. All the man-made construction covering land belongs to this category. The built- up in 10 km radius from the proposed project site is as follows.

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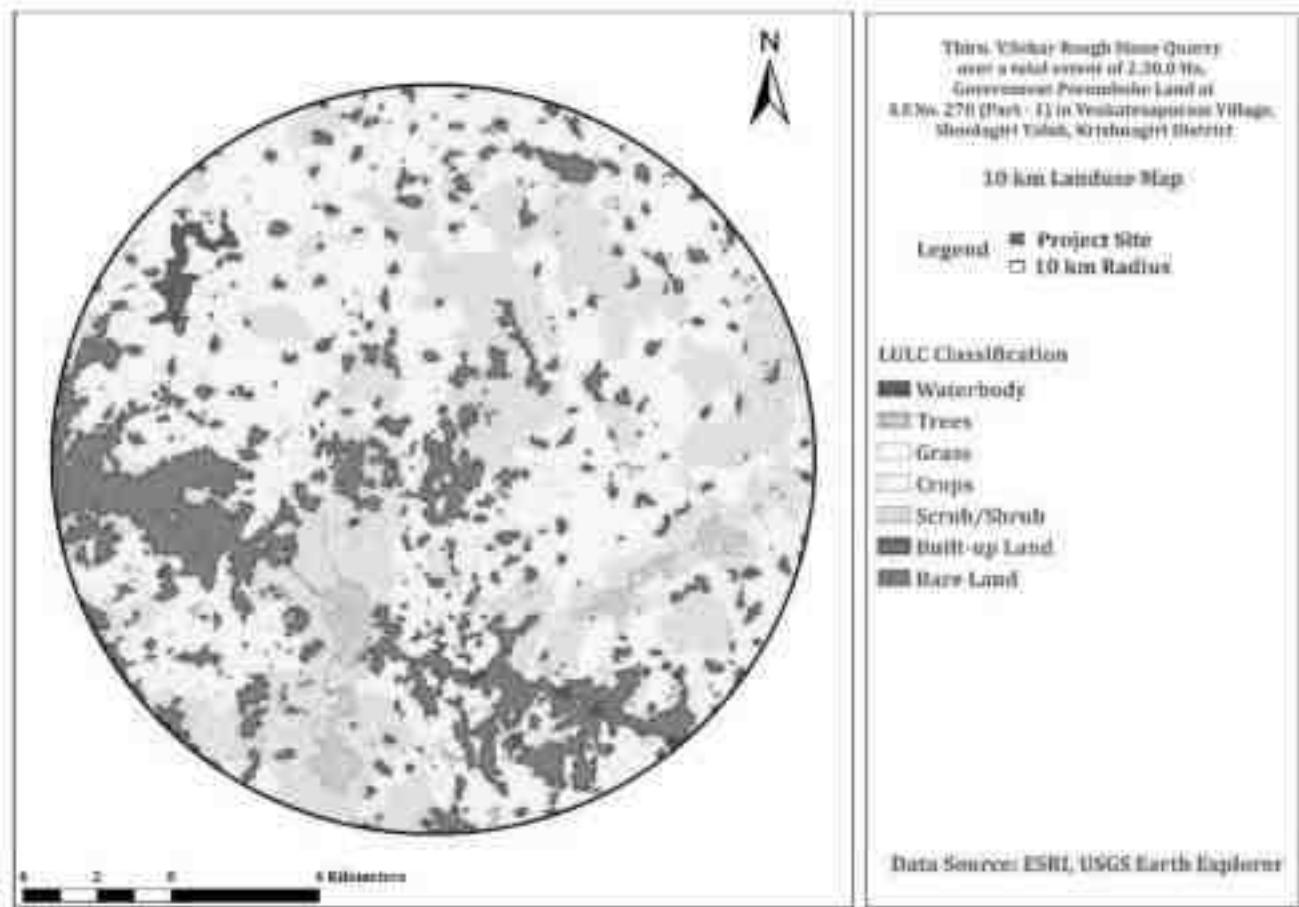


Figure 3-3 Land use classes around 10 km radius from the project site

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

Table 3-3 Land use pattern in Krishnagiri District

Sl.No	Categories	Area in Sq.km
1	Water Body	3.505
2	Trees	9.17
3	Grass	0.11
4	Crops	162.42
5	Scrub/Shrub	83.24
6	Built-up Area	59.82
7	Barren Land	0.55

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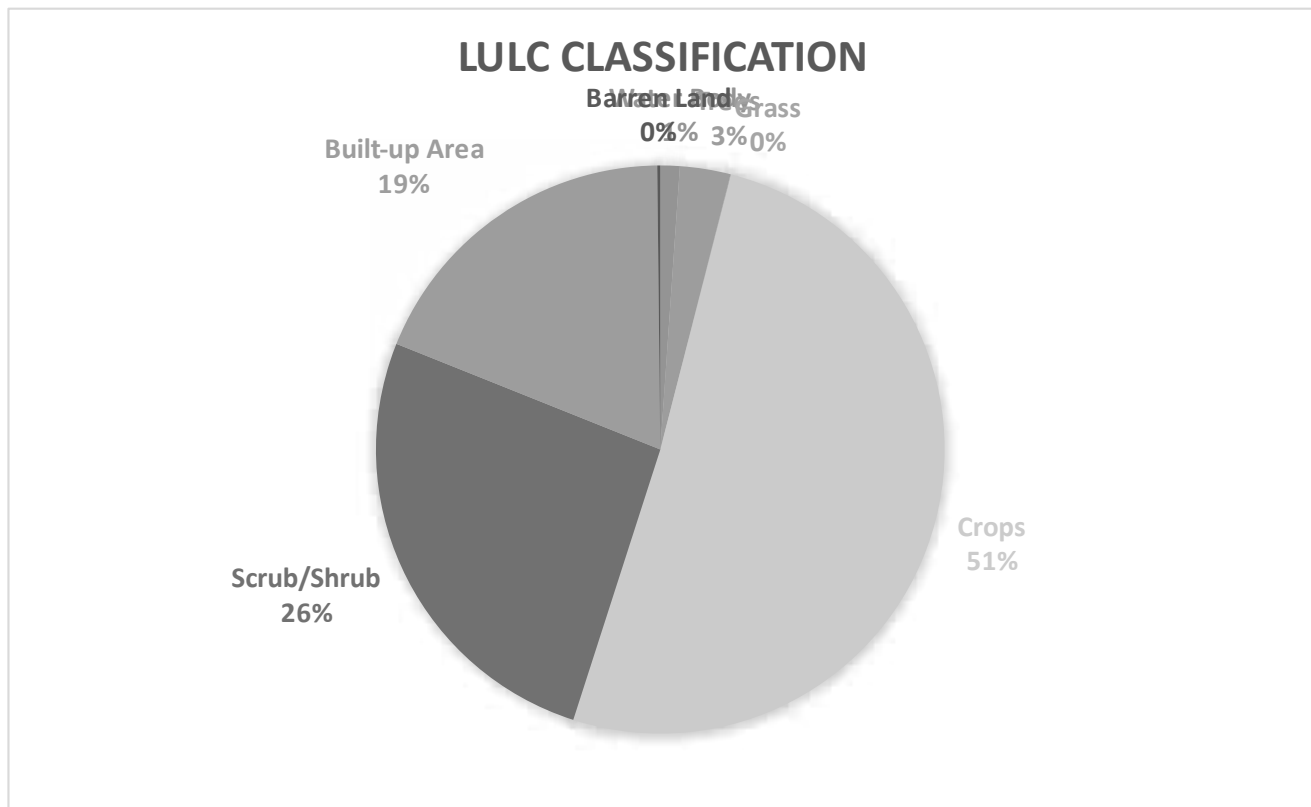


Figure 3-4 Land use pattern in Krishnagiri Distric

3.2.7 Agricultural land

This category includes the land utilized for crops, vegetables, fodder and fruits. Existing cropland and current fallows are included in this category.

It is described as an area under agricultural tree crops, planted adopting certain agricultural management techniques.

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3.3 Water Environment

3.3.1 Contour & Drainage

The project site is 826 m MSL. The drainage pattern within in the 10 km of the project site is dendritic.

3.3.2 Geomorphology

The geomorphic evolution of the area is mainly controlled by denudational, structural and fluvial processes. The evolution of various landforms has been governed mainly by the varying resistance of geological formations to these processes. Various landforms are occurring in the area, such as erosional plains, residual hills, pediments, buried pediments and deltaic plain. The shallow pediments possess poor to moderate yields with thin soil cover. The buried pediments and deltaic plain possess good ground water potential.

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 Hosur taluk. Vast stretches of loam soils and black soils occur in Krishnagiri district.

The prominent geomorphic units identified in the district through interpretation of satellite imagery are structural hills in the southwestern part of the district, denudational land forms 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 MSL. The plateau region along the western boundary and the northwestern part of the district has an average elevation of 912 m MSL. The Guthrayan Durg with an elevation of 1395 m amsl is the highest peak in the district

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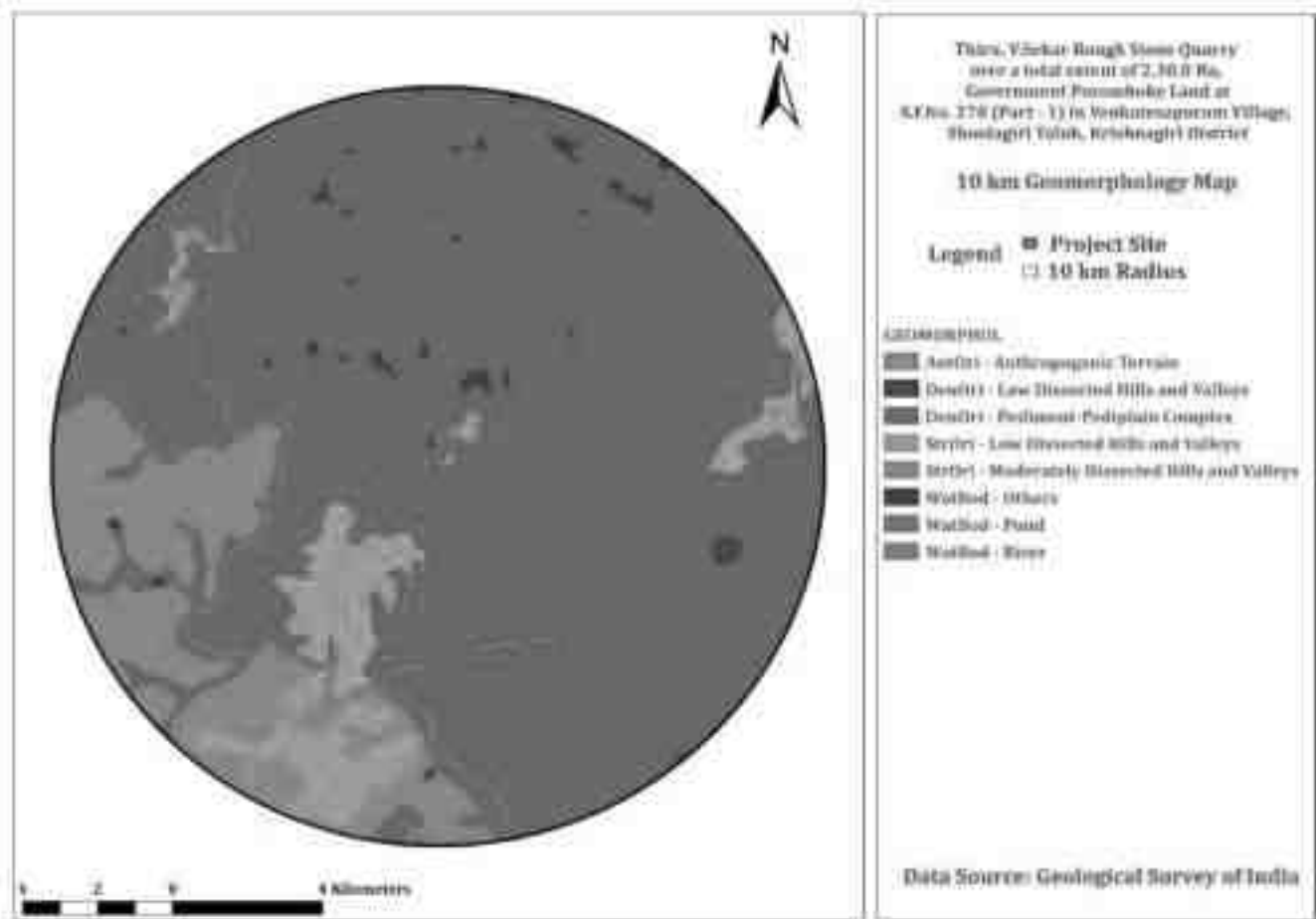


Figure 3-5 Geomorphology within 10km from the project site

3.3.3 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

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The 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 the phreatic condition and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.

3.3.4 Hydrogeology

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. Depth of well in hard rock generally ranges between 8 and 15m below ground level. Generally yield in open wells ranges from 30 to 250m³ /day and in bore well between 260 and 430 m³ /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 Lime stone, Calcareous sand - stone and marl. The Tertiary formation is argillaceous comprising of Silty clay stones, argillaceous Lime stone. The Quaternary deposits represented by the river deposits of Ponnaiyar and 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, sand stone of tertiary formation are the potential groundwater reservoirs.

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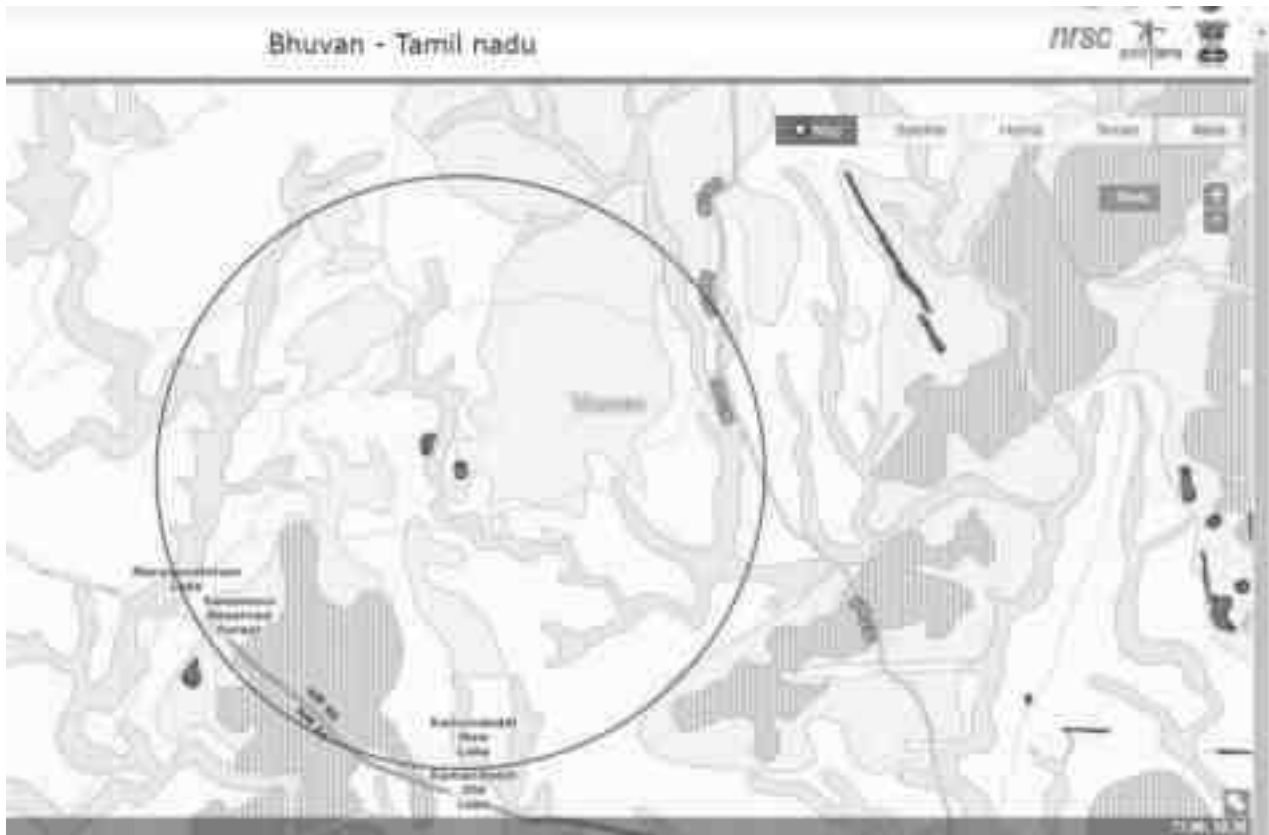


Figure 3-6 Ground water prospects within 5 km radius of the project site

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	January - March 2023
Design Criteria	Based on the Environmental settings in the study area
Monitoring Locations	Project site – GW 1 Ungatti – GW 2 (2.54 km, E) Devasanapalli – GW 3 (2.07 km, S) Perandapalli - GW 4 (3.07 km, W) Venkateshapuram – GW 5 (2.8 km, N)

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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

S. No	Parameters	Test Method
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)1960 RA: 2012
5	Total Dissolved Solids	APHA 22 nd Edn.2012-2540-C
6	Total Suspended Solids	IS:3025(P-17)-1960 RA:2012
7	Total Hardness as CaCO ₃	APHA 22 nd Edn.2012-2340-C
8	Calcium as Ca	APHA 22 nd Edn2012.3500 Ca-B
9	Magnesium as Mg	APHA 22 nd Edn.2012-3500 Mg-B
10	Chloride as Cl	IS:3025(P -32)-1988 RA: 2014
11	Sulphate as SO ₄	APHA 22 nd Edn.2012-4500 SO ₄ ⁻ -E
12	Total Alkalinity as CaCO ₃	APHA 22 nd Edn.2012-2320-B
13	Iron as Fe	IS:3025(P -53):2003 RA: 2014
14	Silica as SiO ₂	IS:3025(P -35)1988 RA: 2014
15	Fluoride as F	APHA 22 nd Edn.2012-4500-F-D
16	Nitrate as NO ₃	IS:3025(P -34):1988 RA: 2014
17	Sodium as Na	IS:3025(P -45):1993 RA: 2014
18	Potassium as K	IS:3025(P -45):1993 RA: 2014
19	Coliform	IS:1622:1981:RA:2014

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20	E.coli	IS:1622:1981:RA:2014
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Table 3-6 Ground water sampling results

S. No	Parameters	Units	GW1	GW 2	GW 3	GW 4	GW5
1.	pH (at 25°C)	-	7.88	7.41	6.68	7.73	7.68
2.	Electrical Conductivity	µS/cm	990	893	1690	723	833
3.	Colour	Hazen Unit	2	2	2	1	2
4.	Turbidity	NTU	1	BQL(LO Q:1)	12.5	BQL(LO Q:1)	BQL(LO Q:1)
5.	Total Dissolved Solids	mg/L	582	491	969	428	458
6.	Total Suspended Solids	mg/L	BQL(LO Q:2)	BQL(LO Q:2)	19.5	BQL(LO Q:2)	BQL(LO Q:2)
7.	Total Hardness	mg/L	394	327	596	225	243
8.	Calcium as Ca	mg/L	109	79.3	152	51.8	52.6
9.	Magnesium as Mg	mg/L	29.5	31.4	52.4	23.3	27.1
10.	Chloride as Cl	mg/L	133	61.7	198	32.3	40.5
11.	Sulphate as SO ₄	mg/L	54.8	51.9	123	44.5	33
12.	Total Alkalinity as CaCO ₃	mg/L	157	266	351	239	305
13.	Iron as Fe	mg/L	BQL(LO Q:0.2)	BQL(LO Q:0.2)	18.5	BQL(LO Q:0.2)	BQL(LO Q:0.2)
14.	Silica as SiO ₂	mg/L	19.9	37.6	57	108	67.2
15.	Sodium as Na	mg/L	86.2	56.1	157	24.3	38.7
16.	Potassium as K	mg/L	8.1	3.8	19.3	1.9	2.4
17.	Fluoride as F	mg/L	BQL(LO Q:0.2)	BQL(LO Q:0.2)	BQL(LO Q:0.2)	BQL(LO Q:0.2)	BQL(LO Q:0.2)
18.	Nitrate as NO ₃	mg/L	45.6	13.2	20.4	20.7	50.2

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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): 2 Hazel unit.

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

Odour & Taste:

The water is odourless. 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:7.88

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: 1

Acceptable and permissible limits: 1 NTU & 5 NTU respectively. The value of turbidity generally indicates the presence of phytoplankton’s and other sediments. The value in the project site indicates the water is less turbid and no any physical treatment is required to treat the turbidity of the water.

Total Dissolved Solids:

Value observed in the Project Site: 582 mg/L.

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

The TDS is the presence of the 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 top soil is carried away by the water. The value in the project site indicates the water is less turbid.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

3.3.6.2 Chemical parameters of water:

The chemical parameters of the drinking water include,

Calcium:

Value observed in the Project Site: 109 mg/L.

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

Calcium is the 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: 29.5 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 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: 133 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 CaCO₃:

Value observed in the project site: 157 mg/L.

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

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.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

3.3.6.3 Biological parameters of water:

The biological parameters of water includes E- Coli & Coliform

Value observed in the project site: <2 mpn/100ml – e-coli and <2 mpn/100ml – Coliforms

The E- coli and coliform shall not be detectable in any 100 ml sample as per the drinking water standards IS 10500:2012.

E- coli is one of the fecal coliform bacteria. The presence of this indicates the water is faecally contaminated. Without treatment, when consumed, will have water borne diseases like cholera, typhoid and diarrhea.

3.3.7 Surface Water Analysis

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

Table 3-7 Surface Water Sample Results

S. No	Parameters	Units	Bukkasagaram Lake
1.	pH (at 25°C)	-	8.07
2.	Electrical Conductivity	µS/cm	596
3.	Colour	Hazen Unit	15
4.	Turbidity	NTU	3.6
5.	Total Dissolved Solids	mg/L	345
6.	Total Suspended Solids	mg/L	5.2
7.	Total Hardness as CaCO ₃	mg/L	204
8.	Calcium as Ca	mg/L	43.2
9.	Magnesium as Mg	mg/L	23.4
10.	Chloride as Cl	mg/L	46.6
11.	Sulphate as SO ₄	mg/L	24.4
12.	Total Alkalinity as CaCO ₃	mg/L	229
13.	Iron as Fe	mg/L	0.3
14.	Silica as SiO ₂	mg/L	23.7
15.	Sodium as Na	mg/L	42.2
16.	Potassium as K	mg/L	2.8
17.	Fluoride as F	mg/L	BQL(LOQ:0.2)
18.	Nitrate as NO ₃	mg/L	7.8
19.	COD	mg/L	28.9
20.	DO	mg/L	3.44

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

21.	BOD	mg/L	8.3
22.	TKN	mg/L	13.1

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 the 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	:	June to September
Post-monsoon season	:	October to November

i) Climate

Like the rest of the state, Krishnagiri experiences hot weather between April and July and is relatively cooler in December and January. The area exhibits a subtropical climate and the temperature that goes upto 42°C in summer and falls down to 27°C in December – January. The wind direction is NE-SW and vice-versa. Average annual rainfall is about 1071.4 mm in monsoon season.

ii) Temperature

The average daily temperature ranges from a maximum of 33.7 °C to a minimum of 24.2 °C

iii) Rainfall:

The historical rainfall data of past years is collected. The maximum rainfall is observed in September 2017 with a rainfall of 291.7 mm.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>											<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>											
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>											

	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F	R/F
2017	5.7	0	48.7	37.9	198.6	19.1	24.6	189.7	291.7	219	54.5	56.2
2018	0	1.3	34.9	14.4	114.5	41.1	10.5	18.5	152.1	85.2	33.2	4.8
2019	13.2	1.2	4.5	47.2	96.5	33.6	34.6	94.7	138.6	177.7	48.7	39.5
2020	0.3	0	6.9	61.7	57.9	59	147.2	66.8	142.1	142	77	42.6
2021	40.1	5.8	0	46.6	75.7	32.4	137.7	70.2	134.9	140.4	282.6	19.1

Source: Customized Rainfall Information System (CRIS), Hydrometer Division, GOI

iv) Relative humidity

The district enjoys a subtropical climate. The period from April to July is generally hot and dry. The weather is pleasant during the period from November to January. Usually mornings are more humid than afternoons. The relative humidity is on an average between 65 and 85% in the mornings. Humidity in the afternoons is generally between 40 and 70.

v) Wind Speed:

Wind speed was in the range of 2 Km/hr to 20 Km/hr. The wind speed was almost close to each other during the whole study period.

The site-specific meteorological data for the study period January - March 2023 is presented below. The maximum and minimum values for all the parameters except wind speed and wind direction are presented below.

vi) Metrological Data

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

vii) 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. The wind speed & wind direction data are taken and wind rose is plotted for January - March 2023. The wind rose is plotted using WR Plot.

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	Draft EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District	

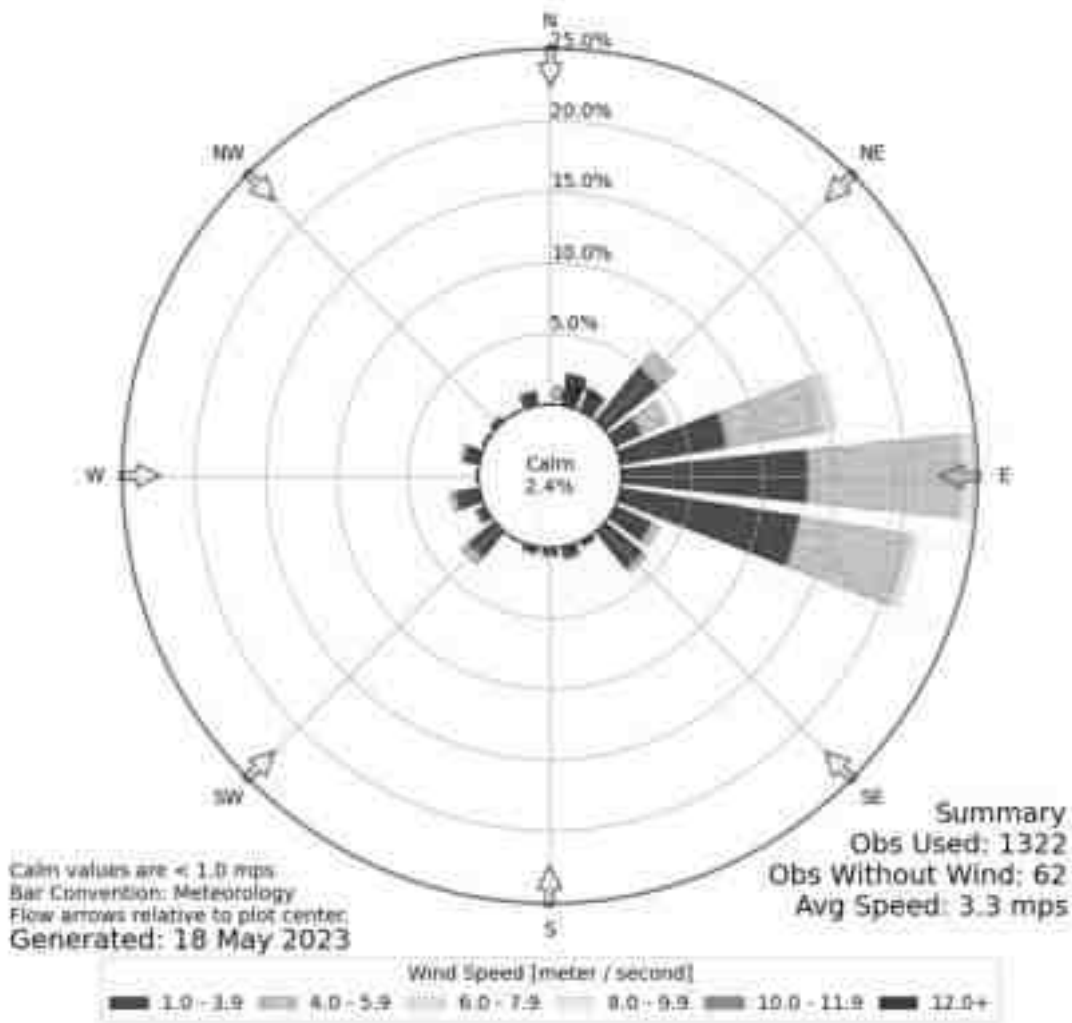


Figure 3-7 Wind rose

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.

3.4 Ambient Air Quality

Table 3-8: Selection of Sampling Location

Environmental Parameters: <i>Ambient Air</i>	
Monitoring Period	January - March 2023

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

Design Criteria	The monitoring stations are selected based on factors like topography/terrain, prevailing meteorological conditions like predominant wind direction (January - March 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	Location & Code	
	<ul style="list-style-type: none"> ➤ Project site – AAQ 1 ➤ Ungatti – AAQ 2 (2.54 km, E) ➤ Devasanapalli – AAQ 3 (2.07 km, S) ➤ Perandapalli – AAQ 4 (3.07 km, W) ➤ Venkateshapuram – AAQ 5 (2.8 km, N) 	
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.	

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.

Project	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	EIA Report
Project Proponent	<i>Thiru.V. Sekar</i>	
Project Location	<i>B.S.Thimmasandram Village, Shoolagiri Taluk, Krishnagiri District</i>	

Table 3-9 Ambient Air Quality

Code	Location	PM 10 ($\mu\text{g}/\text{m}^3$)			PM 2.5 ($\mu\text{g}/\text{m}^3$)			SO2 ($\mu\text{g}/\text{m}^3$)			NOx ($\mu\text{g}/\text{m}^3$)		
		Min	Max	Avg	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
AAQ 1	Project site	42	56	48.33	18	24	21	5	8	6.34	9	18	13.48
AAQ 2	Ungatti	44	54	49.67	19	26	22.83	3	11	6.64	8	25	15.05
AAQ 3	Devasanapalli	50	59	53.63	20	29	24.12	6	13	8.54	13	27	18.71
AAQ 4	Perandapalli	46	56	51.61	20	26	22.94	5	10	7.57	12	22	17.12
AAQ 5	Venkateshapuram	51	61	55.52	23	30	25.76	6	12	8.86	12	27	19.93
NAAQ Standards - Residential Area		100 ($\mu\text{g}/\text{m}^3$)			60($\mu\text{g}/\text{m}^3$)			80 ($\mu\text{g}/\text{m}^3$)			80 ($\mu\text{g}/\text{m}^3$)		

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

3.4.2 Interpretation of ambient air quality:

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

Observation:

The Maximum value of PM10 (59 (µg/m³)), PM 2.5(29 (µg/m³)), SO_x (12 (µg/m³)) ,NO_x (27 (µg/m³)) is observed in different places.

Inference:

The monitoring results for PM10, PM2.5, SO₂ and NO_x was found to be high in Devasanapalli which densely populated small rural area where there is no commercial development like industry, college, etc. The observed values are all well within the Standards prescribed by NAAQ.

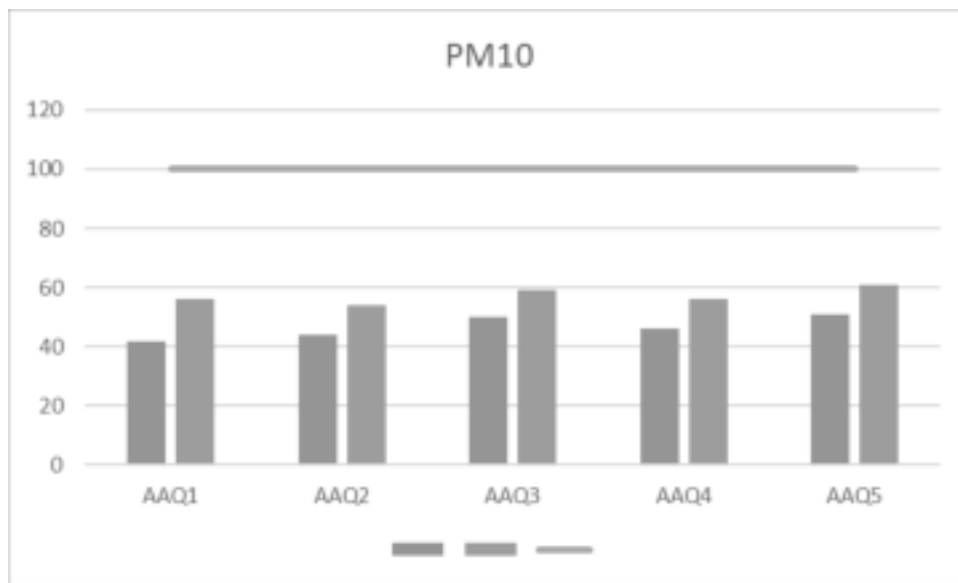


Figure 3-8 Concentration of PM10 (µg/m³) in Study Area

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District	

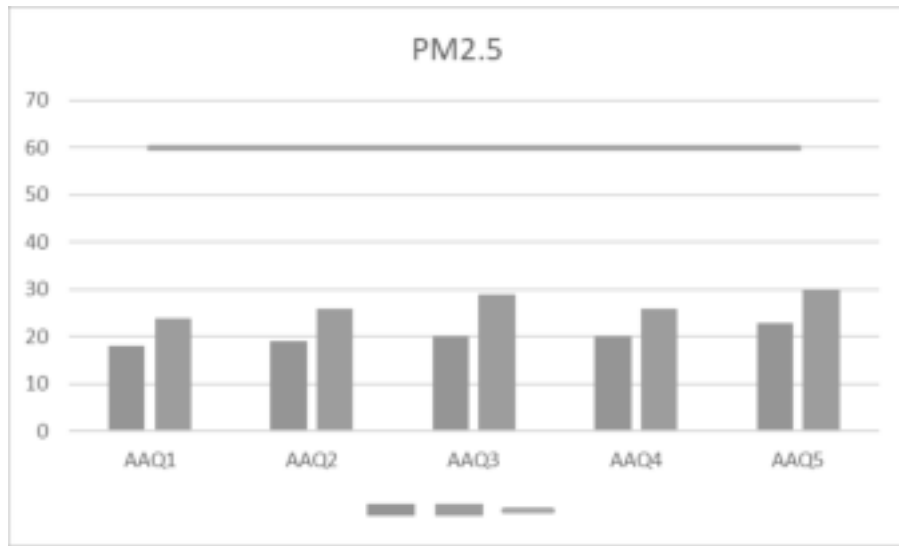


Figure 3-9 Concentration of PM2.5 (µg/m³) in Study Area

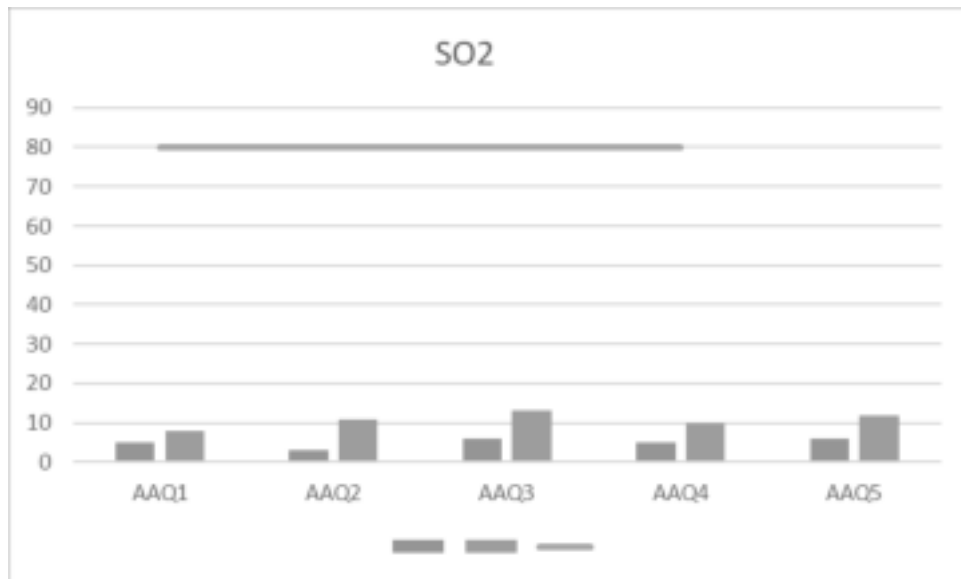


Figure 3-10 Concentration of SOx (µg/m³) in Study Area

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District	

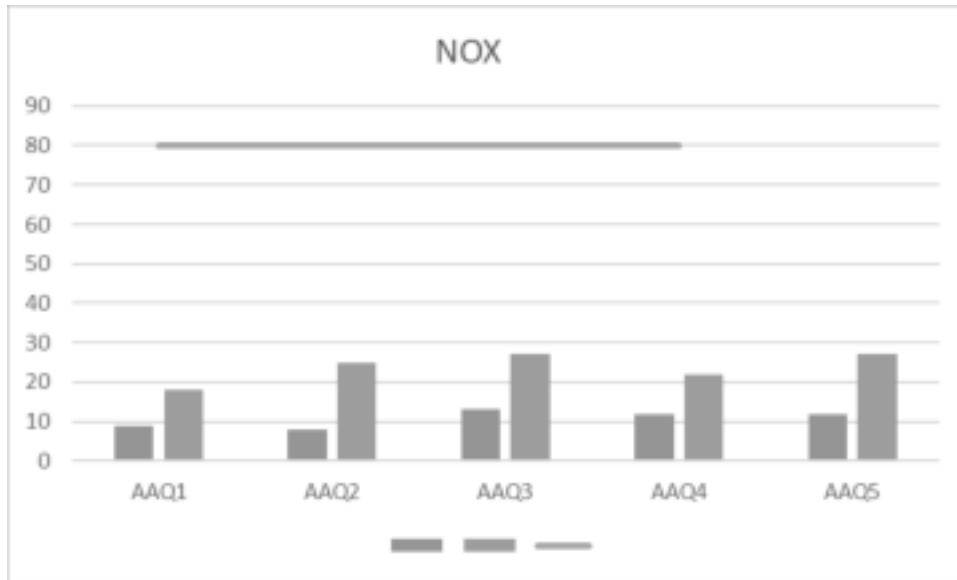


Figure 3-11 Concentration of NO_x (µg/m³) in Study Area

3.5 Noise Environment:

Table 3-10 Noise Analysis

Environmental Parameters: Noise Analysis	
Monitoring Period	January - March 2023
Design Criteria	Based on the Sensitivity of the area
Monitoring Locations	Project site – N1 Ungatti – N 2 (2.54 km, E) Devasanapalli – N 3 (2.07 km, S) Perandapalli – N 4 (3.07 km, W) Venkateshapuram – N5 (2.8 km, N)
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 Monitoring	Noise samples were collected from 5 locations - Once in a season

Project	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	EIA Report
Project Proponent	<i>Thiru.V. Sekar</i>	
Project Location	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

Ambient Noise Levels are monitored in the chosen 5 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 – N1	51	46	48
Ungatti – N 2 (2.54 km, E)	53	49	51
Devasanapalli – N 3 (2.07 km, S)	55	51	54
Perandapalli – N 4 (3.07 km, W)	53	45	49
Venkateshapuram – N5 (2.8 km, N)	54	49	53

3.5.2 Night Noise Level (Leq Night)

Table 3-12 Night Noise Level (Leq Night)

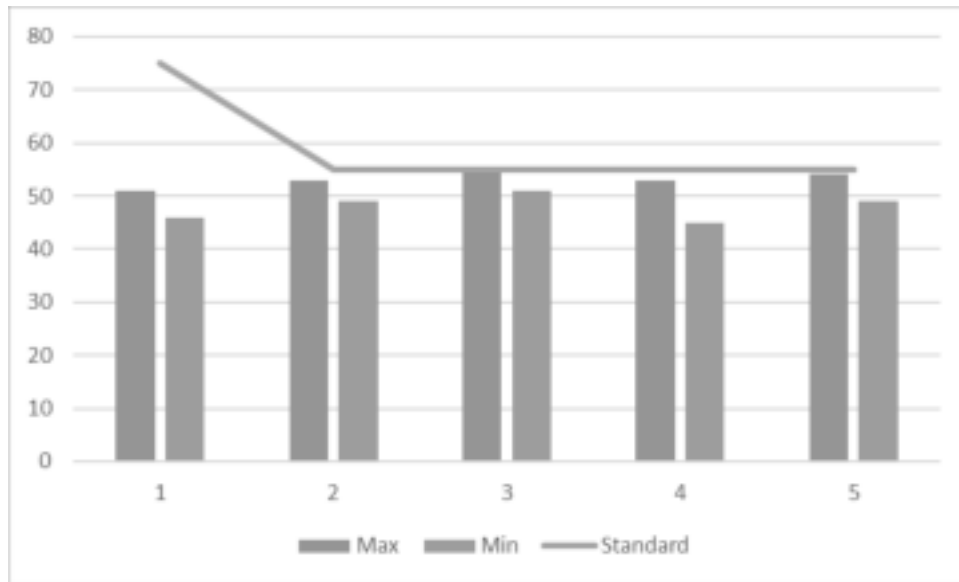
Location	Leq Night in dB(A)		
	Max	Min	Average
Project site – N1	43	38	40
Ungatti – N 2 (2.54 km, E)	44	39	41
Devasanapalli – N 3 (2.07 km, S)	45	39	43
Perandapalli – N 4 (3.07 km, W)	44	39	42
Venkateshapuram – N5 (2.8 km, N)	42	40	43

Observation:

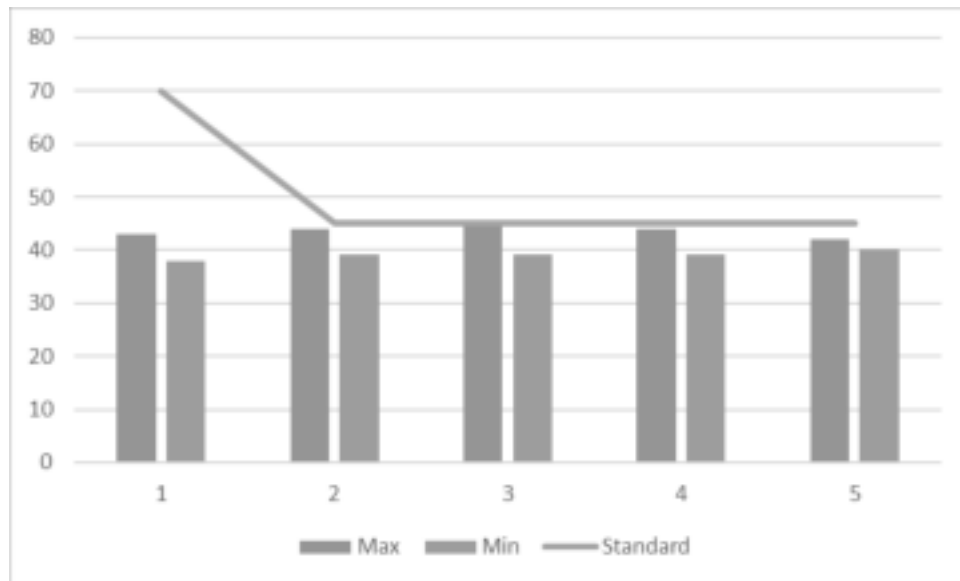
The maximum Day noise and Night noise were found to be 58 dB(A) and 48 dB(A) respectively in Devasanapalli (2.07 km, S). The minimum Day Noise and Night noise were 45 dB(A) and 38 dB(A) respectively which was observed in Perandapalli & Project Site.

The observed values are all well within the Standards prescribed by CPCB.

Project	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	EIA Report
Project Proponent	<i>Thiru.V. Sekar</i>	
Project Location	<i>Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District</i>	



Maximum & minimum Noise in Day



Maximum & Minimum Noise in Night

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District	

3.6 Soil Environment

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

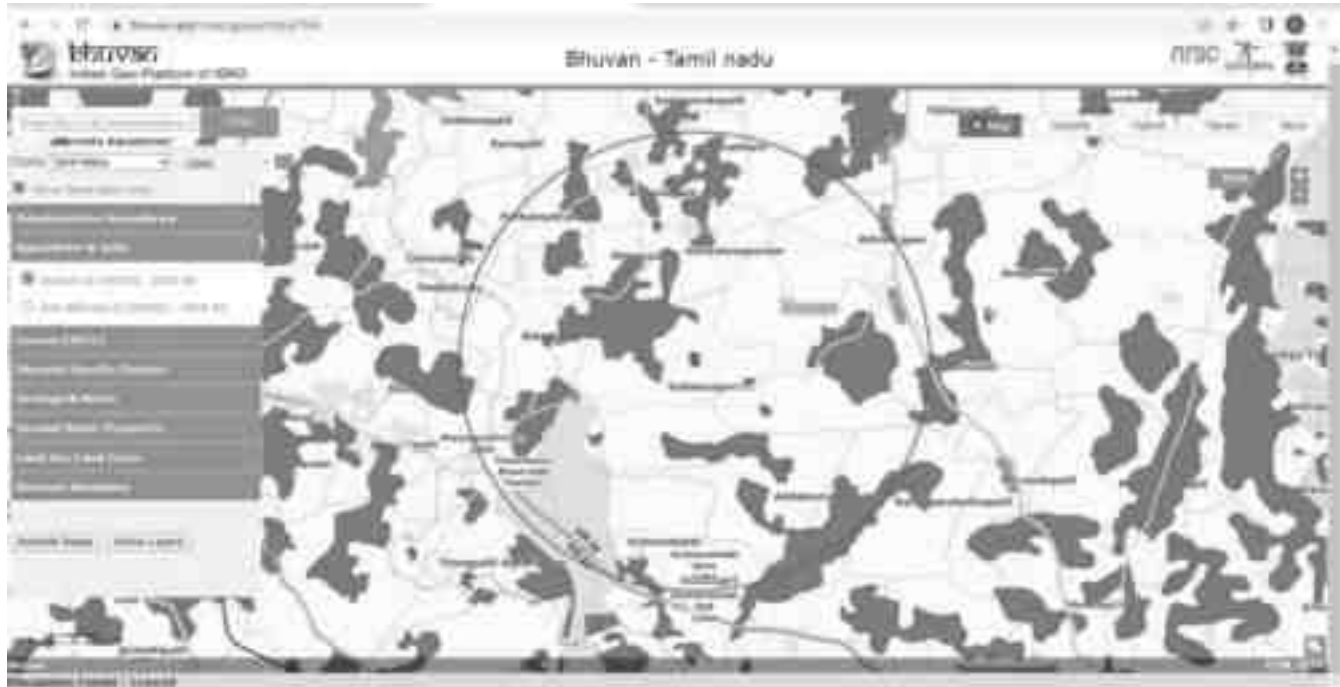


Figure 3-12 Soil Erosion pattern within 5 km radius of the project site

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

Environmental Parameters: <i>Soil Quality Analysis</i>	
Monitoring Period	January - March 2022

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District	

Design Criteria	Based on the environmental settings of the study area
Monitoring Locations	Project site – SQ1
	Ungatti – SQ 2 (2.54 km, E)
	Devasanapalli – SQ 3 (2.07 km, S)
	Perandapalli – SQ 4 (3.07 km, W)
	Venkateshapuram – SQ5 (2.8 km, N)
Methodology	Composite soil samples using sampling augers and field capacity apparatus
Frequency of Monito	Soil samples were collected from 5 locations Once in a season

To assess the soil quality of the study area, 5 monitoring stations were selected and the results are summarized below.

Table 3-14 Soil Quality Analysis

Parameters	SQ 1	SQ 2	SQ 3	SQ 4	SQ 5
1. pH (at 25°C)	6.47	6.49	6.9	7.78	6.1
2. Electrical Conductivity	0.11	0.15	0.12	0.23	0.13
3. Water holding Capacity	3.12	4.25	3.82	3.16	2.78
4. Chloride mg/kg	47.4	170	56.1	114	112
5. Calcium mg/kg	23.4	23.1	34.7	23.8	22.2
6. sodium mg/kg	131	27.8	140	94.9	165
7. Potassium mg/kg	10.6	5.5	7.78	14.5	12.6
8. Organic matter %	1.07	0.19	0.08	0.21	0.14
9. Magnesium mg/kg	18.8	98.5	20.8	42.3	41.4
10. sulphate	199	19.6	179	19.8	187
11. CEC	8.95	6.88	57.6	28.7	7.95
12. Carbonate mg/kg	NIL	NIL	NIL	NIL	NIL

Project	Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar	EIA Report
Project Proponent	Thiru.V. Sekar	
Project Location	Venkatesapuram Village, Shoologiri Taluk, Krishnagiri District	

13. Bicarbonate mg/kg	122	141	140	133	69.3
14. TKN (%)	0.02	0.029	0.027	0.041	0.030
15. bulk density (g/cm ³)	1.156	1.141	1.179	1.252	1.172
16. Phosphorous	202	190	181	210	188
17. sand	63	77	67	54	73
18. clay	6	8	14	15	9
19. silt	31	15	17	31	18
20. SAR	7.14	9.68	7.53	7.46	7.21
21. silicon	0.81	0.89	0.95	0.79	0.81

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 study area ranged between 1.141 to 1.252 g/cc which indicates favorable physical condition for plant growth. The water holding capacity was found in the range of 2.78 ml/l to 4.25 ml/l.

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 6.1 to 7.78, 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 1.27 mg/kg, which indicates the soil is slightly unfertile.

3.7 Ecology and Biodiversity

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

Ecology and Biodiversity is studied for 10 km radius around the project site. Project site and 2 km 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
 - Line transects feature only a length dimension, usually defined by a tape stretched across the area to be sampled.
 - Belt transects have a width as well as length.
 - 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.

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, random field survey was done. Field survey was conducted around 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

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V. Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

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.

S. No	Location	No of Quadrates		
		Trees (10m x 10m)	Shrubs (5m x 5m)	Herbs & grasses (1m x 1m)
1.	Project site	1	4	5
2.	Ungatti (2.54 km, E)	1	4	5
3.	Devasanapalli (2.07 km, S)	1	4	5
4.	Perandapalli (3.07 km, W)	1	4	5
5.	Venkateshapuram (2.8 km, N)	1	4	5

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 part 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.

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

Parameters	Formula
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

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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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Project Proponent	Thiru.V. Sekar	
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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	Cassia siamea	ManjalKonrai	3	2	6	0.50	33.33	1.5	0.07	2.52	2.17	1.11	5.81	Least Concern
3	Acacia nilotica	Karuvelai	4	4	6	0.67	66.67	1	0.28	3.36	4.35	4.45	12.16	Least Concern
4	Bambusa vulgaris	Moongil	4	4	6	0.67	66.67	1	0.50	3.36	4.35	7.92	15.63	Not assessed
5	Anacardium occidentale	Cashew	1	1	6	0.17	16.67	1	0.44	0.60	1.09	6.96	8.88	Not assessed
6	Alstonia scholaris	Elilaipalai	2	2	6	0.33	33.33	1	0.27	1.68	2.17	4.31	8.16	Least Concern
7	Psidium guajava	Guava	3	3	6	0.50	50.00	1	0.23	2.52	3.26	3.61	9.39	Not assessed
8	Aegle marmelos	Vilvam	1	1	6	0.17	16.67	1	0.16	0.60	1.09	2.50	4.43	Not assessed
9	Causuarina equisetifolia	Savukku	2	2	6	0.33	33.33	1	0.21	1.68	2.17	3.34	7.20	Not assessed
10	Albizia amara	Wunja	1	1	6	0.17	16.67	1	0.20	0.60	1.09	3.22	5.14	Not assessed
11	Cocos nucifera	Thennai	10	6	6	1.67	100.0	1.67	0.15	8.40	6.52	2.39	17.32	Not assessed
12	Artocarpus heterophyllus	Palaa	2	2	6	0.33	33.33	1	0.18	1.68	2.17	2.85	6.70	Not assessed
13	Bombax ceiba	Sittan	4	4	6	0.67	66.67	1	0.08	3.36	4.35	1.27	8.98	Not assessed
14	Azadirachta indica	Veppam	17	6	6	2.83	100.0	2.83	0.13	14.2	6.52	1.98	22.79	Not assessed
15	Delonix regia	Cemmayir-Konrai	1	1	6	0.17	16.67	1	0.21	0.60	1.09	3.34	5.27	Least Concern
16	Delonix elata	Perungondrai	1	1	6	0.17	16.67	1	0.17	0.60	1.09	2.62	4.54	Least Concern
17	Dalbergia sissoo	Shisham	1	1	6	0.17	16.67	1	0.15	0.60	1.09	2.29	4.21	Not assessed
18	Ficus benghalensis	Alai	2	2	6	0.33	33.33	1	0.08	1.68	2.17	1.19	5.04	Not assessed

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19	Annona squamosa	Sitapalam	1	1	6	0.17	16.67	1	0.23	0.60	1.09	3.61	5.53	Not assessed
20	Pithecellobium dulce	Kodukapuli	1	1	6	0.17	16.67	1	0.14	0.60	1.09	2.18	4.11	Not assessed
21	Ficus religiosa	Arasa maram	3	3	6	0.50	50.00	1	0.09	2.52	3.26	1.35	7.13	Not assessed
22	Couroupita guianensis	Nagalingam	5	3	6	0.83	50.00	1.67	0.14	4.20	3.26	2.18	9.64	Not assessed
23	Musa paradise	Vaazhai	3	3	6	0.50	50.00	1	0.08	2.52	3.26	1.19	6.97	Not assessed
24	Prosopis juliflora	Vaelikaruvai	3	3	6	0.50	50.00	1	0.21	2.52	3.26	3.34	9.13	Not assessed
25	Mangifera indica	Mamaram	7	6	6	1.17	100.0	1.16	0.07	5.88	6.52	1.11	13.52	Data insufficient
26	Mimusops elengi	Magizham	2	2	6	0.33	33.33	1	0.18	1.68	2.17	2.85	6.70	Not assessed
27	Morinda pubescens	Nuna	6	6	6	1.00	100.0	1	0.24	5.04	6.52	3.74	5.31	Not assessed
28	Thespesia populnea	Poovarasam	3	3	6	0.50	50.00	1	0.15	2.52	3.26	2.39	8.18	Not assessed
29	Tectona grandis	Thekku	3	3	6	0.50	50.00	1	0.12	2.52	3.26	1.88	7.66	Not assessed
30	Tamarindus indica	Puli	10	6	6	1.67	100.0	1.66	0.20	8.40	6.52	3.09	8.02	Not assessed
31	Syzygium cumini	naval	5	1	6	0.83	16.67	5	0.11	4.20	1.09	1.79	7.07	Not assessed
32	Carica papaya	Papaya	3	3	6	0.50	50.00	1	0.09	2.52	3.26	1.43	7.21	Not assessed
33	Ziziphus mauritiana	Elandai	1	1	6	0.17	16.67	1	0.28	0.60	1.09	4.45	6.38	Not assessed
34	Citrus medica	Elumichai	2	2	6	0.33	33.33	1	0.23	1.68	2.17	3.61	7.46	Not assessed
Total			119	92					6.35					

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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	<i>Jatropagossypifolia</i>	Kaatamanaku	28	17	24	1.17	0.71	1.65	14.43	17.17	Not Assessed
2	<i>Lantana trifolia</i>	Shrub verbana	10	3	24	0.42	0.13	3.33	5.15	3.03	Not Assessed
3	<i>Robiniapseudoacacia</i>	Black locust	17	5	24	0.71	0.21	3.4	8.76	5.05	Least Concern
4	<i>Lantana camara</i>	Unnichedi	9	6	24	0.38	0.25	1.5	4.64	6.06	Not Assessed
5	<i>Calotropis gigantea</i>	Erukam	14	12	24	0.58	0.50	1.17	7.22	12.12	Not Assessed
6	<i>Stachytarpeaurticifolia</i>	Rat tail	15	9	24	0.63	0.38	1.67	7.73	9.09	Not Assessed
7	<i>Datura metal</i>	Ummattangani	5	4	24	0.21	0.17	1.25	2.58	4.04	Not Assessed
8	<i>Hibiscus rosa sinensis</i>	Sembaruthi	3	2	24	0.13	0.08	1.5	1.55	2.02	Not Assessed
9	<i>Tabernaemontanadivaricata</i>	Crepe Jasmine	3	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
10	<i>Chloromolaena odorata</i>	Venapacha	9	6	24	0.38	0.25	1.5	4.64	6.06	Least Concern
11	<i>Euphorbia geniculata</i>	Amman Pacharisi	3	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
12	<i>Catharanthus roseus</i>	Nithyakalyani	3	3	24	0.13	0.13	1	1.55	3.03	Not Assessed
13	<i>Woodfordiafruticosa</i>	Velakkai	3	3	24	0.13	0.13	1	1.55	3.03	Least Concern
14	<i>Morindapubescens</i>	Mannanunai	2	2	24	0.08	0.08	1	1.03	2.02	Not Assessed
15	<i>Acalypha indica</i>	Kuppaimeni	20	8	24	0.83	0.33	2.5	10.31	8.08	Not Assessed
16	<i>Parthenium hysterophorous</i>	Vishapoondur	50	13	24	2.08	0.54	3.85	25.77	13.13	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 species	Total No. of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	IUCN Conservation status
1	Plumbago zeylanica	Chittiramoolam	3	3	30	0.10	0.10	1	1.19	3.23	Not assessed
2	Mimosa pudica	Thottacherungi	6	5	30	0.20	0.17	1.2	2.38	5.38	Least concern
3	Sida acuta	Malaidangi	10	3	30	0.33	0.10	3.33	3.97	3.23	Not assessed
4	Scrophularia nodosa	Sarakkothini	15	7	30	0.50	0.23	2.14	5.95	7.53	Not assessed
5	Helicteresisora	Valampuri	2	2	30	0.07	0.07	1	0.79	2.15	Not assessed
6	Cynodondactylon	Arugu	12	6	30	0.40	0.20	2	4.76	6.45	Not assessed
7	Sporobolus fertilis	Giant Parramatta Grass	9	4	30	0.30	0.13	2.25	3.57	4.30	Not assessed
8	Viburnum dentatum	Viburnum	5	5	30	0.17	0.17	1	1.98	5.38	Least concern
9	Heraculem spondylium	Hog Weed	20	10	30	0.67	0.33	2	7.94	10.75	Not assessed
10	Laportea canadensis	Peruganchori	30	20	30	1.00	0.67	1.5	11.90	21.51	Not assessed
11	Euphorbia hirta	Amman Pacharisi	5	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
12	Tridax procumbens	Vettukaayathalai	5	4	30	0.17	0.13	1.25	1.98	4.30	Not assessed
13	Tephrosia purpurea	Kavali	20	4	30	0.67	0.13	5	7.94	4.30	Not assessed
14	Sida cordifolia	Maanikham	45	4	30	1.50	0.13	11.25	17.86	4.30	Not assessed
15	Tridax procumbens	Cuminipachai	15	4	30	0.50	0.13	3.75	5.95	4.30	Not assessed
16	Ruellia strepens	Grandinayagam	25	4	30	0.83	0.13	6.25	9.92	4.30	Not assessed
17	Senna occidentalis	Nattamsakarai	25	4	30	0.83	0.13	6.25	9.92	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 type 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

Description	Formula
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

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Ficus Carica	Athi Maram	2	0.017857	-4.02535	-0.07188
Cassia siamea	ManjalKonrai	2	0.017857	-4.02535	-0.07188
Acacia nilotica	Karuvelai	4	0.035714	-3.3322	-0.11901
Bambusa vulgaris	Moongil	4	0.035714	-3.3322	-0.11901
Anacardium occidentale	Cashew	2	0.017857	-4.02535	-0.07188
Alstonia scholaris	Elilaipalai	2	0.017857	-4.02535	-0.07188
Psidium guajava	Guava	3	0.026786	-3.61989	-0.09696
Aegle marmelos	Vilvam	1	0.008929	-4.7185	-0.04213

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Causuarina equisetifolia	Savukku	2	0.017857	-4.02535	-0.07188
Albizia amara	Wunja	1	0.008929	-4.7185	-0.04213
Cocos nucifera	Thennai	15	0.133929	-2.01045	-0.26926
Artocarpus heterophyllus	Palaa	2	0.017857	-4.02535	-0.07188
Bombax ceiba	Sittan	4	0.035714	-3.3322	-0.11901
Azadirachta indica	Veppam	10	0.089286	-2.41591	-0.21571
Delonix regia	Cemmayir-Konrai	1	0.008929	-4.7185	-0.04213
Delonix elata	Perungondrai	1	0.008929	-4.7185	-0.04213
Dalbergia sissoo	Shisham	1	0.008929	-4.7185	-0.04213
Ficus benghalensis	Alai	2	0.017857	-4.02535	-0.07188
Annona squamosa	Sitapalam	1	0.008929	-4.7185	-0.04213
Pithecellobium dulce	Kodukapuli	1	0.008929	-4.7185	-0.04213
Ficus religiosa	Arasa maram	3	0.026786	-3.61989	-0.09696
Couroupita guianensis	Nagalingam	5	0.044643	-3.10906	-0.1388
Musa paradise	Vaazhai	3	0.026786	-3.61989	-0.09696
Prosopis juliflora	Vaelikaruvai	3	0.026786	-3.61989	-0.09696
Mangifera indica	Mamaram	8	0.071429	-2.63906	-0.1885
Mimusops elengi	Magizham	2	0.017857	-4.02535	-0.07188
Morinda pubescens	Nuna	6	0.053571	-2.92674	-0.15679
Thespesia populnea	Poovarasam	3	0.026786	-3.61989	-0.09696
Tectona grandis	Thekku	3	0.026786	-3.61989	-0.09696
Tamarindus indica	Puli	8	0.071429	-2.63906	-0.1885
Syzygium cumini	naval	1	0.008929	-4.7185	-0.04213
Carica papaya	Papaya	3	0.026786	-3.61989	-0.09696
Ziziphus mauritiana	Elandai	1	0.008929	-4.7185	-0.04213
Citrus medica	Elumichai	2	0.017857	-4.02535	-0.07188
Total		112			-3.22

H (Shannon Diversity Index) =1.76

Shrubs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Jatropagossypifolia	Kaatamanaku	28	0.14433	-1.93565	-0.27937
Lantana trifolia	Shrub verbana	10	0.051546	-2.96527	-0.15285
Robiniapseudoacacia	Black locust	17	0.087629	-2.43464	-0.21335
Lantana camara	Unnichedi	9	0.046392	-3.07063	-0.14245
Calotropis gigantea	Erukam	14	0.072165	-2.6288	-0.18971
Stachytarphaurticifolia	Rat tail	15	0.07732	-2.55981	-0.19792
Datura metal	Ummattangani	5	0.025773	-3.65602	-0.09429
Hibiscus rosa sinensis	Sembaruthi	3	0.015464	-4.16925	-0.06447

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Tabernaemontanadivaricata	Crepe Jasmine	3	0.015464	-4.16925	-0.06447
Chloromolaena odorata	Venapacha	9	0.046392	-3.07063	-0.14245
Euphorbia geniculata	Amman Pacharisi	3	0.015464	-4.16925	-0.06447
Catharanthus roseus	Nithyakalyani	3	0.015464	-4.16925	-0.06447
Woodfordiafruticosa	Velakkai	3	0.015464	-4.16925	-0.06447
Morindapubescens	Mannanunai	2	0.010309	-4.57471	-0.04716
Acalypha indica	Kuppaimeni	20	0.103093	-2.27213	-0.23424
Parthenium hysterophorous	Vishapoonda	50	0.257732	-1.35560	-0.34944
Total		194			-2.3656

H (Shannon Diversity Index) =1.97

Herbs

Scientific Name	Common Name	No. of Species	Pi	ln (Pi)	Pi x ln (Pi)
Plumbago zeylanica	Chittiramoolam	3	0.011905	-4.43082	-0.05275
Mimosa pudica	Thottacherungi	6	0.02381	-3.73767	-0.08899
Sida acuta	Malaidangi	10	0.039683	-3.22660	-0.12805
Scrophularia nodosa	Sarakkothini	15	0.059524	-2.82138	-0.16794
Helicteresisora	Valampuri	2	0.007937	-4.83628	-0.03838
Cynodondactylon	Arugu	12	0.047619	-3.04452	-0.14498
Sporobolus fertilis	Giant Parramatta Grass	9	0.035714	-3.3322	-0.11901
Viburnum dentatum	Viburnum	5	0.019601	-3.91999	-0.07778
Heraculem spondylium	Hog Weed	20	0.079365	-2.5337	-0.20109
Laportea canadensis	Peruganchori	30	0.119048	-2.12823	-0.25336
Euphorbia hirta	Amman Pacharisi	5	0.019601	-3.91999	-0.07778
Tridax procumbens	Vettukaayathalai	5	0.019601	-3.91999	-0.07778
Tephrosia purpurea	Kavali	20	0.079365	-2.5337	-0.20109
Sida cordifolia	Maanikham	45	0.178571	-1.72277	-0.30764
Tridax procumbens	Cuminipachai	15	0.059524	-2.82138	-0.16794
Ruellia strepens	Grandinayagam	25	0.099206	-2.31055	-0.22922
Senna occidentalis	Nattamsakarai	25	0.099206	-2.31055	-0.22922

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Total	252	-2.56298
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H (Shannon Diversity Index) =2.39

i. Evenness

Details	H	Hmax	Evenness	Species Richness (Margalef)
Trees	3.22	3.5	0.9	7
Shrubs	2.36	2.77	0.85	2.60
Herbs	2.56	2.83	0.9	2.89

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 as a whole. Species richness is high for herb community when compared with tree and shrubs.

3.7.6 Frequency Pattern

To understand the frequency pattern, the observed frequency is compared with the Raunkiaer's frequency. Any deviation from Raunkiaer's frequency implies disturbed community. Classes of species in a community and normal value of class according to Raunkiaer.

Table 3-20 Frequency Pattern

Class	Frequency (%)	Normal Value in the class
A	1-20	53
B	21-40	14
C	41-60	9
D	61-80	8
E	81-100	16

Where A>B>C>= <D<E

Raunkiaer's class for the observed species

S. No.	Scientific Name	Local Name	Frequency (%)	Class as per Raunkiaer's Law
1.	Ficus Carica	Athi Maram	33.33	B

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2.	Cassia siamea	ManjalKonrai	33.33	B
3.	Acacia nilotica	Karuvelai	66.67	D
4.	Bambusa vulgaris	Moongil	66.67	D
5.	Anacardium occidentale	Cashew	33.33	B
6.	Alstonia scholaris	Elilaipalai	33.33	B
7.	Psidium guajava	Guava	50.00	C
8.	Aegle marmelos	Vilvam	16.67	A
9.	Causuarina equisetifolia	Savukku	33.33	B
10.	Albizia amara	Wunja	16.67	A
11.	Cocos nucifera	Thennai	100	E
12.	Artocarpus heterophyllus	Palaa	33.33	B
13.	Bombax ceiba	Sittan	66.67	D
14.	Azadirachta indica	Veppam	100	E
15.	Delonix regia	Cemmayir-Konrai	16.67	A
16.	Delonix elata	Perungondrai	16.67	A
17.	Dalbergia sissoo	Shisham	16.67	A
18.	Ficus benghalensis	Alai	33.33	B
19.	Annona squamosa	Sitapalam	16.67	A
20.	Pithecellobium dulce	Kodukapuli	16.67	A
21.	Ficus religiosa	Arasa maram	50.00	C
22.	Couroupita guianensis	Nagalingam	50.00	C
23.	Musa paradise	Vaazhai	50.00	C
24.	Prosopis juliflora	Vaelikaruvai	50.00	C
25.	Mangifera indica	Mamaram	100	E
26.	Mimusops elengi	Magizham	33.33	B
27.	Morinda pubescens	Nuna	100	E
28.	Thespesia populnea	Poovarasam	50.00	C
29.	Tectona grandis	Thekku	50.00	C
30.	Tamarindus indica	Puli	100	E
31.	Syzygium cumini	naval	16.67	A
32.	Carica papaya	Papaya	50.00	C
33.	Ziziphus mauritiana	Elandai	16.67	A
34.	Citrus medica	Elumichai	33.33	B

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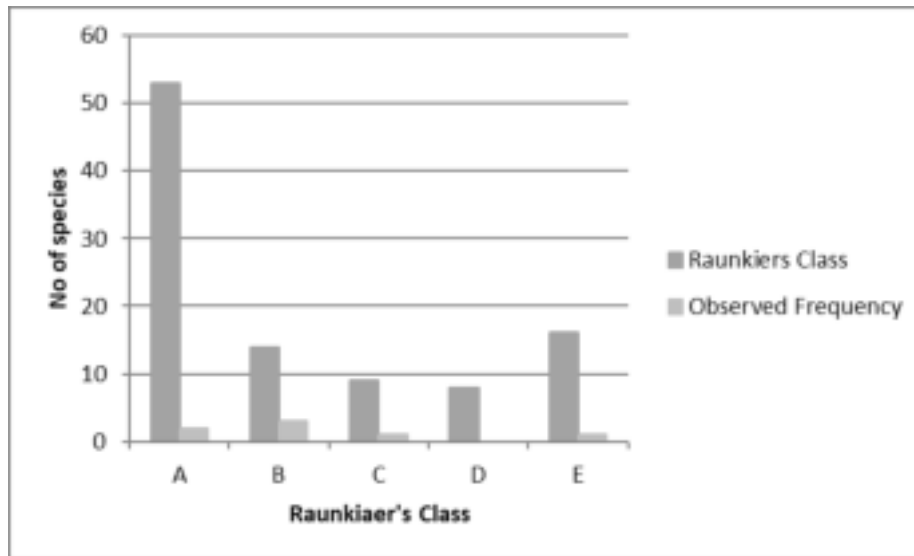


Figure 3-13 Raunkiaer's class for the observed species

Interpretation: The observed frequency is $A < B > C > D < E$, which does not follow Raunkiaer's Distribution Frequency and hence the ecology is disturbed.

3.7.7 Floral study in the Buffer Zone:

Economically important Flora of the study area

Agricultural crops: Paddy, Maize are the main crop grown. Different fruits like Banana, papaya, mangoes, guava and vegetables like brinjal, drumsticks, onion, Coriander also grown 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.

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.

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3.7.8 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.
- Road Side 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.

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.

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Table 3-21 List of fauna species

Scientific Name	Common Name	Schedule of wild life protection act	IUCN conservation status
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 Man	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
Bos Indicus	Indian Cow	Not listed	Not listed
Bubalus bubalis	Buffalo	I	Not listed
Sus scrofa domesticus	Domestic pig	Not listed	Not listed
Reptiles & Amphibians			
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

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Table 3-22 List of fauna species

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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 Man	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
Bos Indicus	Indian Cow	Not listed	Not listed
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Reptiles & Amphibians			
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Bufo melanostictus	Toad	IV	Least concern
Ptyas mucosa	Rat snakes	IV	Least concern

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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

Table 3-23 List of Bird Species observed during the survey

Scientific Name	Common Name	Schedule of wild life protection act	IUCN conservat ion status	Timing	Observed Month
Bubulcus ibis	Cattle Egret	IV	Least Concern	Morning	August
Vanellus indicus	Red- Wattled Lapwing	IV	Least Concern	Morning	June
Columba livia	Blue Rock Pigeon	-		Morning	July
Microfus affinis	House swift	-	Common	Morning	June
Coracias benghalensis	Indian Roller	IV	Least Concern	Evening	July
Merops orinetali	Common bee eater	IV	Least Concern	Evening	July
Psittacula krameri	Rose Ringed Parakeet	IV	Least Concern	Seen in morning & evening multiple times	3 months
Eudynamis scolopaceus	Koel	IV	Common, Resident	Seen in morning & evening multiple times	3 months
Aredeola grayii	Indian Pond Heron	IV	Least Concern	Evening	August

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Acridotheres ginginianus	Bank Myna	IV	Least Concern	Seen in morning & evening multiple times	3 months
Astur badius	Shikra	IV	Resident	Morning	August
Sturnus pagodarum	Brahminy Starling	IV	Least Concern	Evening	August
Pavo cristatus	Peafowl	I	Least Concern	Observed during evening time	3 months
Corvus splendens	Common Crow	V	Least Concern	Seen in morning & evening multiple times	3 months
Passer domesticus	House Sparrow	IV	Common, Resident	Seen in morning & evening multiple times	3 months
Pycnonotus cafer	Red- Vented Bulbul	IV	Common	Evening	August
Egretta garzetta	Little Egret	IV	Common	Evening	June
Corvus corax	Common Raven	V	Least Concern	Seen in morning & evening multiple times	3 months
Acridotheres tristis	Common myna	IV	Common	Seen in the noon and evening	3 months
Alcedo atthis	Common kingfisher	IV	Common	Morning	June
Athene brama	Spotted Owlet	IV	Common, Resident	Spotted during night	June
Bubo bubo	Indian great horned owl	IV	Common	Spotted during night	June
Caprimulgus asiaticus	Common Indian jar	IV	Common	Evening	June
Cinnyris asiatica	Purple sunbird	IV	Least Concern	Morning	July

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Columbus livibus	Pigeon	IV	Common	Seen in morning & evening multiple times	3 months
Copsychus saularis	Magpie robin	IV	Common	Evening	July
Cuculus varius	Common-Hawk Cuckoo	IV	Common, Resident	Evening	July
Cypsiurus parvus	Palm Swift	IV	Common, Resident	Evening	July
Dendrocitta vagabunda	Indian Tree pie	IV	Common, Resident	Morning	July
Dicrurus longicaudatus	Grey drongo	IV	Resident	Morning	July
Dicrurus macrocerus	Black Drongo	IV	Common, Resident	Morning	July
Dissemurus paradiseus	Rackete tailed drongo	IV	Resident	Morning	July
Francolinus pondicerianus	Grey Partridge	IV	Common, Resident	Evening	June
Galerida malabarica	Malabar crested lark	IV	Resident	Evening	June
Gallus gallus	Red jungle fowl	IV	Resident	Evening	July
Haliastur Indus	Brahmny kite	IV	Common	Evening	June
Hierococys varius	Common hawk cuckoo	IV	Common	Evening	July
Lobvanelia indicus	Redwattled lapwing	IV	Resident	Morning	July, August
Lonchura malacca	Blackheaded Munia	IV	Common, Resident	Morning	July
Megalaima merulinus	Indian cuckoo	IV	Common	Evening	July, August
Milyus migrans	Common kite	IV	Common	Evening	July
Mirafra erythroptera	Red winged Bushlark	IV	Common, Resident	Morning	August
Phalacrocorax carbo	Cormorant	IV	Common, Resident	Morning	June

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Quills contronix	Grey quail	IV	Common	Seen in morning & evening multiple times	3 months
Saxicoloides fulicata	Indian Robin	IV	Common, Resident	Morning	June
Tchitrea paradisi	Paradise Flycatcher	IV	Common	Morning	July, August
Temenuchus pagodarum	Brahmny myna	IV	Common	Seen in morning & evening multiple times	3 months
Tephrodornis pondiceraianus	Common wood shrike	IV	Common	Evening	July
Uroloncha striata	Spotted munia	IV	Common	Morning	August

3.8 Demography and Socio Economics

The demography survey study is done within 10km radius from the project site. The population, Household, Sex ratio, Literacy rate, SC, ST details for all the villages in the study area is listed below:

Table 3-24: Demography Survey Study

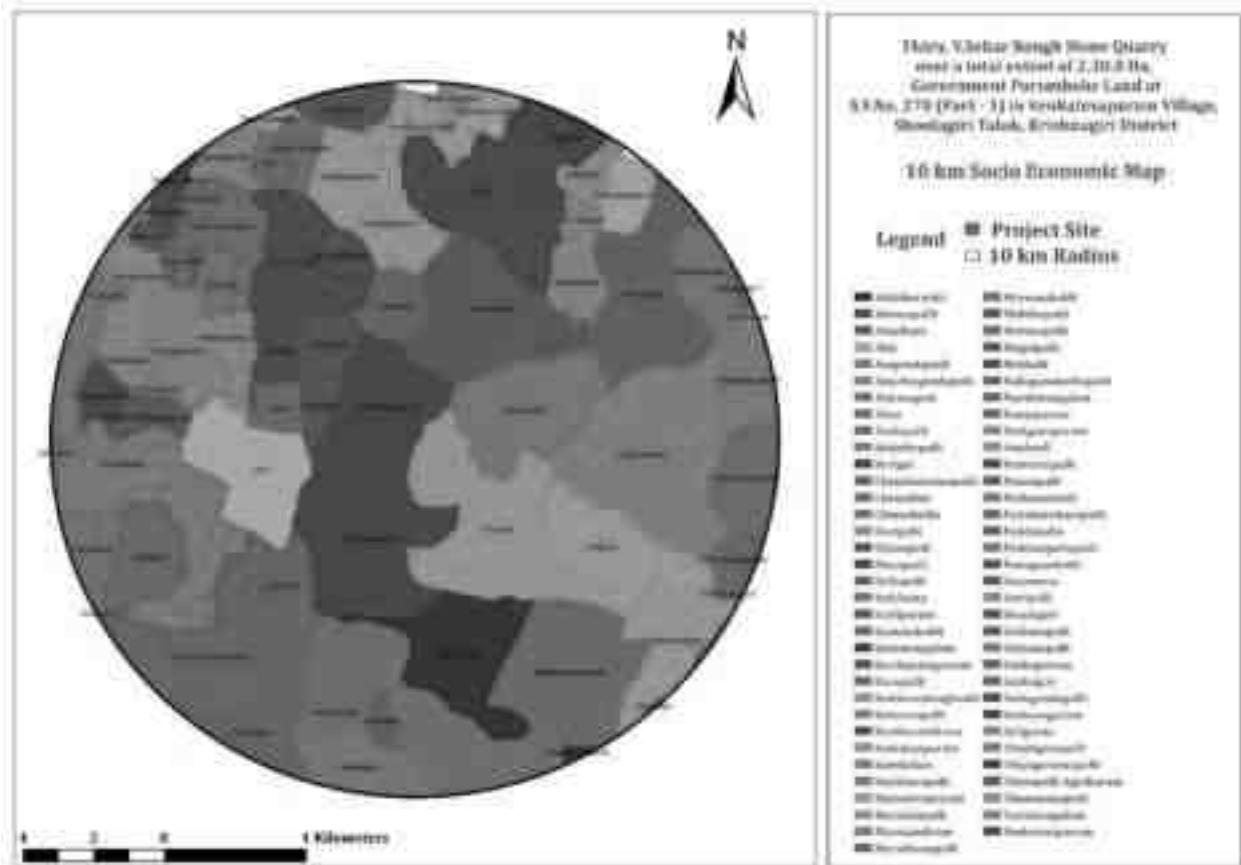
Source: Census of India, 2011

Villages	Household	Population	Sex Ratio		Literacy Rate		SC	ST
			Male	Female	Male	Female		
Mugalpalli	239	970	500	470	344	253	199	0
Amuthugondapalli	120	543	274	269	131	97	228	0
Vanamangalam	120	569	285	260	203	133	0	0
D.S. Thimmasandram	357	1552	790	762	496	391	558	0
Kattinaickenghoddi	590	2633	1364	1269	832	555	639	0
Elucapalli	93	420	210	210	237	141	322	0
Idipalli	144	538	265	273	160	155	153	0
Baliganapalli	157	674	348	326	227	169	293	0

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Devaripalli	154	633	321	312	228	166	0	0
Alur	83	404	205	199	152	153	258	0
Alasapalli	88	395	206	189	157	102	214	0
Battavarapalli	144	704	353	351	223	173	189	0
Mallasandiram	907	4062	2130	1932	1349	923	343	26
Thummanapalli	568	2462	1235	1227	786	632	689	38
Badathepalli	150	735	373	362	201	164	114	0
Attur	160	667	334	333	238	189	172	0
Nandimangalam	591	2602	1314	1288	797	609	713	0
Koladasapuram	221	857	429	428	276	216	390	0
Nariganapuram	218	928	494	434	293	220	212	0
Alnatham	71	327	170	157	118	58	77	0
Midithepalli	287	1287	667	620	369	261	278	31
Sikkanapalli	135	555	279	276	200	146	167	0
Kurubarapalli	339	1571	820	751	437	320	713	0
Suligunta	217	962	495	467	260	212	90	0
Mahadevapuram	89	371	189	182	106	71	0	0
Pannapalli	997	4431	2275	2156	1292	915	583	0
Meenandoddi	83	358	180	178	94	82	62	0
Amgondapalli	543	2634	1371	1263	771	525	141	0
Athimugam	937	4540	2339	2201	1317	980	334	17
Venkatesapuram	650	2873	1460	1389	960	695	583	0

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Since the data is taken from Census Survey of India, 2011, population projection is found to increase by 8.5% since last survey based on the data released by *World Bank, United States Census Bureau*

Krishnagiri District

Krishnagiri district is bounded by Vellore and Thiruvannamalai districts in the East, Karnataka state in the west, State of Andhra Pradesh in the North Dharmapuri District in the south. Its area is 5143 Sq. Kms. This district is elevated from 300m to 1400m above the mean sea level. It is located between 11° 12'N to 12° 49'N Latitude, 77° 27'E to 78° 38'E Longitude.

Eastern part of the district experiences hot climate and Western part has a contrasting cold climate. The average rainfall is 830 mm per annum. March – June is summer season. July – November is Rainy Season and between December – February winter prevails. Three languages namely Tamil, Telugu and Kannada are predominantly spoken in this district.

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Major religions are Hindu, Islam and Christianity. This district stands as an ideal exhibit of National integration and religious harmony. The society exhibit the confluence of different languages and religion

Occupation:

Krishnagiri District is more suitable for cultivation of Horticulture crops. Other Plantation crops, medicinal plants, Fruits, Vegetables, Spices, and flowers are grown well by way of its moderate climate, high altitude and fertility of the soil. The important crops of Krishnagiri District are Paddy, Maize, Ragi, Banana, Sugarcane, Cotton, Tamarind, Coconut, Mango, Groundnut, Vegetables and Flowers.

Industrial details in the district is listed below:

Industries in the District : Premier Spinning Mill, TVS Motor Company Ltd., Exide Ltd., AV. Tech. Ltd., Titan Watches, Ashok Leyland Carborandim, Universal Ltd.,

Name of the industrial Park : Krishnagiri and Hosur

The major occupation during field survey is observed to be mining, Agriculture and in industries.

Source: District Handbook – 2018-2019

Socio-economic survey methodology

Purposive sampling methods were used for selecting respondents (male and female) for household survey. For official information of village, Gram Panchyat member has been chosen. Structured questionnaire was used for survey. For group discussion, Panchyat bhavan, Aanganwadi bhavan, community halls were used. Out of total 15 villages, 5 villages (25%) were surveyed for which selection criteria is based on proximity to the project site and area with dense and scarce populations were chosen.

The villages chosen for primary study area

- Puram
- Oddapalli
- Vathiripalli
- Mugalpalli
- Amuthakondapalli
- D.S.Thimmasandram

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10 households were surveyed in each village and the collective response are summarized below

3.8.1. Salient features in the study area:

House pattern: It is notable that nearly 30% of the houses were kachcha at survey area.

Employment: Main occupation of the people in the study area was labour work and agriculture and some other business. The labours were getting daily wage in the range of Rs.200-450, depending on type of work involved.

Fuel: Most of the villagers use fire woods and LPG for cooking purpose

Main Crops: The principal crops grown in agricultural farm were Cashew, Mango, Banana, Tapioca, Tomato, Brinjal, Bhendi, Onion, Turmeric, Chillies

Migration: During survey, it was found that local population were migrating for employment purpose. Since due to the presence of various industrial units, migration from other places were also noted.

Sanitation: More than 90% of the households were having toilet facilities in their houses. Drainage system was maintained in the study area.

Drinking Water Facilities: Ground water is the major source of drinking water in the villages wherein hand pumps, tap water and dug wells are installed.

Education Facilities: Most of the villages had education facilities in the form of Anganwadi and Primary Schools. Higher education facilities were available in the range of 5-10 km. Colleges and other diploma courses were available at district place.

Transportation Facility: For transportation purpose Auto, Public and Private Bus services were available. Transportation facilities were frequently available in the study area and connecting major cities. Private vehicles like Bicycles & Motor Cycles were mostly used by villagers for transportation purpose.

3.8.2. Key Socio economic Indicator

The consolidated report of the primary study revealing the exact scenario prevailing in the area based on the survey conducted in the 10 houses each in 5 villages (Total of 50 Houses) is listed below

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S. No	Indicator	Percentage/Nos.
1	People below age 18	38
2	People age limit above 18	62
3	Literates	52
4	Illiterates	48
5	% of people employed in company	26
6	% of people self employed	37
7	% of people seasonally employed	14
8	% of people unemployed	23

Awareness and Opinion about the project

- The respondents all the villages are aware about this project.
- Since most of the respondents were about the project, some of the people welcomed this project for the employment opportunity but they need commitment that, only local people should be hired for the work. Some fear that water level in the region will decrease due to mine and associated activities.
- The skill based employment should be given to the local people.
- Road accident may increase due to Mine transport and associated activities.

Expectation from the project

- Local employment
- Plantation at nearby areas and ensure their survival rate.
- Increase educational facility in Govt. School and promote vocational & higher educational institute.

Other Infrastructural Facilities Available in the District

(Source: District Handbook – 2018-2019)

Drinking Water facility: The project falls under Krishnagiri Block

Source of water in Krishnagiri Block: Dug well, Filter point & Tube well

River: The main rivers that flow across the district are Kaveri and South Pennar Kaveri enters the district from South West in Denkanikottai taluk and exists in South West direction. It forms a waterfalls at Hokenakkal and joins Mettur Dam. South Pennar originates in Nandidurg of Karnataka and flows through Hosur, Krishnagiri and Uthangari Taluks. Vanniyar and Markanda rivers join this South Pennar

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The communication details of the district is furnished below

Telephone:

- No. of Telephones in use : 31070
- No.of Telephones Exchanges : 64
- No.of Public calls with STD /ISD : 351

Post Office: . Head post office : 1

- a. Sub Post Office : 38
- b. Branch Post Offices : 263

Transport Facility of the District:

Railway Stations: 7

Banking Sector: 353 Cooperative Societies & Banks are available in the District.

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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 2.30.0 Ha mine located in Venkatesapuram Village, rough stone of 497506 m³ respectively. The quarry operation is proposed to carry out with conventional Opencast – semi mechanised method with 5.0 meter vertical bench and bench width of 5.0 meter. At the end of 10 years, mining lease area will be converted into ultimate pit.</p> <table border="1"> <thead> <tr> <th colspan="3">Ultimate Pit dimension (M)</th> </tr> <tr> <th>Length (max) in (m)</th> <th>Width (Avg) in (m)</th> <th>Depth(max) in(m)</th> </tr> </thead> <tbody> <tr> <td>193</td> <td>101</td> <td>51</td> </tr> </tbody> </table>	Ultimate Pit dimension (M)			Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)	193	101	51	<p>The proposed project site is not prone to any kind of soil erosion (Source: Bhuvan).</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 1250 Nos of local tree species (Pungam, Vilvam etc.) 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 overburden (Topsoil) present upto a depth of 10m AGL will be stocked in the area</p>
Ultimate Pit dimension (M)											
Length (max) in (m)	Width (Avg) in (m)	Depth(max) in(m)									
193	101	51									

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	<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> <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>allotted for safety distance and will be used for plantation.</p> <p>The source of dust generation is majorly due to drilling, blasting, loading & unloading of the mined out mineral, the impact will be mitigated by water sprinkling regularly once in 3hrs.</p> <p>The proposed mining activity is carried out in almost Undulated where the contour level difference is 4m.</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</p>
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		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.
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4.3 WATER ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.</i>	<p>The mining in the area may cause ground water contamination due to intersection of the water table and mine runoff.</p> <p>The ground water depletion may occur due to mining activity</p>	<p>The water table will not be intersected during mining, as the ultimate depth is limited upto 41 meter below the ground level, whereas the ground water table is at 60 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.</p> <p>The ground water table is at a depth of 70m 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</p>

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	<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>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, Transportation of the excavated mineral.</i>	<p><i>Impacts during Operation Phase</i></p> <p>During mining operation, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.</p> <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</p>	<p><i>Mitigation Measures during Operation Phase</i></p> <p>It is proposed to plant 1250 Nos of local species (with 500 Nos each year) along the haul roads, outer periphery within the lease area to prevent the impact of dust in consultation with Forest department for the plantation of trees (Vilvam, Pungam Etc.,) in two tier to combat air pollution and with herbs (Nerium) in between the tree species.</p>

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	<p>(1.2 m³ 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"> • 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. • Dust generation due to loading and unloading of mineral and due to 	<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 SH 17C/MDR 53.</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 & boots will be provided to the workers engaged at dust generation points like excavation and loading points.</p>
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	<p>transportation can also affect the workers as well as nearby villagers.</p> <p><u>Effect on Plants</u></p> <ul style="list-style-type: none"> Stomatal index may be minimized due to dust 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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4.5 NOISE ENVIRONMENT:

Aspect	Impact	Mitigation Measures
<i>Drilling, Blasting, Loading and unloading, Transportation of the excavated mineral.</i>	<p>Usage of Equipments (Excavator, Tipper, Jack Hammer), Machinery and trucks used for transportation will generate noise.</p> <p>Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure.</p>	<ul style="list-style-type: none"> The machinery will be maintained in good running condition so that noise will be reduced to minimum possible level. 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. It will be ensured that all transportation vehicles carry a valid PUC Certificates. Speed of trucks entering or leaving the mine will be limited to moderate speed (20km/hr) to prevent undue noise from empty vehicles. <p>The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipments.</p>

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	<p>Number of vehicles will be increased due to the proposed mining activity hence vehicle may collide 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>	<ul style="list-style-type: none"> • It is proposed to plant 1300 Nos. of local species (Vilvam, Sengondrai, Pungam, Naval Etc.,) 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. • The trucks will be diverted on Bukkasagaram main road to avoid traffic congestion. • Health check-up camps will be organized once in six month. • Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas. • Provision of quiet areas, where employees can get relief from workplace noise.
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4.6 BIOLOGICAL ENVIRONMENT:

Aspect	Impacts	Mitigation Measures
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.	7.5m safety distance will be provided all along the boundary of the mine lease area and safety. Around 0.44.0 Ha of land is utilized for greenbelt development (1300 Nos – 5 years). This will attract avifauna thus enhancing the existing ecological environment.
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4.7 SOCIO ECONOMIC ENVIRONMENT:

Aspect	Impact	Mitigation Measures
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 of <i>Thiru.V. Sekar</i> and the land is vacant where there are no human settlement within 500m 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 Bukkasagram village which is 867 m - S away from the project 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	It is proposed to use gravelled road and nearest paved road and preferred not to use unpaved

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	movement of the vehicles may affect/injure the animals	roads. In addition to that, the speed of trucks will be limited to 20km/hr to avoid any accidents.
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, 2% of the project cost i.e, 5 Lakhs will be allocated. Developing sports facilities, providing toilet, Water filter facilities to Government Schools.

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4.8 Other Impacts:

S. No	Aspect	Impact	Mitigation measure
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 labor.
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 Labors	Labors will be checked for health condition before employing them in mining activity	All the labors will be checked and screened for health before employing them. After employing them, periodical medical checkups 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 work 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 Letter No. SEIAA-TN/F.No. 8801/SEAC/ToR-1324/2023 Dated: 09.02.2023. 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 principal 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/semi-mechanized/mechanized depending upon the geological and topographical setup of the mineral (ROM) to be won and the daily/annual targeted production.

Table 5-1: Alternative for Technology and other Parameters

S. No.	Particular	Alternative Option 1	Alternative Option 2	Remarks
1.	Technology	Opencast mechanized mining	Opencast mechanized mining	Opencast mechanized Involving drilling and blasting are preferred. Benefits: Material is hard so to make it loose and to bring it to appropriate size.

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2.	Employment	Local employment.	Outsource employment	Local employment is preferred Benefits: 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 Thimmasandram village so they will either reach mine site by bicycle or by foot. Benefits: 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 Benefits: It will give indirect employment.
5.	Water	Tanker supplier	Ground water/	Tanker supply will be preferred. Water will be sourced from Bukkasagaram Village which is located in 867 m in South side from the project site.

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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, 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

Parameters	Sampling	Frequency	Location
Air environment – Pollutants PM 10 PM 2.5 SO ₂ NO _x Lead in PM	5 locations	24 hourly twice a week 4 hourly. Twice a week, One non monsoon season 8 hourly, twice a week	Project Site, Vanamangalam, Sri Gurumurthy Yellama Temple, Aaranyani Estate, Karnapalli

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		24 hourly, twice a week	
Noise	5 locations	24 hourly Once in 5 locations	Project Site, Vanamangalam, Sri Gurumurthy Yellama Temple, Aaranyani Estate, Karnapalli
Water (Ground water) <ul style="list-style-type: none"> • pH • Temperature • Turbidity • Magnesium Hardness • Total Alkalinity • Chloride • Sulphate • Fluoride • Nitrate • Sodium • Potassium • Salinity • Total nitrogen • Total Coliforms • Fecal Coliforms 	5 locations	Once in 5 locations	Project Site, Vanamangalam, Sri Gurumurthy Yellama Temple, Aaranyani Estate, Karnapalli
Water (surface water) <ul style="list-style-type: none"> • 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	Berikai Lake

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Soil (Organic matter, Texture, pH, Electrical Conductivity, Permeability, Water holding capacity, Porosity)	5 locations	Once in 5 locations	Project Site, Vanamangalam, Sri Gurumurthy Yellama Temple, Aaranyani Estate, Karnapalli
Ecology and biodiversity Study	Study area covering 5 km radius	One time Sampling	
Socio- Economic study (Population, Literacy Level, employment, Infrastructure like school, hospitals & commercial establishments)	Villages around 5 km radius	One time Sampling	

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 ₂ NO _x	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) Quaterly/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

1) Existing other quarries:

S. No.	Name of the lessee / Permit Holder	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Thiru. Sivasakthi S/o. Rajendiran, No. 123, Adhaliyur Village, Karukondapalli Village, , Uthanapalli Taluk, Krishnagiri District	Thimmasandram Village & Shoolagiri Taluk	88/1 (Part)	3.00.0 Ha	10.08.2016 to 09.08.2026
2.	Thiru. Gopal Reddy, S/o. Ramareddy, Devarulimangalam, Denkanikottai Taluk, Krishnagiri District	Bukkasagaram Village & Shoolagiri Taluk	88/1 (Part-2)	3.50.0 Ha	19.06.2019 to 18.06.2029

2) Details of Abandoned/Old Area:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Period
1.	Thiru S.L. Govindharaj S/o. Lakshmana Chetty, 189, B.T.M Road, Bargur, Krishnagiri	Thimmansandram Village, Shoolagiri Taluk	97/1, 988/1B, 98/2B	4.16.0	30.07.2011 to 29.07.2016

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3) Details of Proposed quarries:

S. No.	Name of the applicant	Village & Taluk	S. F. No.	Extent	Lease Status
1.	Thiru.V. Sekar , S/o.Venkatesappa,, D.No. 38, Athaliyur Village, Karukondapalli Village, , Uthangarai, Krishnagiri – 635 207	B.S Thimmasandram Village & Shoolagiri Taluk	88/1 (Part-3)	4.50.0	Instant Proposal

The Total extent of the Existing / Lease expired / Proposed quarries are 15.16 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 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, damages the 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.

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7.1.3 Identification of Hazard

7.1.3.1 Blasting Pattern:

The quarrying operation will be carried out by Opencast 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	30-32 mm
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.

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

The quarry is situated more than 1.5km 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	=	32-36 mm
Powder factor	=	6 to 7 Tons/Kg of explosives
Depth	=	1 to 1.5 m
Charge/Hole	=	140 gms of 25mm dia cartridge
Blasted at day time	=	5 to 6 PM (or whenever required)

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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 No 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.
- 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:

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- 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 (14 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 will fully do anything likely to endanger life or limb in the mine, or negligible or will fully 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 labours only;
- Regular maintenance and testing of all mining equipment as per manufacturer’s guidelines;
- 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.

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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 centre 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 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)

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7.2.2 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

7.2.3 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 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

7.2.4 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

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- 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 a private land of Thiru.V. Sekar . 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:

- a. 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.
- b. Infrastructure:** The excavated rough stone will be used for *Laying Roads, Building & Construction Projects, Bridges.*
- c. Enhancement of Green Cover & Green Belt Development:** As a part of reclamation plan, native tree species will be planted along the safety boundary (1.04.0 Ha) 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 2500 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, 5 Lakhs will be allocated. The detailed agenda, which is to be executed has been framed. The salient features of the programme are as follows:

- Developing Sports facilities and providing Toilet, Water Filter Facilities to Government Schools

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in Bukkasagaram Village which is located at 867 m, South from the project site.

8.2 Project Cost / Investment Details

1	C. Fixed Asset Cost:	
	5. Land Cost	: Rs.94,00,000/- (Tender amount for Government Poramboke land)
	6. Labour Shed	: Rs. 2,00,000/-
	7. Sanitary Facility	: Rs. 90,000/-
	8. Fencing cost	: Rs. 1,00,000/-
	Total=	Rs. 97,90,000/-
2	D. Operational Cost:	
	Machinery cost	: Rs.40,00,000/-
	Total Project Cost(A+B+C)	Rs. 1,37,90,000/-

Description	Mitigation Measure	Provision for Implementation	Capital	Recurring
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	23000	23000
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	300000	15000
	Air Quality will be regularly monitored as per norms within ML area & near Reserve forest with necessary permission	Yearly Compliance as per CPCB norms	0	20000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh /	0	0

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		old tyres / used conveyor belts		
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance	25000	2500
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed	5000	0
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	46000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	40000	10000
Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0

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	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Ambient Noise will be regularly monitored as per norms within ML area & near Reserve forest with necessary permission	Yearly Compliance as per CPCB norms	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	200000
Water Environment	Water management	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	23000	5000
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	1000	5000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	7000	1000

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	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee)	56000	14000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	14000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4600
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	Barbed Wire Fencing to quarry area will be provisioned.	fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	200000	10000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	50000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	2000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 st Class / 2 nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	300000
Green Belt Development	Green belt development - 500 trees per one hectare (200 Inside Lease Area & 300 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments,	92000	13800

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		transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)		
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	207000	20700
			1096000	745600

Year 1	Year 2	Year 3	Year 4	Year 5
1841600	782880	822024	863125	906281

EMP Cost = Rs 52,00,000/-

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9. Environmental Cost Benefit Analysis

Not Applicable, Since Environmental Cost Benefit Analysis not recommended at the Scoping stage.

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10.Environmental Management Plan

10.1 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.

10.2 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.

10.3 Mine Drainage

10.3.1 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.,

10.3.2 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

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silting or accumulation of loose materials. The drains will also be checked for any damage in lining / stone pitching, etc.

10.3.3 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.V. Sekar will work in association with M/s. Ecotech Labs Pvt Ltd.

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Table 10-10-1: Impacts and mitigation measures

S. No	Impacts on Environment	Activity /Aspect	Anticipated impacts	Mitigation measures
1.	Air	Fugitive Emission	During mining operation, fugitive dust and other air pollutants like particulate matter (PM10 & PM 2.5) will be generated.	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 transportation	Noise from the machinery can cause hypertension, high stress level, hearing loss, sleep disturbance etc due to prolonged exposure. Apart from Mining activities like drilling, blasting may generate noise	<ul style="list-style-type: none"> Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.
4.	Land	Improper management of Storm water Runoff	Storm water Runoff may result in Soil Erosion	<ul style="list-style-type: none"> Garland drainage of 1m x 1m will be provided to avoid storm water run-off.

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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"> ✓ By complying with the safety procedures, norms and guidelines (as applicable) as outlined in the National Building Code of India, Bureau of Indian Standards. ✓ Provide adequate number of decentralized latrines and urinals ✓ Providing Septic tank along with Soak pit arrangement ✓ Providing First Aid room, conducting frequent health checkups to labor and conducting free medical camps. ✓ Providing safety helmet, Gloves, Jacket & Boots. ✓ Providing measures to prevent fires. Fire fighting extinguishers and buckets of sand will be provided in the construction site.
6.	Building materials resource conservation	Building Material consumption	Use of farfetched construction materials than the locally available	<ul style="list-style-type: none"> • Use of locally available construction materials.

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			construction materials may lead to over exploitation of natural resources & increase in carbon footprint.	
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Table 10-10-2: Budgetary Allocation for EMP during Mining

Description	Mitigation Measure	Provision for Implementation	Capital	Recurring
Air Environment	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	23000	23000
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	300000	15000
	Air Quality will be regularly monitored as per norms within ML area & near Reserve forest with necessary permission	Yearly Compliance as per CPCB norms	0	20000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	0
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance	25000	2500
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000

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	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed	5000	0
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	46000
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	40000	10000
Noise Environment	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0
	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Ambient Noise will be regularly monitored as per norms within ML area & near Reserve forest with necessary permission	Yearly Compliance as per CPCB norms	0	0

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	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	200000
Water Environment	Water management	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	23000	5000
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	1000	5000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
Implementation of EC, Mining Plan & DGMS Condition	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	7000	1000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee)	56000	14000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	14000

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	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4600
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	Barbed Wire Fencing to quarry area will be provisioned.	fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	200000	10000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	50000	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	2000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 st Class / 2 nd Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	300000
Green Belt Development	Green belt development - 500 trees per one hectare (200 Inside Lease Area & 300 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	92000	13800

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	207000	20700
			1096000	745600

Year 1	Year 2	Year 3	Year 4	Year 5
1841600	782880	822024	863125	906281

EMP Cost = Rs 52,00,000/-

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

11 Summary & Conclusion

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

11.1 Introduction

Thiru.V. Sekar Rough stone quarry is a cluster of 3 mining project. The individual mine lease area is 2.30.0 Ha of Rough Stone Quarry located at S.F.Nos. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk in Krishnagiri District.

11.2 Project Overview

Table 11-11-1: Project Overview

S. No.	Description	Details
1	Project Name	Rough Stone Quarry-2.30.0 Ha
2	Proponent	Thiru.V. Sekar
3	Mining Lease Area Extent	2.30.0 Ha
4	Location	S.F.Nos. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk in Krishnagiri District
5	Latitude	N 12 ° 43' 58.7014" to N 12 ° 44' 3.1722"
6	Longitude	E 77° 56' 12.8213" to E 77° 56' 8.3746"
7	Topography	Undulated
8	Site Elevation above MSL	826 m from MSL
9	Topo Sheet No.	57 H/14
10	Minerals of Mine	Rough Stone
11	Proposed production of Mine	Proposed capacity of Rough Stone: 497506 m ³
12	Ultimate depth of Mining	51m depth (2.0m Top soil + 49.0 m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m.
13	Method of Mining	Opencast – semi mechanised method
14	Water demand	1.50 KLD
15	Source of water	Water will be supplied through tankers supply

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

11.3

16	Man power	14 Nos.
17	Mining Lease	Precise area communication was approved by District Collectorate, Krishnagiri vide Letter Roc No.81/2016/Mines-2 dated:29.02.2016
18	Mining Plan Approval	Scheme of Mining plan was approved by The Deputy Director, Dept. of Geology and Mining, Krishnagiri vide Letter Roc.No. 668/2021/Mines dated 23.04.2021
19	Production details	Geological reserves of Rough Stone : 951601 m ³ Proposed year wise recoverable reserves of Rough Stone : 497506 m ³
20	Boundary Fencing	7.5m barrier all along the boundary Fencing will be provided
21	Disposal of overburden	The top soil of the lease area is 828 m ³ . Top Soil formation will be removed and dumped in the North, South and West side 7.5m boundary barrier of the lease area and will be utilized for Afforestation purposes.
22	Ground water	The quarry operation is proposed up to a depth of Surface Ground Level Below-41m .The water table is below 60 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 500m radius of the Project Site	There is no Habitation within 500m radius of the project site.
24	Drinking water	Water will be supplied through tankers from Bukkasagaram Village which is 0.86 km, S from the project site.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

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 form 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 reserves of rough stone is abundant in the lease area which is evident from the mine activities carried out in the nearby sites.

Table 11-2: Anticipate Impacts & Appropriate Mitigation Measures

S. No.	Potential Impact	Mitigation Measure
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 increased emission may cause respiratory & Cardiovascular problems in human health	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. Plantation will be carried out along approach roads & mine premises.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

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. Apart from that, a very meagre quantity of domestic

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

		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>Workers health related problem if any, will be properly addressed.</p>

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

12. Disclosure of Consultant

12.1 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.

12.2 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.

12.2.1 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.

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

Declaration by Experts contributing to the EIA of Rough Stone Quarry- 2.30.0 Ha by Thiru.V. Sekar at S.F.No. 270 (Part-1), 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


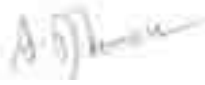


Dr. A. DHAMODHARAN
(NABET APPROVED EIA COORDINATOR)
NABET/EIA/2124/SA 0147
Environmental Consultant
Eco Tech Labs Pvt. Ltd
 Plot No.48A, 2nd Main Road, Ram Nagar South Extn.
 Pallikaranai, Chennai - 600 100.



Signature:

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

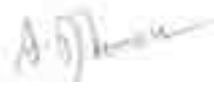


<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

S. No.	Functional areas	Name of the expert/s	Involvement (Period and task)	Signature and date
1	AP	Mrs. K. Vijayalakshmi	Selection of Baseline Monitoring stations based on the wind direction, Interpretation of Baseline data by comparing it with standards prescribed by CPCB against the type of area. Identification of sources of air pollution and suggesting mitigation measures to minimize impact.	
2	WP	Dr. A. Dhamodharan	Selection of baseline Monitoring Locations for Ground water analysis and also identifying nearest surface to be studied, Preparing water balance for the project based on the anticipated occupancy load. Interpretation of baseline data collected, Identification of impacts based on the baseline.	

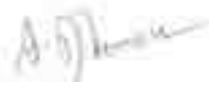

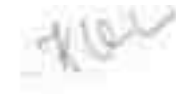


<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

3	SHW	Dr. A. Dhamodharan	Identification of nature of solid waste generated, 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, Suggesting suitable mitigation measures by recommending appropriate disposal method for each category of waste generated.	
4	SE	Mr. S. Pandian	Primary data collection through the census questionnaire, Secondary data interpretation from authenticated sources, Impact assessment & proposing suitable mitigation plan. CSR budget allocation	

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
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<i>Project Location</i>	<i>Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District</i>	

5	EB	Dr. A. Dhamodharan	Primary data collection through field survey and sheet observation for ecology and biodiversity, Secondary Collection through various authenticated sources, Prediction of anticipated impacts and suggesting appropriate mitigation measures.	
6	HG	Dr. T. P. Natesan	Field survey for assessing regional and local geology, aquifer distribution, water resource evaluation, change in ground water level throughout the year. Determination of groundwater use pattern, development of rainwater harvesting program, estimation of ground water direction.	
7	GEO	Dr. T. P. Natesan	Field survey for assessing regional and local geology, aquifer distribution. Determination of groundwater use pattern, development of rainwater harvesting program.	

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</i>	<i>Draft EIA Report</i>
<i>Project Proponent</i>	<i>Thiru.V Sekar</i>	
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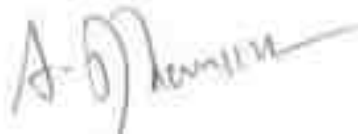
8	SC	Dr. A. Dhamodharan	Interpretation of baseline report, Identification of possible impacts on soil, prediction of soil conservation and suggesting suitable mitigation measures.	
9	AQ	Mrs. K. Vijayalakshmi	Collection of Meteorological data for the baseline study period, Plotting wind rose diagram and thereby selecting the monitoring locations based on the wind pattern, estimation of sources of air emissions and air quality modeling is done. Interpretation of the results obtained, Identification of the impacts and suggesting suitable mitigation measures.	
10	NV	Mrs. K. Vijayalakshmi	4. Selection of monitoring locations 5. Interpretation of baseline data 6. Prediction of impacts due to noise pollution and suggestion of appropriate mitigation measures	
11	LU	Dr. T. P. Natesan	Preparation of land use, land cover maps for the study area using satellite imagery.	
12	RH	Mrs. K. Vijayalakshmi	4. Identification of the risk 5. Interpreting consequence contours 6. Suggesting risk mitigation measures	

<i>Project</i>	<i>Rough Stone Quarry – 2.30.0 Ha by Thiru.V. Sekar</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. 1267/2, 1268/2 & 1268/3 of Bukkasagaram 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
Terms of Reference



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

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY-TAMILNADU

3rd Floor, PanagalMauligni,
No.1, Jeem Road, Saidapet,
Chennai - 600 015.
Phone No. 044-24359973
Fax No. 044-24359975

TERMS OF REFERENCE (ToR)

Lr.No.SEIAA-TN/F.No.8801/SEAC/ToR-1324/2023 Dated:09.02.2023

To

Thiru, V. Sekar
S/o. Venkatesappa
D.No.4/165/B,
Karukondapalli, Bayaramangalam Post,
Denkanikottai Taluk
Krishnagiri District-635113

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough stone quarry over an extent of 2.30.0 Ha (Govt. poramboke land) in S.F.No. 270 (part -1) at Venkatesapuram Village of Shoolagiri Taluk, Krishnagiri District, Tamil Nadu by Thiru. V. Sekar- 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/67732/2021 dated: 21.09.2021.
 2. Your application submitted for Terms of Reference dated: 22.09.2021
 3. Minutes of the 265th Meeting of SEAC held on 21.04.2022
 4. Minutes of the 510th meeting of Authority held on 23.05.2022
 5. Minutes of the 306th Meeting of SEAC held on 25.08.2022
 6. Minutes of the 551st meeting of Authority held on 19.09.2022
 7. Minutes of the 345th Meeting of SEAC held on 10.01.2023


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B. Minutes of the 590th meeting of Authority held on 09.02.2023.

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

The proponent, Thiru. V. Sekar has submitted application for ToR, in Form-I, Pre-Feasibility report for the Proposed Rough stone quarry over an extent of 2.30.0 Ha (Govt. poramboke land) in S.F.No. 270 (part -1) at Venkatesapuram Village of Shoolagiri Taluk, Krishnagiri District, Tamil Nadu.

Discussion by SEAC and the Remarks:-

Proposed Rough stone quarry over an extent of 2.30.0 Ha (Govt. poramboke land) in S.F.No. 270 (part -1) at Venkatesapuram Village of Shoolagiri Taluk, Krishnagiri District, Tamil Nadu by Thiru. V. Sekar - For Terms of Reference. (SLA/TN/MIN/67732/2021 dated: 21.09.2021)

The proposal was placed in 345th SEAC meeting held on 10.01.2023. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

1. The project proponent, Thiru. V. Sekar has applied for Terms of Reference for the proposed Rough stone quarry over an extent of 2.30.0 Ha (Govt. poramboke land) at S.F.No. 270 (part -1), Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006.
3. The PP had obtained EC earlier from SEIAA, TN vide Lr.No. SEIAA-TN/F.No.5355/1(a)/EC.No.3269/2016 dated: 09.07.2016.
4. As per mining plan the lease period is for 10 years. The lease deed was executed on 24.08.2016 and the leases will expire on 23.08.2026. The scheme of mining for the period of 2021-22 to 2025-26 is obtained. The production for the five years states that the total quantity of recoverable should not exceed 4,97,506 cu.m of Rough stone with an ultimate depth of mining is 51m (10m AGIL + 41m BCIL) (2.0m Top soil + 49.0 m Rough Stone). Existing pit - 10m. The Annual peak production as per mining plan is 1,24,054 cu.m of rough stone.
5. Earlier, this proposal was placed in the 265th SEAC meeting held on 21.04.2022. Based on the presentation made by the proponent and the documents furnished, SEAC decided that the


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project proponent shall furnish documentary evidence from the concerned District Forest Officer showing the exact distance of location of the nearest Athimugam R.F from the proposed quarry site.

6. Again, this proposal was placed for reappraisal in the 306th SEAC meeting held on 25.08.2022. The SEAC noted that the project proponent has not attended the meeting. Hence the subject was not taken up for discussion and the project proponent shall furnish the reason for his absence.

Now, the PP had submitted a letter from concerned District Forest Officer showing that the nearest Athimugam R.F is located at a distance of 380m east from the proposed quarry site. Hence, the proposal was again placed for reappraisal in this 345th SEAC meeting held on 10.01.2023. Based on the presentation made by the proponent, **SEAC decided to recommend grant of Terms of Reference (TOR) with Public Hearing subject to the following additional 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. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
2. The PP shall submit Certified Compliance Report obtained from the office of the concerned DEE/TNPCB (or) IRO, MoEF& CC, Chennai and appropriate mitigating measures for the non-compliance items, if any.
3. The Proponent shall carryout various study about the impacts of proposed mining on the biodiversity, climate changes etc., and the same shall be included in EIA report.
4. The PP shall develop greenbelt and garland drain around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal.
5. The proponent shall construct the 'S3 (or) G2' type of fencing all around the boundary of the proposed working quarry with gates for entry/exit before the commencement of the operation as recommended in the DGMS Circular, 11/1959 and shall furnish the photographs showing the same during the EIA appraisal.


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6. The Proponent shall submit a conceptual 'Slope Stability Plan' for the planned working of the quarry by maintaining appropriate benches incorporating the haul road with ruling gradient as the depth of the proposed quarry is exceeding 30 m, during the EIA appraisal.
7. The PP shall furnish an affidavit stating that the common boundary of not less than 7.5 width will be maintained with the neighbouring quarries unless the relaxation is obtained under Reg. 111 (3) of MMR 1961 for the complete extraction of the same from the concerned Regional Director of Mines Safety, DGMS.
8. The Proponent 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 fireman, III Class mines manager directly employed on full-time basis only by the proponent.
9. The PP shall enumerate the existence of houses, permanent structures, habitations, etc within a distance range of 100 m, 200 m, 300 m, and 500 m.
10. The Proponent shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry.
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.
What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
 - a. Quantity of minerals mined out.
 - b. Highest production achieved in any one year
 - c. Detail of approved depth of mining.
 - d. Actual depth of the mining achieved earlier.
 - e. Name of the person already mined in that leases area.
 - f. If EC and CTO already obtained, the copy of the same shall be submitted.

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SEIAA-TN

- g. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
13. 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).
14. The Proponent shall carry out Drone video survey covering the cluster, Green belt, fencing etc.
15. 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.
16. 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 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.
17. The Project Proponent shall conduct the 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) 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.
18. 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.
19. 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 and its mitigation measures. Accordingly, the Environment Management plan should


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- be prepared keeping the concerned quarry and the surrounding habitations in the mind.
20. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
 21. 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.
 22. 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.
 23. 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.
 24. 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.
 25. The PP shall provide the Travelling route for the proposed quarry and also indicate the impact on local transport infrastructure due to the Project activities.
 26. 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.
 27. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
 28. Public Hearing points raised and commitments 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF& CC accordingly.


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29. The Public hearing advertisement shall be published in one major National daily and one most circulated Tamil daily.
30. The Proponent shall produce/display the EIA report, Executive summary and other related information with respect to public hearing in Tamil Language also.
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 and local school/college authorities. 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.
33. Taller/one year old saplings raised in appropriate size of bags, preferably eco-friendly 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


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- 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/TNPCC.
 42. The Proponent 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>Acetya acuminata</i>	Vivam	அகைய
2	<i>Adiantum species</i>	Maqab	அடியா மாங்காய்க்குடி
3	<i>Albizia lebbek</i>	Vaaga	வாய
4	<i>Albizia odorata</i>	Ud	அ.பு
5	<i>Bauhinia purpurea</i>	Madhura	மாதுரை
6	<i>Bauhinia variegata</i>	Aachi	அச்சி
7	<i>Bauhinia linearis</i>	Isravata	இசுவாடி
8	<i>Bauhinia acuminata</i>	Karuna	கரூணா
9	<i>Bauhinia acuminata</i>	Taru	தரூ
10	<i>Bauhinia acuminata</i>	Murukkamaram	முருக்காமரம்
11	<i>Bauhinia acuminata</i>	Baru, Seethara	பூர், சீதாரா
12	<i>Calophyllum species</i>	Panna	பன்னா
13	<i>Cassia toria</i>	Seethara	சீதாரா
14	<i>Cassia toria</i>	Seethara	சீதாரா
15	<i>Cassia toria</i>	Seethara	சீதாரா
16	<i>Cassia toria</i>	Seethara	சீதாரா
17	<i>Cordia alliodora</i>	Vaari	வாரி
18	<i>Cordia alliodora</i>	Marigam	மாறிளம்
19	<i>Cordia alliodora</i>	Uva, Uva	அ.பு
20	<i>Dillenia indica</i>	Seethara, Seethara	சீ. அ. பி
21	<i>Dillenia indica</i>	Karunai	கரூணா
22	<i>Dillenia indica</i>	Vaari	வாரி
23	<i>Dillenia indica</i>	Kalchi	கலச்சி
24	<i>Dillenia indica</i>	Aruppamaram	அரூப்பாமரம்
25	<i>Dillenia indica</i>	Aachi	அச்சி
26	<i>Dillenia indica</i>	Archi	அச்சி அ. பி
27	<i>Dillenia indica</i>	Odhan	அ.பி
28	<i>Dillenia indica</i>	Po Marudhi	ப. மரூதி
29	<i>Dillenia indica</i>	Nelamaram	நெளளாமரம்
30	<i>Dillenia indica</i>	Vilamaram	விலாமரம்
31	<i>Dillenia indica</i>	Pongala	பொள்ளா
32	<i>Dillenia indica</i>	Thoppa	தொப்பா
33	<i>Dillenia indica</i>	Uththaiyudu	உத்தையூடு
34	<i>Dillenia indica</i>	Maghamaram	மாஹாமரம்
35	<i>Dillenia indica</i>	Katuba	காடூபா
36	<i>Dillenia indica</i>	Nana	நானா
37	<i>Dillenia indica</i>	Vella Tira	வல்லாரா
38	<i>Dillenia indica</i>	Enchi	என்ச்சி
39	<i>Dillenia indica</i>	Panna	பன்னா


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41	<i>Pennis setacea</i>	Madurai	quarry
42	<i>Pennis setacea</i>	Narasimman	quarry
43	<i>Pennis setacea</i>	Madurai	quarry
44	<i>Pennis setacea</i>	Yercaud	quarry
45	<i>Pennis setacea</i>	Vengal	quarry
46	<i>Pennis setacea</i>	Vengal, Tala	quarry
47	<i>Pennis setacea</i>	Palani	quarry
48	<i>Pennis setacea</i>	Palani	quarry
49	<i>Pennis setacea</i>	Ugum	quarry
50	<i>Pennis setacea</i>	Madurai	quarry
51	<i>Pennis setacea</i>	Madurai	quarry
52	<i>Pennis setacea</i>	Palani	quarry
53	<i>Pennis setacea</i>	Palani	quarry
54	<i>Pennis setacea</i>	Palani	quarry
55	<i>Pennis setacea</i>	Palani	quarry
56	<i>Pennis setacea</i>	Palani	quarry
57	<i>Pennis setacea</i>	Palani	quarry
58	<i>Pennis setacea</i>	Palani	quarry
59	<i>Pennis setacea</i>	Palani	quarry
60	<i>Pennis setacea</i>	Palani	quarry
61	<i>Pennis setacea</i>	Palani	quarry
62	<i>Pennis setacea</i>	Palani	quarry

Discussion by SEIAA and the Remarks:-

The proposal was placed in the 590th Authority meeting held on 09.02.2023. The authority noted that this proposal was placed for appraisal in this 345th meeting of SEAC held on 10.01.2023. 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 in addition to the conditions in 'Annexure B' of this minute.

Annexure 'B'


1. Cluster Management Committee, 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.,

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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.
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. 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 & bio-diversity.
 - 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.
11. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.


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12. The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.
13. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.
14. 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.
15. Impact on surrounding agricultural fields around the proposed mining Area.
16. Erosion Control measures.
17. Impact on soil flora & vegetation around the project site.
18. 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.
19. 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, vanni, canal, channel, river, lake pond, tank etc.
20. 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.
21. 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.
22. 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.
23. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
24. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
25. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.


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26. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
27. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
28. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.
29. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.
30. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.
31. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.
32. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.
33. The project proponent shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.
34. 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.
35. 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.
36. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
37. 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


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working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.

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/untooward 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.
39. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.
40. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.
41. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

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 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



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- 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 be prepared to encompass prooperational, 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



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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, 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



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- 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 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 predominant 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



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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 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


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- 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.
 - 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.


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- 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(I) dated 4th August, 2009, which are available on the website of this Ministry, should 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&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

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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 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.


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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 institutions/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 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


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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 (NADET) 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 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th September 2011 posted on the Ministry's website <http://www.moefnic.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 OM No. J-11013/41/2006-IA-II(I)(part) dated 29th 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, Gairdy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd 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.

ANNEXURE II
ToR Compliance

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

COMPLIANCE OF TOR CONDITIONS

Point wise compliance of ToR points issued by SEIAA, TN vide letter No. SEIAA-TN/F. No. 8801/SEAC/ToR-1324/2023 Dated: 09.02.2023 for Mining of Minor Minerals in the Mine of “Rough stone Quarry Over an Extent of 2.30.0 Ha at S.F.No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State.

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 an Existing Rough stone quarry.</p> <p>Precise area communication was approved by District Collectorate, Krishnagiri vide Letter Roc No.81/2016/Mines-2 dated: 29.02.2016.</p> <p>Scheme of Mining plan was approved by The Deputy Director, Dept. of Geology and Mining, Krishnagiri vide Letter Roc.No. 668/2021/Mines dated 23.04.2021.</p> <p>As area is being exploited for the first time hence Year-wise production details since 1994 and before 1994 are not relevant or applicable.</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.2.9</p>

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

		Year	Rough stone (m ³)	Topsoil (m ³)	
		I	78906	828	
		II	111972	-	
		III	98952	-	
		IV	83622	-	
		V	124054	-	
		Total	497506	828	
		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 2.30.0 hectare in Venkatesapuram Village for Rough stone quarry approved by Scheme of Mining plan was approved by The Deputy Director, Dept. of Geology and Mining, Krishnagiri vide Letter Roc.No. 668/2021/Mines dated 23.04.2021		Annexure-III
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.	Chapter- II		
4	All corner coordinates of the mine lease area, superimposed on a High-Resolution	Details of coordinates of all corners of proposed mining lease area have been incorporated in mining plan	Chapter-2, Fig no. 2.2		

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	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).	and Chapter 2 of EIA/ EMP Report.	
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 given in Chapter 2.	Chapter-2
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?	Noted.	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	<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 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,</p>	<p>Land Use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary,</p>	Chapter-2, Table no. 2.4

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	<p>wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated.</p> <p>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.</p>	<p>National Park, migratory routes of fauna, water bodies, human settlement and other ecological features has been prepared and incorporated in Chapter-3 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&R issues, if any, should be given.</p>	<p>The over burden in the form of Topsoil is 828 m³ of used for filling and levelling of low lying areas of road projects and other infrastructure development work in and around the district</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,</p>	<p>Complied.</p> <p>The proposed mining lease area is not falling under forest land.</p>	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	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.	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 Rough stone Quarry Over an Extent of 2.30.0 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 Standing Committee of National Board of Wildlife and copy furnished	There is no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Tiger / Elephant Reserves / Critically Polluted areas within 10 km radius of the mining lease area.	
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	Details biological study (flora & fauna) within 10 km radius of the project site have been incorporated in Chapter-3 of EIA/ EMP Report.	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	<p>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>No flora & 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 & fauna, if any in the lease hold area.</p>	<p>Chapter – 3</p>
19	<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>	
20	<p>Similarly, for coastal projects, A CRZ map duly authenticated by one of the authorized agencies</p>	<p>There is no Coastal Zone within 15km radius of the project site.</p>	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	<p>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>		
21	<p>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</p>	<p>There is no Rehabilitation and resettlement is involved. Land classified as Government Poramboke land</p>	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	<p>located in the mine lease area will be shifted or not. The issues relating to shifting of Village including their R&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 PM10, particularly for free silica,</p>	<p>Baseline data collected during Pre-Monsoon Season and Monsoon (January – March 2022) has been incorporated in EIA/EMP report.</p> <p>The key plan of monitoring station has been discussed in Chapter-4. 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 Rough stone Quarry Over an Extent of 2.30.0 Ha

	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 & Impact of Air quality will be furnished in Final EIA report.</p> <p>Transportation of mineral during operation of mines will be done by road & MDR 833 through dumpers and the impact of movement of vehicles are incorporated in EIA/EMP report.</p> <p>Air quality modelling & Impact of Air quality will be furnished in Final EIA report.</p>	Chapter-4
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.	<p>Total water requirement: 1.5 KLD</p> <p>Dust Suppression: 0.5 KLD</p> <p>Domestic Purpose: 0.5 KLD</p> <p>Plantation :0.5 KLD</p> <p>Domestic Water will be sourced from nearby Bukkasgaram which is about 0.86 Km-S of the area.</p>	Chapter-2
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be	<p>Not Applicable</p> <p>Water will be taken from nearby villages</p>	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	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.	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. 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.	<p>Maximum working depth: 51.0m (2.0m Topsoil + 49.0m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m.</p> <p>The ground water table is reported as 84m 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.</p>	Chapter-2
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion	There is no any stream crossing in the proposed quarry.	Executive Summary

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	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 both in AMSL and bgl. A schematic diagram may also be provided for the same.	Highest elevation: 826m from MSL The ground Water Level is noticed at the depth of 70m BGL.	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 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	Green Belt Development plan is proved given in Chapter 2.	Chapter-2
32	Impact on local transport	Impact on local transport	Chapter-3

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	<p>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>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>	
33	<p>Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA report.</p>	<p>Adequate infrastructure & other facilities shall be provided to the mine workers. Details are given in chapter-2 of EIA/EMP</p>	Chapter-2
34	<p>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.</p>	<p>Conceptual post mining land use and Reclamation and restoration sectional plates are given in Mining Plan followed by Scheme of mining.</p>	Mining plates Annexure
35	<p>Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-</p>	<p>Suitable measure will be adopted to minimize occupational health impacts of the project. The project shall have positive impact on local</p>	Chapter-10

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project in the mining area may be detailed	environment. Details are given in chapter-10 of EIA/EMP.	
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-10
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.	Suitable measures have been discussed in Chapter 4	Chapter-4
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	Public Hearing proceedings will be furnished in Final EIA report	

TOR Reply of Rough stone Quarry Over an Extent of 2.30.0 Ha

	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.														
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="text-align: center;">S. No</th> <th style="text-align: center;">Description</th> <th style="text-align: center;">Cost</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Fixed Asset Cost</td> <td style="text-align: right;">9790000/-</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Operational Cost</td> <td style="text-align: right;">40,00,000 /-</td> </tr> <tr> <td></td> <td>Total</td> <td style="text-align: right;">1,37,90,000 /-</td> </tr> </tbody> </table> <p>EMP Cost: 2,20,00,000/-</p>	S. No	Description	Cost	1	Fixed Asset Cost	9790000/-	2	Operational Cost	40,00,000 /-		Total	1,37,90,000 /-	Chapter-8
S. No	Description	Cost													
1	Fixed Asset Cost	9790000/-													
2	Operational Cost	40,00,000 /-													
	Total	1,37,90,000 /-													
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														

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	mentioned general points are also to be followed:		
(a)	Executive Summary of the EIA/EMP report	Executive Summary of EIA Report is given from page No.24-40	
(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 EIA report has been	

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	<p>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 available on the website of this Ministry, should also be followed.</p>	<p>prepared and complying with the circular issued by MoEF vide O.M. No. J-11013/41/2006-IA. II(I) dated 4th August 2009.</p>	
(h)	<p>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</p>	<p>There are no changes in prepared EIA as per submitted Form-1 & PFR</p>	
(i)	<p>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</p>	<p>Will be complied after grant environment clearance from SEIAA, Tamilnadu</p>	

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	Environment, Forest and Climate Chnage, 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 (iii) sections of mine pit and external dumps, if any clearly showing the features of the adjoining area.	All Sectional Plates of Quarry is enclosed in Mining Plan.	

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Additional ToR Compliance

S.No.	Condition	Compliance
1.	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.	The 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.
2.	The PP shall submit certified compliance Report obtained from the office of the concerned DEE/TNPCB (or) IRO, MoEF& CC, Chennai and appropriate mitigating measures for the non-compliance items, if any	Agreed to comply
3.	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	The Bio diversity study will be carried out through reputed Institution and the same shall be included in EIA Report.
4.	The PP shall develop greenbelt and garland drain around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal.	Agreed to comply
5.	The proponent shall construct the 'S3 (or) G2' type of fencing all around the boundary of the proposed working quarry with gates for entry/exit before the commencement of the operation as recommended in the DGMS Circular, 11/1959 and shall furnish the photographs showing the same during the EIA appraisal.	Agreed to comply
6.	The Proponent shall submit a conceptual 'Slope Stability Plan' for the planned working of the	The Slope Stability Plan will be submitted during Final EIA Report.

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	quarry by maintaining appropriate benches incorporating the haul road with ruling gradient as the depth of the proposed quarry is exceeding 30 m, during the EIA appraisal.	
7.	The PP shall furnish an affidavit stating that the common boundary of not less than 7.5 width will be maintained with the neighbouring quarries unless the relaxation is obtained under Reg. 111 (3) of MMR 1961 for the complete extraction of the same from the concerned Regional Director of Mines Safety, DGMS.	Agreed to comply
8.	The Proponent 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/1 Class mines manager directly employed on full- time basis only by the proponent.	The PP will 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.
9.	The PP shall enumerate the existence of houses, permanent structures, habitations, etc within a distance range of 100 m, 200 m, 300 m, and 500 m.	
10.	The Proponent shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry.	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 or elsewhere in the State with video and	Will be provided in Final EIA report.

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	photographic evidences.							
12.	The EIA Coordinator 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 evidence.	It is a existing quarry and earlier operated by the proponent.						
13.	<p>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,</p> <p>a. What was the period of the operation and stoppage of the earlier mines with the last work permit issued by the AD/DD mines?</p> <p>b. Quantity of minerals mines out.</p> <p>c. Highest production achieved in any one year.</p> <p>d. Details of approved depth of mining.</p> <p>e. Actual depth of the mining achieved earlier.</p> <p>f. Name of the person already mined in that leases area.</p> <p>g. If EC and CTO already obtained, the copy of the same shall be submitted.</p> <p>h. Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.</p>	<p>It is a existing quarry.</p> <p>138060 cum</p> <p>27612 cum</p> <p>42m</p> <p>Existing Pit Dimensions PIT</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 70%;">Length (m)</td> <td style="text-align: right;">177.0</td> </tr> <tr> <td>Width (m) (avg)</td> <td style="text-align: right;">78.0</td> </tr> <tr> <td>Depth (m) (avg)</td> <td style="text-align: right;">10.0</td> </tr> </table> <p>EC & CTO obtained enclosed as Annexure</p> <p>Yes</p>	Length (m)	177.0	Width (m) (avg)	78.0	Depth (m) (avg)	10.0
Length (m)	177.0							
Width (m) (avg)	78.0							
Depth (m) (avg)	10.0							
14.	All corner coordinates of the mine lease area,	Complied.						

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	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 feature of the study area (core and buffer zone)	All corners with coordinates of the mine lease area have attached with EIA report in chapter 2
15.	The Project Proponent shall carry out Drone video survey covering survey covering the cluster, green belt, fencing etc.,	Drone video survey will be submitted in final EIA report.
16.	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justification, 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.
17.	The PP shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of 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
18.	The PP shall conduct the 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 1km (radius) along with the collected water level data	Hydro geological study report will be submitted along final EIA report.

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	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.	
19.	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
20.	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.
21.	Rainwater harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Noted. Agree to comply.
22.	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	Current land use of the study area has attached in EIA report chapter 3. Operational and post operational land

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	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	use will be submitted.
23.	Details of the land for storage of Overburden/Waste dump (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.	The over burden in the form of topsoil is 828 m ³ of used for filling and leveling of low lying areas of road projects and other infrastructure development work in and around the district
24.	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	The proposed mining lease area is not falling under critically polluted area.
25.	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.
26.	The PP shall provide the Travelling route for the proposed quarry and also indicate the impact on local transport infrastructure due to the Project	Agreed to comply.

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	activities.	
27.	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.
28.	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, Pudukkottai District
29.	Public hearing points raised and commitments of the PP 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 and to be submitted to SEIAA/SEAC with regard to the Office Memorandum of MoEF & CC accordingly.	Noted and will be complied in Final EIA report.
30.	The Public hearing advertisement shall be published in on major National daily and one most circulated vernacular daily	The Public hearing advertisement will be published in one major National daily and one most circulated vernacular daily.
31.	The PP shall produce/display the EIA report, Executive summary and other related information with respect to public hearing Tamil Language also.	Noted
32.	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	Noted. Agree to comply

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	flora and fauna by involving them in the study, wherever possible.	
33.	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 and local school/college authorities. 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.	<p>Around 1300 (500 per year) trees will be planted around the site. The list of trees to be planted are given below:</p> <p>Neem, Pungam, Poovarasu, Naval, Mantharai, Arasa Maram, Magizham, Vilvam, vaagai, Marudha maram, Thandri, Poovarasu, Quaker buttons, Sengondrai, Manjadi, Usil, Aathi, Panai, Uzha, Illuppai, Eachai, Vanni Maram</p>
34.	Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly 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 meter wide and in between blocks in an organized manner.	The green belt plan enclosed with mining plates in Annexure
35.	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.
36.	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.

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37.	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.	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-10 of EIA/EMP.
38.	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.	Public health implication and remedial measures is given in EIA/EMP report.
39.	The Socio-economic studies should be carried out within a 5km 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.
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	No. litigation is pending against the project in any court.
41.	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
42.	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is	It is a fresh quarry.

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	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	
43.	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.
44.	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 by SEIAA		
1	Cluster Management Committee, which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	Noted. Agree to comply.
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Greenbelt development, water sprinkling, tree plantation, blasting, etc.,	Noted. Agree to comply.
3.	The List of members of the committee formed shall be submitted to the AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Noted. Agree to comply.
4.	Detailed Operation Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the	Noted. Agree to comply.

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	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 the natural calamities like intense rain and mitigation measures considering the inundation of the cluster and evacuation plan.	Noted. Agree to comply.
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.	Noted. Agree to comply.
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.	Noted. Agree to comply.
8.	The committee shall furnish the Emergency Management plan within the cluster.	Noted. Agree to comply.
9.	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	Noted. Agree to comply.
10.	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease as per precise area communication order issued from reputed research institutions on the following. a) Soil health & bio-diversity b) Climate change leading to Droughts,	The biodiversity has been studied and discussed in chapter 3. The soil erosion map 5km surrounding the project site has been given in chapter 3. The detailed study will be carried out and will be enclosed in the Draft EIA

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	<p>Floods etc.,</p> <p>c) Pollution leading to release Greenhouse gases (GHG), rise in Temperature & Livelihood of the local people.</p> <p>d) Possibilities of water containment and impact on aquatic ecosystem health.</p> <p>e) Agriculture, Forestry & Traditional practices.</p> <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>	Report.
11.	The committee shall furnish an action plan to archive sustainable development goals with reference to water, sanitation and safety.	Noted. Agree to comply.
12.	The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.	Noted. Agree to comply.
13.	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	Noted. Agree to comply.
14.	Details of type of vegetations including the no. of trees and shrubs within the proposed mining area and. If so, transplantation of such vegeattions all along the boundary of the proposed mining area shall committed mentioned in EMP.	Noted. Agree to comply.
15.	Impact on surrounding agricultural fields around the proposed mining Area.	Noted. Agree to comply.
16.	Erosion Control Measures	Noted.

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		Agree to comply.
17.	Impact on soil flora and vegetation around the project site.	Noted. Agree to comply.
18.	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 and any ecological fragile areas.	Noted. Agree to comply.
19	The PP 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.,	Complied. VAO certificate has attached as Annexure-
20	As per the MoEF&CC office memorandum F.No.22-65/2017-IA.III dated: 3009.2020 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 will be included along with final EIA report.
21	The EIA 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 will be complied in Final EIA report.
22	The EIA 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
23	Action should specifically suggest for sustainable management of the area and restoration of	Noted. Agree to comply.

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	ecosystem for flow of goods and services.	
24	The project proponent shall study impact on fish habitats and the food WEB/food chain in the water body and reservoir.	There is no water bodies within 500 m radius, The seasonal pond located 1 km Northwest 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.
25	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
26	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
27	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.
28	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
29	The EIA should hold detailed study on EMP	The EMP details has been given in

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	with budget for Green belt development and mine closure plan including disaster management plan.	Chapter 8
30	The EIA should study impact on climate change, temperature rise, pollution and above soil carbon stock.	Noted and will be complied in Final EIA report.
31	The EIA should study impact on protected areas, Reserve forests, National parks, Corridors and Wildlife pathways, near project site.	<p>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.</p> <p>There is no protected areas, National Parks, Corridors and Wildlife pathways near project site.</p>
32	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 impact in adjoining patta lands, Horticulture, Agriculture and livestock.
33	The PP shall study and furnish the details on potential fragmentation impact of natural environment, by the activities.	Noted and will be complied in Final EIA report.
34	The PP 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 landform changes visual and	<p>Noted.</p> <p>Agree to comply.</p>

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	aesthetic impacts	
35	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 fresh water 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.
36	The PP shall detailed study on impact of mining on Reserve forests free ranging wildlife.	There will be no significant impact on reserve forest due to mining and air quality & noise monitoring will be done regularly through NABL Accredited laboratory.
37	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 EIA report.
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

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39	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	A Risk Assessment and management Plan will be prepared and included in the final EIA/EMP Report.
40	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 Annexure VI.
41	Detailed Environment Management Plan along with adaption, 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-10 of the Draft EIA/EMP Report.

ANNEXURE III

Precise area, Mining Plan Approval Letter, 500m Radius Letter,
VAO letter

ANNEXURE P

PROCEEDINGS OF THE DISTRICT COLLECTOR, KRISHNAGIRI

Present: Thiru C.Kathiravan, I.A.S.,

Roc.No.81/2016/Mines

Dated 09.08.2016

Sub: Mines and Minerals - Minor Mineral - Rough Stone -
Krishnagiri District - Hosur Taluk (Now Shoolagiri), -
Venkatesapuram Village - Govt. Land in S.F.No.270
(Part-1) - Over an extent of 2.30.0 Hecta. - precise
area given for the proposed grant of quarry lease for
rough stone to Thiru V.Sekar S/o.Venkattappa -
under Tender-cum - Auction system - SEIAA
clearance and TNPCB obtained - order issued - reg.

- Ref:
1. Krishnagiri District Gazette Extra Ordinary No.2 dated 29.01.2016.
 2. Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 tender application dated 18.02.2016.
 3. The District Collector, Krishnagiri Memorandum in Roc.No.81/2016/Mines-2 dated 29.02.2016.
 4. Mining plan approved by the Deputy Director of Geology and Mining, Krishnagiri in Roc.No.81/2016/Mines-2 dated 25.04.2016.
 5. The State Level Environment Impact Assessment Authority of Tamil Nadu Lr.No.SEIAA-TN/P.No.5355/1(a)/EC No.3269/2016 dated 09.07.2016
 6. Proceedings No.F.0949HSR/RS/DEE/TNPCB/HSR/A/2016 dated 04.08.2016 of the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur
 7. Proceedings No.F.0949HSR/RS/DEE/TNPCB/HSR/W/2016 dated 04.08.2016 of the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur
 8. Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 letter dated 09.08.2016.

29.8.16
29.8.21
22.4.21

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ORDER:

Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 had participated in the tender-cum-auction for the grant of quarry lease for rough stone over an extent of 2.30.0 Hecta in Government land S.F.No.270 (Part-1) of Venkatesapuram Village of Hosur Taluk (Now Shoolagiri) of Krishnagiri District on 18.02.2016 and he is declared as the highest bidder and precise area had been given for the

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grant of rough stone quarry lease in the said area for a period of **Ten years** from the date of execution of lease deed and he had been directed to submit the approved mining plan, Environmental Clearance from the SEIAA of Tamil Nadu and consent of the Tamil Nadu Pollution Control Board vide in the Memorandum 3rd cited.

The applicant had submitted the approved mining plan approved by the Deputy Director of Geology and Mining vide in the reference 4th cited, the Environment clearance given by the State Level Environment Impact Assessment Authority Tamil Nadu in the reference 5th cited and consent of the Tamil Nadu Pollution Control Board in the reference 6th and 7th cited.

In view of the above a quarry lease for rough stone is granted to Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 over an extent of 2.30.0 Hecta in Government land S.F.No.270 (Part-1) of Venkatesapuram village of Hosur Taluk (Now Shoolagiri) of Krishnagiri District under the provisions of Rule 8 (1) of Tamil Nadu Minor Mineral Concession Rules, 1959 for a period of **Ten years** from the date of execution of lease deed subject to the following conditions.

I) The grantee should remit a sum of Rs.9,40,000/- towards security deposit, Rs.2300/- towards area assessment in the relevant head of accounts and submit non judicial stamp papers for the appropriate value of Rs.2,16,000/- and to execute the lease deed with District Collector in the prescribed time limit.

II) The grantee should get the consent for operation from the Tamil Nadu Pollution Control Board before the commencement of quarrying operation.

III.) A) சிறப்பு நிபந்தனைகள்:

- i. குவாரி ஒத்தகை வரம்பு உத்தேசிக்கப்பட்டிருக்கின்ற குவாரிக்கு அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரியை செயல்படுத்தும்.
- ii. அருகிலுள்ள கிராம எல்லைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இது பெருஞ்சாலைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரியை செயல்படுத்தும்.

III.) B) சாதாரண கட்டுவாரியை செயல்படுத்தும் நிபந்தனைகள்:

- (1) ஒத்தகை வரம்பு, ஒத்தகை ஒப்பந்தத்தின் விவரங்களைப் பற்றிய விவரம் அளிப்பதும்.
- (2) குவாரி ஒத்தகை வரம்பு உட்பட இடத்தில் குவாரி செயல்படுத்தும் செயல்கள்/ செயல்கள்/ சக்கை மற்றும் இவ்விடங்களில் மேற்கொள்ளப்படும் வேலைகளைப் பற்றி இடத்திலுள்ள வெளியில் எடுத்துச் செயல்படுத்தும் முன்பு அமைதி உட்கொண்டிருக்கும் அருகிலுள்ள வீதத்தின் சமீபகால தீர்வை செய்து இவ்வாறுவரம்பு உட்பட பாதுகாப்பு நடைபிடி செய்து விட்டதற்கான குவாரியிலுள்ள வெளியில் எடுத்துச் செயல்படுத்தும் 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுசாலை சட்டம், இடைவெளி II-ல் அங்கீகரிக்கப்படும் அளவில் இடைவிடப்படும் வீதத்தில் பாதுகாப்பு தீர்வை செய்து



- வேண்டும். மேற்கண்ட தொகையைத் தவிர அரசாங்க அங்காடிகள் நிர்வாகிக்கப்படும் இதர தொகையையும் குத்தகைதாரர் செலுத்த வேண்டும்.
- (3) குத்தகை இடத்திற்கு அருகிலுள்ள குடிசைகளை, கட்டிடங்கள், திருவிளக்குகள், குளங்களில் களிகள், மாடுகள், சாலைகள், வண்டிப்பாதைகள், நடைபாதைகள் மற்றும் இதர பொதுச் சொத்துக்களுக்கு மதகயில்லாமல் குவாரி செய்ய வேண்டும்.
- (4) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகாமையில் உள்ள பட்டாநாயர்கள் மற்றும் பொது மக்களுக்கு மதகயில்லாமல் குவாரி செய்ய வேண்டும்.
- (5) அ) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகிலுள்ள சமீபகாலதகள், சாலைகள், மின்சாரம் மற்றும் தொகையியல் கம்பிகள்க்கு 50 மீட்டரும், குடிசைக்கு மத்தியிலிருந்து 300 மீட்டரும், நடைபாதைகள், கிராம சாலைகளுக்கு 10 மீட்டரும் மாதுகாப்பு இடைவெளி விட்டு குவாரி செய்ய வேண்டும்.
- ஆ) அருகிலுள்ள அரசு நிலங்களுக்கு 10 மீட்டர் மாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
- இ) அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் மாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
- (6) மாவட்ட ஆட்சித்தலையன் (அல்லது) அரசாங்க அதிகாரம் வழங்கப்பட்ட அலுவலக குத்தகை வழங்கப்பட்ட இடத்தைப் பார்வையிடவும், குவாரி பதிவேடுகள், ஆவணங்கள் மற்றும் கணக்கை சரியாக்கவும் அனுமதிக்க வேண்டும். இது சம்பந்தமாக அவர்கள் மேலும் அமைத்து விவரங்களைத் வழங்க வேண்டும்.
- (7) கற்றுக்கு முன்பின் மாதுகாப்பு, காரிய மாதுகாப்பு, தொழிலாளர் மாதுகாப்பு முதலியவற்றைக் கருத்தில் கொண்டு விஞ்ஞான அடிப்படையில் திறமையான முறையாகக் குவாரி செய்ய வேண்டும்.
- (8) மாவட்ட ஆட்சித்தலையன் மற்றும் ஆணையர், முகியல் மற்றும் கருத்தரங்கு ஆகியவர்கள் அதிகாரம் வழங்கப்பட்ட அலுவலக மேல் முத்தி (9)-ல் குறிப்பிட்டுள்ள நிபந்தனைகள் தொடர்பாகவும், மேற்கண்ட அலுவலர்களின் ஆணையை நிறைவேற்றவும் குத்தகை வழங்கப்பட்ட இடத்தைப் பார்வையிட அனுமதிக்க வேண்டும்.
- (9) குத்தகைதாரரின் சொலில் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றி அதனை பதிவு செய்வதற்கு முன்பு குத்தகை இடத்தில் குவாரி மற்றும் இது சம்பந்தப்பட்ட வேலைகளைத் தொடங்கக்கூடாது.
- (10) குத்தகை வழங்கப்பட்டுள்ள இடத்திற்குள் எங்கையிலிருந்து 7.5 மீட்டர் தூரத்திற்குள் குவாரி செய்யக் கூடாது.
- (11) பொது சாலைகளிலிருந்து குத்தகை வழங்கப்பட்ட இடத்திற்குக் கெட்டுப் போன பாறை வாரி குத்தகைதாரர் சொந்த பொதுவில் செய்து கொள்ள வேண்டும்.
- (12) குத்தகை ஒப்பந்தப்பத்திரம் இடைநின்றுள்ள காலத்தில் காட்டியுள்ள குத்தகை இடத்தைக் கற்றுதல் சம்பவக்கறிகள் நட்பு அலுவலர் சரியானபடி பரிசீலிக்க வேண்டும்.
- (13) 1959 ஆம் வருத்திய தங்கிதாடு சீர்தரணிக் சலுகை விதிகள் இடைவெளி XII மற்றும் XII-ல் உள்ள மூலக்களில் முறையே இடைவெளிசைக்கீட்டு மற்றும் நடைச்சீட்டினைத் தவிர செய்து அலுவலில் மாவட்ட ஆட்சித்தலையனார் அதிகாரம் வழங்கப்பட்ட அலுவலரின் கைகொடு முத்திரை மற்றும் அலுவலக முத்திரைகள் பெற்று குவாரியிலிருந்து குண்டுக்கள், கட்டுக்கல்சக்கை மற்றும் ஊயல் ஆகியவற்றை வெளியில் எடுத்துச் செல்லும் ஒப்பினை வகைத்திரையும் ஒப்பினை நடைச்சீட்டும் வழங்கப்படவேண்டும். குண்டுக்கள், கட்டுக்கல், சக்கைகள், ஊயல் ஆகியவற்றை ஏற்றிச் செல்லும் ஒப்பினை வகைப்படும் அலுவலர் கோவைச் செய்வதற்கு அதிகாரம் பெற்று அலுவலர் கோவைச் செய்வதற்கு நடைச்சீட்டினைக் காண்பிக்க வேண்டும். இடைவெளிசைக்கீட்டு மற்றும் நடைச்சீட்டின் நடைகளை குவாரியில் வைத்திருக்க வேண்டும்.

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முன்புள்ள இடைக்கால சட்டம் மற்றும் நடைமுறைகள் இடையில் கமிஷனர்கள் எந்தச் செல்லும் வாகனங்கள் 1959-ம் வருடத்தில் நவீனமாடு சிறுகளில் சட்டம் விதிக்க மற்றும் கார்ப்புகள் மற்றும் கமிஷனர்கள் ஒழுங்குமுறை மற்றும் அபிவிருத்தி சட்டம், 1957-ம் ஆண்டு உட்பற்றியும், குத்தகைதாரர் மீது நடவடிக்கை எடுக்கப்படுவதுடன் குவாரிக்குத்தகையையும் ரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.

- (14) குத்தகை வழங்கப்பட்ட இடத்தை மூண்டுக்கல், கட்டுக்கல், சக்கரை மற்றும் ஐஸ் குவாரி செய்ய மட்டும் பயன்படுத்த வேண்டும் குத்தகை உரிய ஆணை அல்லது குத்தகை ஒப்பந்தப்பத்திரத்தில் தவண்களை கமிஷன் விவரம் குறிக்கப்பட்டு இருந்தால் ஆணை எந்த நேரத்திலும் நிரந்தரவதற்கு மாறட்ட ஆட்சிக்கு அறிவிப்பு உண்டு. குத்தகைதாரர் ஆணையிடையில் எந்த உரிமையும் கோரமுடியாது.
- (15) செஞ்சேற்றுவதற்கும், அங்கம் நாட்டிற்கு ஏற்றாதி செய்வதற்கும் பயன்படும் கமிஷன் கட்டுப்பாடுகள் வடிவத்தில் கட்டுவாரி செய்யக் கூடாது.
- (16) குத்தகை ஒப்பந்தப்பத்திரத்தில் குறிக்கப்பட்டதே ஏது ஏதாவதொரு கமிஷன் கமிஷனர்கள், ஆணை எப்படிப்பட்ட ஆணையின் ஆணையினால் செய்வதும், அதற்குரிய கமிஷன்கள் தொகையை செலுத்தாமலும் எடுக்கக்கூடாது. (கமிஷன் கமிஷன் கமிஷன்கள் 30 நிமிஷங்களுக்குள் தெரிவிக்காமல் எடுத்தால் சென்றால் இக்குற்றத்திற்கு அந்த கமிஷன்கள் கமிஷன்கள் கமிஷன்கள் மட்டும் கமிஷன்கள் 15 மடங்குமளவு மாறட்ட ஆட்சிக்குமளவு அறாதும் விதித்து வலியுறுக்கப்படும்.
- (17) குத்தகை கமிஷன் முடிவிற்கு குத்தகை வழங்கப்பட்ட இடத்திற்கு குறுக்கிடக்கல், கட்டுக்கல், சக்கரை மற்றும் ஐஸ் கமிஷன் குவாரி செய்ய செய்ய முடியும் எடுத்தால் செல்ல குத்தகைதாரருக்கு உரிமையில்லை.
- (18) குத்தகை கமிஷன் முடிவிற்கு பிறகு குத்தகை இடத்தில் எடுக்கின், செல்கின் சென்ற எத்தனையாவது நவீனமாடு செலுத்தாமலும் வைத்திருக்கக்கூடாது. அவற்றை குத்தகை வடிவில் கமிஷன் நவீனமாடு குத்தகைதாரர் எடுத்தால் சென்றால் செல்லும்.
- (19) குத்தகையின் ஏது எவருக்கும் உள் குத்தகைக்கு விடக்கூடாது.
- (20) குவாரி செய்யவில்லை இரண்டு ஏற்புள் தட்டிட்டு கேட்கக்கூடாது.
- (21) குவாரியில் வேலை செய்ய தொழிலாளர்கள் மற்றும் இது நவீனமாடு விபத்து ஏதாவது ஏற்புள் அதற்கு முன்பு சென்றபின்னாலும் குத்தகைதாரருக்கேடும், இடக்கு அங்கம் சென்றபின்னாலும்.
- (22) அங்கக்கு செலுத்த வேண்டிய தொகையை உரிய கமிஷன்கள் செலுத்தவில்லை என்றால் அதற்கான 24 % அளவு அளவில் அங்கம் செலுத்து நினைவில்க்கப்படும் விதத்தில் வட்டிகள் குத்தகைதாரரிடமிருந்து வலியுறுக்கப்படும்.
- (23) அங்கக்கு செலுத்த வேண்டிய அங்கித் தொகை தவிர்த்து வருவாய் வரவு சட்டம் 1864-ம் கீழ் வலியுறுக்கப்படும்.
- (24) குத்தகை நித்தகைகள், 1959-ஆம் வருடத்தில் நவீனமாடு சிறுகளில் சட்டம் விதிக்க, அங்க, ஆணைகள், அபிவிருத்தி மற்றும் கார்ப்புகளையும் மாறட்ட ஆட்சிக்குமளவு ஆட்சிக்கு ஆணைகள் மீறப்பட்டு மீறலுக்கு அறாதும் விதிப்பதோடு அங்கமும் குத்தகைதாரருக்கு நேரமாக விளையுமாக்கு வாய்ப்பளித்த பின்னர் குத்தகை உரிய ரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.
- (25) அங்கின் அங்கம் செலுத்த ஆணைகளுக்கேற்ப நித்தகைகளை மாற்றி அங்கம் செலுத்த, நீக்கவே, கட்டுகளை கேட்கவே, மாறட்ட ஆட்சிக்குமளவுக்கு முழு அறிவிப்பு உண்டு.
- (26) செஞ்சேற்றிய நித்தகைகளுடன் 1959-ஆம் வருடத்தில் நவீனமாடு சிறுகளில் சட்டம் விதிக்க, கார்ப்புகள் மற்றும் கமிஷன்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம் 1957, மாறட்ட ஆட்சிக்குமளவு ஆட்சிக்குமளவு அங்கம் செலுத்து மீறப்பிக்கப்படும் ஆணைகள் குத்தகைதாரருக்கு கட்டுப்படுத்தும்.

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(27) குவாரிக்/வாங்கல்சுக்கு செலுத்தக்கூடிய தொழிலாளர் சட்டங்களுக்கு கட்டுப்பாட்டு குத்தகைதரர் குவாரி செயல்பெற்று, தரவேண்டிய அங்கீகரிக்கப்பட்ட குவாரி சட்டப்படிவமான ந. வங்கல்சுக்கு குத்தகைதரர் உள்மாக வேண்டி இருக்கும்.

(28) இந்திய வெய்லு சட்டம் 1884 (Central Act IV of 1884)-ஊடாக உள்மாக செயல்பெற்று உள்மாக செய்து குத்தகைதரர் பராமத்து செயல்பெற்று உள்மாக செயல்பெற்று தரவேண்டிய மட்டத்தில் குத்தகைதரர் கட்டுப்பாட்டை உள்மாக செயல்பெற்றுக்கும்.

(29) குத்தகைதரர் குவாரி சட்டங்களை தொழிலாளர்களின் பராமத்துக்கட்டிடம்.

IV) a) The conditions imposed by the Tamil Nadu Pollution Control Board in the consent to establishment in Air and Water Pollution Act should be strictly adhered and the consent should be renewed periodically.

b) The Environment Clearance issued by the SEIAA, Tamil Nadu should be renewed within the prescribed time limit.

V) Conditions imposed by the SEIAA.

1. i) The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 years from the date of issue whichever is earlier.

ii) The approved quantity of rough stone to be quarried = 125072 cbm

iii) Depth of mining permitted = 42 mts.

2. A. Conditions to be complied before the commencing of mining operation

(1). The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that

(i). The project has been accorded Environmental Clearance.

(ii). Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.

(iii). Environmental Clearance may also be seen on the website of the SEIAA.

(iv). The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.

(2). The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.



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- (3). NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
 - (4). The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
 - (5). A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
 - (6). Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
 - (7). The proponent shall ensure that First Aid Box is available at site.
 - (8). The excavation activity shall not alter the natural drainage pattern of the area.
 - (9). The excavated pit shall be restored by the project proponent for useful purposes.
 - (10). The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
 - (11). The quarrying operation shall be restricted between 7AM and 5 PM.
 - (12). The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
 - (13). A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
 - (14). Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.

V. G. G. G.



(15). The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.

(16). Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.

(17). Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.

(18). The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.

(19). Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.

(20). A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.

(21). The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, GoI on 16.11.2009.

(22). The following measures are to be implemented to reduce Air Pollution during transportation of mineral

- (i). Roads shall be graded to mitigate the dust emission.
- (ii). Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.

(23). The following measures are to be implemented to reduce Noise Pollution

- (i). Proper and regular maintenance of vehicles and other equipment.
- (ii). Limiting time exposure of workers to excessive noise.
- (iii). The workers employed shall be provided with protection equipment and earmuffs etc.

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(iv). Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

(24). Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt:11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.

(25). Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.

(26). Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.

(27). Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.

(28). The following measures are to be adopted to control erosion of dumps:-

(i). Retention/ toe walls shall be provided at the foot of the dumps.

(ii). Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.

(29). Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.

(30). Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(31). Rain water harvesting to collect and utilize the entire water falling in land area should be provided.

(32). Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all

the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.



[33]. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that measures shall be carried out. District Collector / Mining officer shall ensure this.

[34]. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.

[35]. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.

[36]. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.

[37]. It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site

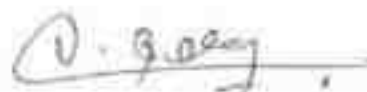
[38]. Ground water quality monitoring should be conducted once in 3 Months.


[39]. Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.

[40]. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOL.

[41]. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOL.

[42]. Bunds to be provided at the boundary of the project site.





(43) The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 100/1Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

(44) At least 10 Neem trees should be planted around the boundary of the quarry site.

(45) Floor of excavated pit to be leveled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.

(46) The Project Proponent shall ensure a minimum of 2.5 of the annual turnover will be utilized for the CSR Activity

(47) The Project Proponent shall provide solar lighting system to the nearby villages

(48) The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.

(49) Rainwater shall be pumped out Via Settling Tank only

(50) Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.

(51) As per MoEF & CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.

(52) The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.

(53) Safety equipments to be provided to all the employees.

(54) Safety distance of 50 m has to be provided in case of railway, reservoir, canal/odai

(55) The Assistant / Deputy Director Department of Geology and Mining shall ensure that the proponent has engaged the blaster with valid Blasting license / certificate obtained from the competent authority before execution of mining lease.

D. G. B. /



- (56) The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- (57) The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- (58) The proponent shall furnish the data obtained from the Public Works Department regarding the details of ground water table in the quarry site.
- (59) The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh case before execution of mining lease.
- (60) The proponent has to display the name board at the quarry site showing the details of proponent, leased period, extent etc., with respect to the existing activity before execution of mining.
- (61) Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- (62) The PP has to study the Geo Environmental Assessment for the cluster of rough stone quarries jointly as a comprehensive report within 60 days from the date of presentation.

B. General Conditions:

- (1) EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- (2) The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
- (3) No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- (4) No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- (5) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

(Signature)



(6) Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.

(7) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

(8) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

(9) Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying them mineral shall not be overloaded.

(10) Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.

(11) All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

(12) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.

(13) Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.

(14) The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.

(15) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the

C. Qalay

Ministry of Environment and Forests and its regional office located at Chennai.



- (16) The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- (17) This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- (18) The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- (19) The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA.TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- (20) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- (21) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- (22) Any other conditions stipulated by other Statutory/ Government authorities shall be complied.

(Handwritten signature)



VI. The lessee should strictly adhere all the conditions imposed in the environmental clearance issued by The SEIAA Tamil Nadu and consent order of the Tamil Nadu Pollution Control Board.

VII. The lessee should periodically renew the environmental clearance and the consent orders of the Tamil Nadu Pollution Control Board without any lapse.

VIII. If any illicit quarrying is found in the area over an extent of 2.30.0 hectares in S.F.No.270 (Part-1) of Venkatesapuram Village, Hosur Taluk (Now Shoolagiri), Krishnagiri District before the date of execution of lease deed, this lease deed is liable to be cancelled and criminal action will be initiated.

IX. If the quarry area is situated within 10 km distance from any protected areas NOC from the Standing committee of NBWL should be obtained before commencing the quarry operation.

X. If the lease holder wants to quarry more than the quantity permitted in the environmental clearance within the lease period, modified mining plan / scheme and Environment Clearance for the additional quantity should be submitted.

/True Copy/

Sd. /-C.Kathiravan,
District Collector
Krishnagiri

For Collector,
Krishnagiri

9.8.14

To
Thiru V.Sekar,
S/o.R.Ventesappa,
Door No.4/165/B,
Karukondapalli village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri District - 635 113.

S. DHANASEKAR, (P. No. 11111)
Qualified Person

Copy to

1. The Sub Collector, Hosur.
2. The Tahsildar, Hosur
3. The Village Administrative Officer, Venkatesapuram village.

A. Palay

From

Thiru.L.Suresh., M.Sc.,
Assistant Director (Addl. Charge)
Dept of Geology and Mining,
Collectorate,
Krishnagiri .

To

Thiru.V.Sekar,
S/o. R.Venkatesappa,
D.No.4/165/B, Karukondaalli Village,
Bataramangalam Post,
Denkanikottai Taluk,
Krishnagiri District - 635 113.

Roc.No.668/2021/Mines

Dated: 03.04.2021.

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough stone – Quarry lease for rough stone granted to Thiru.V.Sekar S/o.R.Venkatesappa Krishnagiri District over an extent of 2.30.0 Hects Government land in S.F.No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk - Krishnagiri District- Scheme of Mining Submitted for the period 2021 - 2022 to 2025 - 2026 - approved - Reg.

Ref: 1. The District Collector, Krishnagiri Proc.Roc.No.81/2016/Mines dated: 09.08.2016.

2. Mining plan approved by the Deputy Director of Geology and Mining, Krishnagiri in Roc.No.81/2016/Mines-1 Dt:25.04.2016..

3. 1st Scheme of mining plan for the period 2021 - 2022 to 2025 - 2026 submitted by the lessee at district office on 19.04.2021.

Kind attention is invited to the references cited.

2) Thiru.V.Sekar S/o.R.Venkatesappa, Krishnagiri has been granted a Rough stone quarry lease for a period of 10 years over an extent of 2.30.0 hecta of Government land in S.F.No.270(Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District vide the District Collector, Krishnagiri Proc.Roc.No.81/2016/Mines-1 Dt:09.08.2016. The lease deed has been executed on 24.08.2016 and the lease period is from 24.08.2016 to 23.08.2026.

3) The Mining plan the said for Rough stone quarry had been approved by the Deputy Director of Geology and Mining, vide the reference 2nd cited. The scheme of mining for the period from 2021- 2022 to 2025 - 2026 (5 years) is

now prepared and submitted within prescribed time. As per the scheme of mining plan the total available geological reserves is calculated as 9,51,601 Cbm and after necessary benches the mineable reserves is calculated at 4,97,506 Cbm @ 100% recovery upto a maximum of depth of 51mts. During the mining plan period, from 2016-17 to 2020-2021 the lessee had transported a quantum of 1,15,554 Cbm of rough Stone from the quarry lease area. The lessee has obtained Environment Clearance from SEIAA vide Lt.No. SEIAA-TN/F.No. 5355/1(a)/EC.No.3269/2016 Dt:09.07.2016. The lessee had obtained 1,25,072 Cbm from Environment Clearance for five years. Hence, the reserves of 4,97,506Cbm indicated in the scheme of mining period is accepted.

4) As per the Scheme of mining the year wise production for the proposed five years are as follows.

Year	Recoverable reserves @ (m ³)
2021-22	78906
2022-23	111972
2023-24	98952
2024-25	83622
2025-26	124054
Total	497506

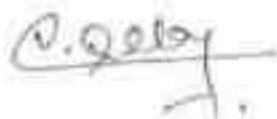
5) The lease granted area has been inspected by the Assistant Geologist O/o. Assistant Director (Addl.Charge) Geology and Mining, Krishnagiri District and he has submitted his report and stated that all the lease deed conditions has been complied by the lessee and the details furnished in the scheme of mining plan are verified with reference to the field Conditions and they are found to be correct.

6) The draft Scheme of Mining submitted by Thiru.V.Sekar S/o. R.Venkatesappa, Krishnagiri has been scrutinized as per the guide lines/ Instructions issued by the Commissioner of Geology and Mining, Chennai-32. The Scheme of mining is prepared in accordance with the guidelines/ instructions issued and tallies with the field conditions. The special conditions imposed in the lease deed had been incorporated in the scheme of mining.

V. Sekar

7) Hence, as per the guidelines/instructions issued by the Commissioner of Geology and Mining, Chennai, the said scheme of mining hereby approved subject to the following conditions.

- i. Based on the above details and in exercise of the powers conferred under Rule 41(9)(iii) of TNMMCR 1959 the scheme of mining submitted by Thiru.V.Sekar S/o.R.Venkatesappa,Krishnagiri is here by approved subject to the following conditions.
- ii. That the scheme of mining is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- iii. This approval of the scheme of mining 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, Mineral Conservation and Development Rules 1988 and The Tamil Nadu Minor Mineral Concession rules, 1959.
- iv. This scheme of Mining including progressive mine closure plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- v. Provisions of the Mines Act, 1952 and the Rules and Regulations made there under including submission of notice of opening, appointment of manager and other statutory officials as required under Mines Act, 1952 shall be complied with.
- vi. Provisions made under Mines and Minerals (Development and Regulation) Act, 1957, MMDR amendment Act, 2015 made there under shall be complied with.
- vii. This approval of scheme of mining is restricted to the mining lease area only. The mining lease area is as shown on the statutory plan under TNMMCR Rules, 1959.





- viii. The lessee should obtain environmental clearance from the appropriate authority.
- ix. The earlier instances of irregular/illegal quarrying, if any shall not be regularized through the approval of this document.
- x. The lessee shall remit the penalty/cost of mineral/other dues if any as arrived by the District Collector/Assistant Director (Addl.Charge) Geology and Mining, Krishnagiri District.
- xi. Non adherence to any condition set-out above, the approval shall be deemed to have been withdrawn with immediate effect.


In view of the above, the 1st scheme of mining for the 2021-2022 to 2025-2026 submitted on 19.04.2021 within the prescribed time by Thiru.V. Sekar S/o.R.Venkatesappa, Krishnagiri District in respect of the area granted on lease in S.F.Nos. 270(Part-1) a total extent of 2.30.0 hectares of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri district is approved.

Encl: 1.Scheme of Mining Plan 3 Copies.


Assistant Director (Addl. Charge),
Dept of Geology and Mining,
Krishnagiri.


25/4/21


25/4/21


V. J.elay

From
Thiru L.Suresh, M.Sc.,
Assistant Director,
Additional Charge,
Geology and Mining,
Collectorate, Krishnagiri.

To
The Chairman,
Tamil Nadu State Environment
Impact Assessment Authority,
3rd Floor, Panagal Maligai,
No. 1 Jeenes Road, Saidapet,
Chennai -15.

Roc.No.668/2021/Mines Dated: 23.04.2021

Sir,

Sub: Mines and Minerals - Krishnagiri District - Rough Stone -
Krishnagiri District - Shoologiri Taluk - Venkatesapuram
Village - Government land S.F No. 270 (Part-1) - over an extent
of 2.30.0 Hect Rough Stone quarry lease application preferred
by Thiru V. Sekar S/o R. Venkatesppa D.No. 4/165/B
Karukondahalli Village Bataramangalam Post, Denkanikottai
Taluk - Details of quarries situated within 500 mts radial
distance - requested by the applicant to obtain Environmental
Clearance - Details furnished - reg.

- Ref: 1 The Gazette of India, Ministry of Environment Forest and
Climate change Notification, New Delhi dt:01.07.2016.
2 The District Collector, Krishnagiri Pro. Roc. No.
81/2016/Mines dated 09.08.2016.
3. Mining Plan approved by the Assistant Director of Geology
and Mining, Krishnagiri in Roc. No. 81/2026/Mines
Dated 25.04.2016.
4. 1st Scheme of mining plan for the period 2021-2022 to
2025- 2026 submitted by the lessee at district office on
19.04.2021
5. Thiru V. Sekar S/o R. Venkatesppa D.No. 4/165/B
Karukondahalli Village Bataramangalam Post,
Denkanikottai Taluk dated: 23.04.2021.

I am to invite kind attention to the reference cited.

Thiru V. Sekar S/o R. Venkatesppa D.No. 4/165/B Karukondahalli Village
Bataramangalam Post, Denkanikottai Taluk has been granted a Rough stone quarry
lease for a period of 10 years over an extent of 2.30.0 Hect. of Government land in
S.F.No.270 (part-1) of Venkatesapuram Village, Shoologiri Taluk Krishnagiri District
vide the District Collector, Krishnagiri Pro.Roc.No.81/2016/Mines dated:19.04.2021.
The lease deed has been executed on 24.08.2016 and the lease period is from
24.08.2016 to 23.08.2026.

In the reference 3rd cited, the Assistant Director of Geology and Mining in his proceedings have communicated precise area over an extent of 2.30.0 Hect. in Government S.F Nos. 270 (Part-I) in Venkatesapuram Village Shoolagiri Taluk Krishnagiri District and requested the applicant to furnish the approved Mining Plan and Environmental Clearance from the Competent Authority for the above said area.

The Mining Plan submitted by the applicant has been approved by the Assistant Director of Geology and Mining, Krishnagiri vide the reference 4th cited.

In the reference 5th cited the applicant has requested to furnish the details of quarries situated within 500 mts radial distance from the said quarry in order to obtain Environmental Clearance.

As per the notification issued by the Ministry of Environment Forest and Climate Change Notification, New Delhi dt. 01.07.2016, vide the reference 1st cited, the following instructions was given.

The leases not operative for three years or more and leases which have got environmental clearance as on 15th January, 2016 shall not be counted for calculating the area of cluster, but shall be included in the Environmental Management plan and the Regional Environmental Management plan.

As requested by the applicant and based on the above said MoEF notification the details of quarries situated within 500 mts Radial distance from the said quarry is furnished as follows:

(i) Details of Existing quarries.

Sl. No.	Name of the lessee.	Village	S.F No.	Extent in Hec	GO No.& Date	Lease period.	Last permit issued
1	Thiru V. Sekar, S/o R.Venkatesppa, D.No. 4/165/B Karukondahalli Village, Bataramangalam Post, Denkanikottai Taluk	Shoolagiri Taluk Venkatesapuram	270 (Part-1)	2.30.0	Roc. No. 81/2016/M Dt. 09.08.2016	24.08.2016 to 23.08.2026 Instant Proposal	30.07.21
2	Thiru C. Paramesh, S/o Chinnasamy, D. NO. 2/242 H. Chettipalli Village, J. Karupalli Post, Hosur	Shoolagiri Taluk Venkatesapuram	269 (Part-D)	3.00.0	Roc. No. 80/2016/M Dt. 08.08.2016	24.08.2016 to 23.08.2021	

	Taluk					
3	M/s. Munichandrapa co. D.NO. 4/407, Ramchandram Village, Bukkasagaram Villagh Shoolagiri Taluk	Shoolagiri Taluk Venkatespuarm	269 (Part-C)	3.50.0	Roc. 79/2016/M-2 Dt. 18.8.2016	02.09.2016 to 01.09.2021
			Total	8.80.0		

(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 G.Sathish, S/o Gopal D.No 87 New Vasanth Nagar, Krishnagiri Bye Pass Road, Hosur Krishnagiri 635 109	Shoolagiri Taluk Venkatesp uram	269 (Part-A)	4.00.0	Roc. 74/2012/M-2 Dt. 12.06.2014	16.06.2014 to 15.06.2019
2	Thiru V. Nagabushnam, S/o Venkatsamy, D. NO. 2-116, H. Chettipalli Village, J. Karupalli Post, Hosur Taluk	Shoolagiri Taluk Venkatesap uram	269 (Part-B)	3.25.0	Roc. 78/2016/M-2 Dt. 10.08.2014.	16.06.2014 to 15.06.2019
			Total	7.25.0		

(iii) Details of Proposed quarries

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

(iv) Details of applied area.

Sl.No.	Name of the lessee	Village	S.F No.	Extent in Het	GO No.& Date	Remarks
						Nil -

Assistant Director (Addl Charge),
Dept of Geology and Mining,
Krishnagiri.

dfp
23/4/19

Copy to :-
Thiru V. Sekar,

S/o R.Venkatesappa,
D.No. 4/165/B Karukondahalli Village,
Bataramangalam Post, Denkanikottai Taluk.

From

Thiru L.Suresh, M.Sc.,
Assistant Director(Addl.Charge),
Dept of Geology and Mining,
Collectorate,
Krishnagiri.

To

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

Roc.No.668/2021/Mines

Dated: .04.2021.

Sir,

Sub: Mines and Minerals – Krishnagiri District – Rough Stone –Krishnagiri District - Shoolagiri Taluk – Venkatesapuram Village – Government Poramboke land S.F No. 270 (Part-1) – over an extent of 2.30.0 Hect Rough Stone quarry lease granted to Thiru V. Sekar S/o R. Venkatesppa, D.No. 4/165/B Karukondahalli Village, Bataramangalam Post, Denkanikottai Taluk, Krishnagiri District – quarry pit dimension details requested – Furnished - reg.

- Ref: 1 The District Collector, Krishnagiri Proc. Roc.No.81/2016/Mines dated: 09.08.20016.
2. Thiru V. Sekar S/o R. Venkatesppa, D.No. 4/165/B Karukondahalli Village, Bataramangalam Post, Denkanikottai Taluk, Krishnagiri District letter dated: 23.04.2021.
3. The Inspection report of the Assistant Geologist O/o the Assistant Director of Geology and Mining, Krishnagiri dated : .04.2021.

I am to invite kind attention to the reference cited.

Thiru V. Sekar S/o R. Venkatesappa, D.No. 4/165/B Karukondahalli Village, Bataramangalam Post, Denkanikottai Taluk, Krishnagiri District had been applied for quarry lease for the Rough Stone over an extent of 2.30.0 Hect in Government Poramboke land S.F.No. 270 (Part-1) of Venkatesapuram Village Shoolagiri Taluk, Krishnagiri District for a period of 10 years vide reference 1st cited under the provisions of Rule 8(6)(b) of Tamil Nadu Minor Mineral Concession Rule 1959.

Thiru V. Sekar S/o R. Venkatesappa in his representation vide reference 2nd cited has stated that while he apply for Environmental Clearance in SEIAA, 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.

Length(m)(Average)	Width(m)(Average)	Depth(m)(Average)
177	78.0	10.0

[Signature]
Assistant Director (Addl. Charge),
Dept of Geology and Mining,
Krishnagiri

[Signature]
23/4/21

To,
Thiru V. Sekar
S/o R. Venkatesppa,
D.No. 4/165/B Karukondahalli Village,
Bataramangalam Post, Denkanikottai Taluk,
Krishnagiri District

FIGURE V: SEKAR: Bright stone quarry in the S.F. No. 220(Part) IV once an extent of 2.30.00ha. in Venkateswaram Village, Sreebhani Taluk, Krishna District

GENERAL VIEW OF THE QUARRY LEASE AREA



(Attachment)

[Handwritten Signature]
Village Adm. Committee Officer,
ST. VENKATESWARAM,
Sreebhani Taluk, Krishna Dist.

சீர்தீர்வு

கிடைக்காத நிலையில் சூழல் உலர்
பயிற்சி நிலைகள் குறைக்கப்பட்டு 2000
400 ஏக்கர், 270 (part-I) and 22.75.0
S. 23, 500 காலத்தில் 500 பீசல் கிராம-
-ம் உட்பட கிராம நிர்வாக அலுவலர்
உத்தரவுகளை, மத்திய, மாநில, கிராம
நிர்வாக அலுவலர் மூலம் கிராம நிர்வாக
மூலம் கிராம நிர்வாகம்.


10/08/2021
Village Administrative Officer
33, Vengalpet Road,
Shelton, Chennai - 600 011

Annexure IV
Mining Plan

SCHEME OF MINING
WITH
PROGRESSIVE MINE CLOSURE PLAN
FOR
ROUGH STONE QUARRY



(Prepared Under Rule 12 of Draft Minor Mineral Conservation and Development Rules, 2010 & as per the amendments Under Rule 41 & 42 of Tamil Nadu Minor Mineral Concession Rules, 1959)

PERIOD OF SCHEME OF MINING WITH PMCP: 2021-2022 to 2025-2026

EXTENT	:	2.30.0 HA.
S.F.No.	:	270 (PART -1)
VILLAGE	:	VENKATESAPURAM
TALUK	:	SHOOLAGIRI
DISTRICT	:	KRISHNAGIRI
STATE	:	TAMIL NADU

LESSEE
THIRU. V. SEKAR,
S/O. VENKATESAPPA,
D.NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.

PREPARED BY :
S. DHANASEKAR, M.SC., M.M.E.A.I.,
QUALIFIED PERSON
8/3, KULLAPPAN STREET, OPP. INDIAN BANK LINE,
OMALUR POST & TALUK
SALEM DISTRICT - 636 455.
E-mail: geodhana@yahoo.co.in
CELL: 98946 28970 & 73733-74702.

V. SEKAR,
S/O. VENKATESAPPA,
D.NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT- 635 113.



CONSENT LETTER FROM LESSEE

The Scheme of Mining with Progressive Mine Closure Plan in respect of Rough Stone Quarry over an extent of 2.30.0Ha. in S.F. No.270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State has been prepared by **Sbri S. DHANASEKAR, M.Sc.,** Qualified Person.

I request the Department of Geology and Mining, Krishnagiri to make further correspondence regarding the Scheme of Mining with Progressive Mine Closure Plan with the said qualified person in his following Address:

S.DHANASEKAR, M.Sc., M.M.E.A.I.,

Qualified Person

8/3, Kullappan Street,

Opposite Indian bank Line,

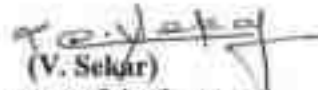
Omalur Post & Taluk – 636 455

Salem District.

E-mail: geodhana@yahoo.co.in

Cell: 98946-28970

I hereby undertake that all the modifications, if any, made in the Scheme of Mining with Progressive Mine Closure Plan by the qualified person may be deemed to have been made with our knowledge and consent and shall be acceptable to me and binding on me in all respects.


(V. Sekar)
Signature of the Lessee

Place: KRISHNAGIRI


Date:

V. SEKAR,
S/O. VENKATESAPPA,
D.NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT-635 113.



DECLARATION OF THE MINE OWNER

The Scheme of Mining with Progressive Mine Closure Plan in respect of Rough Stone Quarry over an extent of 2.30.0Ha. in S.F. No.270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamil Nadu State has been prepared in full consultation with us by **Shri S. DHANASEKAR, M.Sc.**, Qualified Person. I have understood its contents and agree to implement the same in accordance with Laws applicable to mines.


(V. Sekar)
Signature of the Lessee

Place: KRISHNAGIRI

Date:



KRK MEMORIAL MINING SERVICES

S.DHANASEKAR

M.Sc. Geology

Senior Geologist /
Recognized Qualified Person



86680 20217

Plot No. 19, Arval Nagar,
Ponkumar Mines Road,
Jugur Annampalayam,
Salem - 636 302.

GST: 33ALIPD6733A1Z0



CERTIFICATE

The provisions of Minor Minerals Conservation and Development Rules, 2010 (MMCDR) have been observed in the Scheme of Mining with Progressive Mine Closure Plan for Venkatesapuram Rough Stone Quarry over an extent of 2.30.0Ha. in S.F. No.270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District prepared for Thiru. V. Sekar, S/o. Venkatesappa, D.No.4/165/B, Karukondapalli Village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District- 635 113.

Whenever specific permissions, approvals, exemptions or relaxations are required, the lessee will approach the concerned authorities of Commissioner of Geology and Mining, Government of Tamilnadu, Guindy, Chennai- 600 032, Tamilnadu for such permissions, exemptions, relaxations and approvals.

It is also certified that the information furnished in the above Scheme of Mining with Progressive Mine Closure Plan are true and correct to the best of our knowledge.

Certified


Signature of Qualified Person.
S.DHANASEKAR, M.Sc. (Geol.)
Qualified Person

Place : SALEM

Date :



11°41'29.45" N
8°07'13.58" E



98946 28970
73733 74702



krkmemorialminingservices
@gmail.com
s.dhana@yahoo.co.in



Branch

8/3, Kullappan Street,
Opp. Indian Bank Line,



KRK MEMORIAL MINING SERVICES

S.DHANASEKAR
M.Sc. Geology
Senior Geologist /
Recognized Qualified Person



86680 20217

No.5/30 7th, Anna Nagar,
Pattukumar Mines Road,
Jagir Ammapalayam,
Saalem - 636 302.

GST: 33ALIPD6733A1Z0



CERTIFICATE

Certified that provision of Mines Act, Rules and Regulations and orders made there under have been observed in the Scheme of Mining with Progressive Mine Closure Plan for Venkatesapuram Rough Stone Quarry over an extent of 2.30.0Ha. in S.F. No. 270 (Part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District prepared for Thiru. V. Sekar, S/o. Venkatesappa, D.No.4/165/B, Karukondapalli Village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District- 635 113.

Whenever specific permissions, approvals, exemptions or relaxations are required, the lessee will approach the concerned authorities of the Director General of Mines Safety (DGMS), No. 5, Hind Street, Block - AA, Anna Nagar, Chennai-40, Tamil Nadu for such permissions, exemptions, relaxations and approvals.

It is also certified that information furnished in the above Scheme of Mining with Progressive Mine Closure Plan are true and correct to the best of our knowledge.

Certified

Signature of Qualified Person.

S. DHANASEKAR, (M.Sc., Geol)
Qualified Person

Place : SALEM

Date :

11°41'29.45" N
78°07'13.58" E

98946 28970
73733 74702

krkmemorialminingservices@gmail.com
geodhana@yahoo.co.in

Branch
8/3, Kullappan Street.
Opp. Indian Bank Line,



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S.NO.	DESCRIPTION	PAGE NO.
1.0	General	01
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	A. Open Cast Mining	11
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ANNEXURES



Sl No.	Description	Annexure No.
1.	Copy of Proceeding letter	I
2.	Copy of Execution Deed	II
3.	Copy of Environmental Clearance Letter	III
4.	Copy of Pollution Control Board Letter	IV
5.	Copy of Mining Plan Approval Letter	V
6.	Copy of FMB	VI
7.	Copy of Combined Sketch	VII
8.	Copy of 'A' Register	VIII
9.	Copy of Id Proof	IX
10.	Copy of Qualification Certificate	X
11.	Copy of Experience Certificate	XI
12.	Copy of Lease Area Photos	XII

**SCHEME OF MINING
WITH
PROGRESSIVE MINE CLOSURE PLAN
FOR**

VENKATESAPURAM ROUGH STONE QUARRY

(Prepared Under Rule 12 of Draft Minor Mineral Conservation and Development Rules, 2010
& as per the amendments Under Rule 41 & 42 of Tamil Nadu Minor
Mineral Concession Rules, 1959)

1.0 General:

The Scheme of Mining along with Progressive Mine Closure Plan has been prepared in respect of Rough Stone Quarry in Government Poramboke Land S.F.No.270 (Part-1) over an extent of 2.30.0Ha. in Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, prepared for Thiru. V. Sekar, S/o. Venkatesappa, D.No.4/165/B, Karukondapalli Village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District- 635 113.

The fresh Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Roc No.81/2016/Mines-1 dated: 25.04.2016 for a period of 2016-2017 to 2020-2021. Please refer Annexure-V. Copy of Approved Mining plan Letter.

Accordingly, the Lessee had obtained Environmental Clearance from SEIAA-TN vide Lr. No. SEIAA- TN/F.No.5355/1(a)/EC.No:3269/2016 dated 09.07.2016. Please refer Annexure- III.

The Mining Lease was granted in Re.No.81/2016/Mines dated:09.08.2016 for the period of Ten years.

The lease deed was executed on 24.08.2016. Mining operation commenced on 01.09.2016. The lease will expire on 23.08.2026.

As per notification of Ministry of mines, No. S.O. 423 (E) - by clause (e) of section 3 of the Mines and Minerals (Development and Regulation) Act,1957 (67 of 1957), The Central Government has declared 31 minerals including Rough Stone as Minor Minerals. Based on the above notification, the Government of Tamilnadu issued a Government order vide G.O. No.70, dated; 22.04.2016, including all 31 minerals as minor minerals under the rule 43 of TNMMCR stating that the procedure laid down in the rule 12 of TMMCR shall apply for the grant of quarry lease.

This Scheme of Mining for the period 2021-2022 to 2025-2026 is now being prepared and submitted under Rule 12 of MMCDR,2010 and 41 & 42 of TMMCR, 1959 for approval.

The mining operations are done by opencast semi-mechanized methods with jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.


S.DHANASEKAR, M.Sc. (O&M)
Qualified Person

I.1. Review of Mining Plan:

a) Name of lessee : Thiru. V. Sekar,
Address : S/o. Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri - 635 113.
District : Krishnagiri
State : Tamil Nadu
Pin code : 635 113.
Mobile No : 98433 33943.



b) Status of lessee

The lessee is an Individual.

c) Mineral(s) which is / are included in the prospecting license (For Fresh grant):
-Nil-

d) Mineral(s) which is / are included in the letter of Intent / lease deed:

Rough Stone occurs in the lease area and the Lessee intends to quarry the same.

e) Mineral(s), which is the lessee, intends to Quarry:

Rough Stone occurs in the lease area and the Lessee intends to quarry the same.

f) Name and Address of the Qualified Person :

Name : SHRI S. DHANASEKAR, MSc., M.M.E.A.I.,
Qualified Person
Address : 8/3, Kullappan Street,
Opp. Indian Bank Line,
Omalur Post & Taluk,
Salem District – 636 455.
Cell No. : 98946-28970 & 73733-74702.
Email : geodhana@yahoo.co.in

2.0 LOCATION AND ACCESSIBILITY

a) Lease Details (Existing Quarry)

Name of the Quarry : Venkatesapuram Rough Stone Quarry
Lat/long of any boundary point : N 12 ° 43' 58.44" & E 77° 56' 08.40"
Date of grant of lease : 09.08.2016.
Period/Expiry Date : 23.08.2026.
Name of leaseholder : Thiru. V. Sekar,
Postal Address : S/o. Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri District.
Mobile No : 98433 33943.

b) Details of lease area with location map (Quarry)Table-1

Forest (specify)	Area (Ha.) -NIL-	i) Waste land	Nil
		ii) Grazing land	Nil
		iii) Agriculture land	Nil
		iv) Others, Government Poramboke land (specify)	2.30.0Ha.

Total lease area : 2.30.0Ha
 State : Tamil Nadu
 District : Krishnagiri
 Taluk : Shoolagiri
 Village : Venkatesapuram
 Whether the area is recorded to be in forest : This is Government land and is not covered in Forest area of any kind.

Please refer Location Plan and Quarry lease plan – Plate No. I & II.

c) Existence of public road/railway line, if any nearby and approximate distance:

Extent of the area is shown in the FMB. The District Head Quarter Krishnagiri is at a distance about 38.0 Kms. from quarry site. The area is at a distance of about 2.5 kms. from Venkatesapuram Village. Krishnagiri – Hosur Road (Kanyakumari road) (NH-7) main road is at a distance of about 5.5 kms South from the Quarry area.

Nearest Railhead is Hosur Railway Station that is located about 13.0 kms. from the Quarry. Post office and Police Station are available in Hosur at a distance of about 13.0Kms. Air Port is available in Bangalore, about 80.0 kms. from the Quarry. Nearest Port is Chennai about 260.0 kms. from the area.

d) The Mining lease area is bounded by four corners and the coordinates are:Table No:2

Toposheet No	: 57 H/14
Latitude	: N 12 ° 43' 58.7014" to N 12 ° 44' 3.1722"
Longitude	: E 77° 56' 12.8213" to E 77° 56' 8.3746"
North East	: N 12° 44' 4.7411" E 77° 56' 12.5773"
South East	: N 12° 43' 58.7014" E 77° 56' 12.8213"
North West	: N 12° 44' 5.3959" E 77° 56' 8.9374"
South West	: N 12° 43' 58.3596" E 77° 56' 9.5116"

e) A general location map showing area and access routes. It is preferred that the area be marked on a Survey of India topographical map or a cadastral map or forest map as the case may be. However, if none of these are available, the area may be shown on an administrative map:

A general location map showing area boundaries and existing access routes shown on the Toposheet Plan (Key Plan) which is enclosed as Plate No.Ib. Since existing routes are being followed to reach the lease area no fresh access routes are proposed hence not shown.

Top Sheet No. with : The area falls in Topo Sheet No.57 H/14

Latitude and longitude of Survey of India

Latitude : N 12 ° 43' 58.7014" to N 12 ° 44' 3.1722"

Longitude : E 77° 56' 12.8213" to E 77° 56' 8.3746"

f) Land use pattern :

Dry Mineral bearing land.

g) Location of the Area :

The area for Mining Lease for Venkatesapuram Rough Stone Quarry is located in S.F. No. 270(Part-1) over an extent of 2.30.0Ha. in Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District, Tamilnadu State.

3.0 DETAILS OF APPROVED MINING PLAN/SCHEME OF MINING :

3.1 Date and reference of earlier approved MP:

The fresh Mining Plan was approved by Deputy Director, Geology and Mining, Krishnagiri vide letter Roc No.81/2016/Mines-1 dated: 25.04.2016 for a period of 2016-2017 to 2020-2021. Please refer Annexure-V. Copy of Approved Mining plan Letter.

3.2 Details of last modifications if any (for the previous approved period) of approved MP/SOM, indicating date of approval, reason for modification:

-Nil-

3.3 Give review of earlier approved proposal (if any) in respect of exploration, excavation, reclamation etc:

i) Exploration :

In the previous approved Mining Plan, it is mentioned that no exploration was carried out. Massive rough stone exposures are clearly visible from the existing pit within the lease area.

Present Mine working has reached a depth of about 10.0m from general ground level.

There is only one working pit available in this area, the dimensions of which is given below :

Table No.3

	PIT
Length (m)	177.0
Width (m) (avg)	78.0
Depth (m) (avg)	10.0



The area is very small. The altitude of the deposits like width and length are clearly known. Depth persistence of Rough Stone in this area is already proved upto 10.0m(avg) and even more.

ii) Mine Development :

The Mine workings have reached a depth of nearly 10.0m. Development of the pits has been done only in the areas where the Rough Stone could be easily mined.

iii) Exploitation :

The Quarry workings have reached a depth of nearly 10.0m.

There is only one working pit, the dimensions of which is given below :

Table No.4

	PIT
Length (m)	177.0
Width (m) (avg)	78.0
Depth (m) (avg)	10.0

The Planned and Actual Production for last approved Mining Plan period figures are given as follows:

Table No.5

YEAR	PLANNED(Cu.m) ROUGH STONE	ACTUAL(Cu.m) ROUGH STONE
2016-2017	25603	18000
2017-2018	20686	10368
2018-2019	22202	38736
2019-2020	22202	30840
2020-2021	34381	17610
TOTAL	125072	115554

iv) Waste Management:

In the Previous approved Mining Plan Period, the topsoil was removed and preserved all along the boundary barrier for afforestation development. The part of the topsoil has been used for roads in the low laying adjacent area.

v) Reserves and Resources estimated in the earlier approved mining plan period (2016-2017 to 2020-2021) with grade:

Geological Reserve (insitu) under Proved category	: 663510 cu.m
Mineable Reserve	: 186925 cu.m
Yearwise Production	: 131655 cu.m

While calculating Mineable Reserve, the boundary barrier and bench width, height and slope are taken into account. Hence, the Mineable Reserve will be always less than the insitu reserve.

vi) Depletion of Reserve :

The actual production of Rough Stone for the last five years (2016-2017 to 2020-2021) is about 115554 cu.m of saleable Rough Stone.

vii) Afforestation and Reclamation :

It was clearly stated in the approved Mining Plan that during afforestation programme 20 Casuarina trees will be planted yearly, in the lease area. Presently, lessee had planted trees in the lease area in scattered manner. Since, the Quarry is active. Mining should be carried out in such a manner that after certain period, some part is available for reclamation.

viii) Control of Dust, Noise & Ground Vibrations :

Quarrying of Rough Stone had been carried out by drilling and control 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.

The dust control was taken care by water sprinkling on the haul roads. The amount of ground vibration is very less since only control blasting by using low power explosives is used.

Reclamation & Rehabilitation :

Reclamation of mined out area does not arise and has not reached the full extent of working. After closure of the Mine, the pit will be allowed to collect seepage and rain water. This will help to charge the nearby agricultural wells.



PART - 'A'



1.0 GEOLOGY AND EXPLORATION

A) Briefly Describe The Topography, Drainage Pattern, Vegetation, Climate, Rainfall Data of the Area Applied/Mining Lease Area:

a) Topography :

The Mining Lease area is approximately at N 12°44'4.7411" latitude and at & E-77° 56' 12.5773" longitude and is represented by Topo Sheet No.57 H/14 of Survey of India.

The lease area is in undulated topography with gentle elevation of 10m above ground level. The thickness top soil is about 2m.

Vegetation:

It is a dry Mineral bearing. It is a dry place with a top soil cover of about 2.0m.

Water table and Drainage Pattern:

Water table is touched at a depth of 64m in rainy season, ie. during North-East monsoon and at 70m in summer months. The water table fluctuation is verified by observing the water levels in the above seasons in the nearby wells.

Climatic Conditions:

The area receives rainfall of about 700mm to 800mm per annum and the rainy season is mainly from October-January during North East Monsoon. The summer is hot with maximum temperature of 38°C and winter encounters a minimum temperature of 13°C.

Rainfall Data:

The area receives scanty rainfall and the annual rainfall of the area varies between 700mm to 800mm.

b) Geology of the Area :

The quarry lease area is in undulated topography, the area has been quarrying operation earlier. Rough stone exposures are clearly visible in existing pit within the lease applied area. Top soils are noticed at the average thickness of 2.0m. The slope is gentle towards Southeastern side. The altitude of the area is above 830m from MSL.

Peninsular gneiss forms the oldest rock formations, in which the massive formation of charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the charnockite body trends N-S with dipping towards E-70°.

The general geological sequences of the rocks in this area are given below

AGE	FORMATION
Recent	Quaternary Recent (Top soil)
Archaean	Charnockite (Granitoid Gneiss)
	Peninsular Gneiss Complex II.

c) Details of Exploration already carried out:

The area was thoroughly explored by the Qualified Person and his geological team. No exploration was carried out. Massive rough stone exposures are clearly visible from the existing pit within the lease area.

In this area, the mine working has reached a depth of about 10.0m from general ground level.

There is only one working pit available in this area, the dimensions of which is given below :

Table No.6

	PIT
Length (m)	177.0
Width (m) (avg)	78.0
Depth (m) (avg)	10.0

The area is very small. The altitude of the deposits like width and length are clearly known. Depth persistence of Rough Stone in this area is already proved upto 10.0m and even more.

d) The Physical Character of the Rough Stone :

Rough stone texture is medium to coarse grained and is composed of recrystallized minerals, hence it is a metamorphic rock. The grains are subhedral, inequigranular, with a granoblastic texture. The grains are crystalline i.e. Complete crystallization has occurred. Cleavage is absent. The color is dark olive green. The details collected during the field survey and found to be sufficient for the preparation of the Scheme of Mining with PMCP.

e) Number of boreholes indicating type (Core/RC/DTH), diameter, spacing, inclination, Collar level, depth etc... with standard bore hole logs duly marking on

There is no borehole exist in the lease area.

i)RESERVES :

a. Method of Estimation of Reserves :

The Geological and Recoverable reserves are estimated by cross sectional method up to a depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone), as the Rough Stone. Plans and Sections have been drawn with a scale of 1:1000 respectively.

Selecting a method of reserve estimation depends upon the geology of the mineral deposit, exploration method, purpose of computation and the required degree of accuracy and also on the contemplated mining system.

The ideal method should be simple, rapid, reliable, consistent with the character of the mineral body and available data and suitable for rapid checking. The method adopted for calculation of reserves in this area is by computing the volume by cross sectional method upto a particular level. The volume is calculated by multiplying the cross sectional area with the length of the sectional influences.

The details of estimation of Geological Reserves and Mineable Reserves with reference to the Geological Plan & Cross section and Conceptual Plan & Section as shown in (Plate No.III & III-A and VII & VII-A) respectively.



b. GEOLOGICAL RESERVES:

The Geological reserve of Rough Stone and Topsoil is calculated upto a depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m. Total Geological reserve is estimated at **951601 Cu.m** by area cross sectional method.

Table No.7

GEOLOGICAL RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Geological Reserves in m ³ (100%)	Top Soil in m ³
XY-AB	I	13	48	2			1248
	II	22	66	7	10164	10164	
	III	107	127	7	95123	95123	
	IV	107	127	7	95123	95123	
	V	107	127	7	95123	95123	
	VI	107	127	7	95123	95123	
	VII	107	127	7	95123	95123	
	VIII	107	127	7	95123	95123	
Total=					580902	580902	1248
XY-CD	I	12	29	2			696
	II	14	29	4	1624	1624	
	III	91	111	7	70707	70707	
	IV	96	111	7	74592	74592	
	V	96	111	7	74592	74592	
	VI	96	111	7	74592	74592	
	VII	96	111	7	74592	74592	
Total=					370699	370699	696
Grand Total=					951601	951601	1944

Topsoil = 1944 cu.m
 Total Geological Reserves in ROM = 951601 cu.m
 Reserves @ 100% = 951601 cu.m

C. MINEABLE RESERVES:

The Mineable reserves are calculated by deducting 7.5 & 10.0m Safety distance and Bench Loss. The Mineable Reserve is calculated upto a depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m.

Table No.8

MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Mineable Reserves in m ³ (100%)	Top Soil in m ³
XY-AB	I	13	31	2			806
	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	IV	107	86	7	64414	64414	
	V	107	76	7	56924	56924	
	VI	107	66	7	49434	49434	
	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
Total=					326004	326004	806
XY-CD	I	1	11	2			22
	II	2	9	4	72	72	
	III	79	86	7	47558	47558	
	IV	79	76	7	42028	42028	
	V	74	66	7	34188	34188	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					171502	171502	22
Grand Total=					497506	497506	828

Topsoil	=	828 cu.m
Total Mineable Reserves in ROM	=	497506 cu.m
Reserves @ 100%	=	497506 cu.m

The geological reserves computed based on the geological cross sections up to the economically workable depth of 51m (2.0m Topsoil + 49.0m Rough Stone) works out to 951601 cu.m (100% recovery) (Table-7) and mineable reserves have been computed as 497506 cu.m (Table-8) at the rate of 100% recovery upto a depth of 51m (2.0m Topsoil + 49.0m Rough Stone) (Refer plate No.VII & VII-A). The above projections are for the Next Five years plan period.

Mineable reserves have been computed as 497506cu.m at the rate of 100% recovery up to a depth of 51m (2.0m Topsoil + 49.0m Rough Stone). The Mineable reserves are calculated by deducting 7.5m & 10.0m Safety distance Bench Loss.

2.0 MINING

A. Open Cast Mining

a) Briefly describe the existing as well as proposed method for excavation with all design parameters indicating on plans /sections:-

Existing method :

The mining operations are done by opencast semi-mechanized methods with jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.

There is only one existing working pit, the dimensions of which is given below :

Table No.9

	PIT
Length (m)	177.0
Width (m) (avg)	78.0
Depth (m) (avg)	10.0

Proposed method :

The mining operation is being carried out by semi-mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, loading and transportation of Rough Stone.

The operation will be confined to general shift only ie. from 8.00 AM to 5.00 PM with one hour lunch interval between 12.00 PM to 1.00 PM. In Topsoil, a bench will be 2.0m height and width with 45° slope.

The Rough Stone, totally seven benches will be 7.0m height and 5.0m width for next Five years only. Please refer Plate No.IV & IV-A. The advancement of the pit will be from existing pit towards middle side of the lease area for the next Five years. Please refer Plate No.IV.

A bund will be constructed around the pit to prevent accident call and inrush of rainwater. Proper footpaths will be provided between benches for easy accessibility for workers.

Haul roads, to conform to statutory standards will be made according to convenience for smooth transport of Rough stone and waste. Wherever necessary, crossing platforms will be provided in the haul roads at suitable point for safe crossing as tractors, tippers, trucks etc.,

The Top Soil will be utilized for the formation of mine roads, construction of bund and afforestation purpose.

Average annual production is about 99501 cu.m of Rough Stone with 300 working days in a year. Considering the nature of the deposit and the anticipated daily production level, semi-mechanized mining is proposed.

A boundary barrier of 7.5m & 10.0m width will be maintained as per statute. Rough Stone locked up in this barrier will be excavated after obtaining permission from DGMS under Regulation 111 of Mines and Mineral Regulation, 1961. The sequence of working for the next Five years is indicated in Plate Nos. IV and the rate of production is given in Table No.11.

b) Indicate Year-Wise Tentative Excavation in Cu.m indicating Production & development, ROM, pit wise as in table below.

i) Planned Development for next Five years is given below :

The top soil of the lease area is 828m³. The Top Soil will be utilized for the formation of mine roads, construction of bund and afforestation purpose.

ii) Planned Production for next Five years is given below :

The proposed rate of production of Rough Stone is about 497506 cu.m for Five Years at the rate of 100% recovery up to a 51m depth (2.0m Top soil + 49.0m Rough Stone).

Table No.10

Year	ROM Cu.m	Production 100% (cu.m)
24.08.2021 - 23.08.2022	78906	78906
24.08.2022 - 23.08.2023	111972	111972
24.08.2023 - 23.08.2024	98952	98952
24.08.2024 - 23.08.2025	83622	83622
24.08.2025 - 23.08.2026	124054	124054
TOTAL	497506	497506

From Total ROM the Rough Stone deposits are categorized with the following percentage.

Rough stone : 100% .

The average production of Rough Stone per year will be about 99501 cu.m. Please refer Table No.11 and Plate No.IV.

YEARWISE DEVELOPMENT & PRODUCTION SCHEDULE FOR NEXT FIVE YEARS

The proposed rate of production of Rough Stone is about 497506cu.m for Five Years. The average proposed rate of production of Rough Stone is about 99501cu.m. at the rate of 100% recovery up to a 51m depth (2.0m Top soil + 49.0 m Rough Stone). Surface Ground Level Above-10m and Surface Ground Level Below-41m.

The proposed Production & development for next Five years 2021-2022 to 2025-2026 are given below :

Table - 11

YEARWISE DEVELOPMENT AND PRODUCTION							
Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Recoverable Reserves in m ³ (100%)	Top Soil in m ³
24.08.2021 - 23.08.2022	I	13	31	2			806
	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	I	1	11	2			22
	II	2	9	4	72	72	
Total=					78906	78906	828
24.08.2022 - 23.08.2023							
	IV	107	86	7	64414	64414	
	III	79	86	7	47558	47558	
Total=					111972	111972	
24.08.2023 - 23.08.2024							
	V	107	76	7	56924	56924	
	IV	79	76	7	42028	42028	
Total=					98952	98952	
24.08.2024 - 23.08.2025							
	VI	107	66	7	49434	49434	
	V	74	66	7	34188	34188	
Total=					83622	83622	
24.08.2025 - 23.08.2026							
	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					124054	124054	
GRAND Total =					497506	497506	828

Topsoil = 828 cu.m
 Total Reserves = 497506 cu.m
 Reserves @ 100% = 497506 cu.m

ROM: The material excavated from mineralized zone and includes mineral reject and useable mineral component.

OB: Means overburden capping waste.

iv) Estimated Life of the quarry

Mineable Reserves @ 100% = 497506 cu.m

Average production (Rough Stone) per year @ 100% = 99501 cu.m

Estimated Life of the Quarry = $497506 / 99501 = 5.0$ years

Life = 5 years

The average proposed rate of production of Rough Stone is about 99501cu.m per year.



v) Proposed Rate of Production When The Quarry Is Fully Developed

The proposed rate of production when the quarry is fully developed is 497506cu.m for next Five years and 99501cu.m per annum. (Table-11) The production schedule for the subsequent five year is drawn mainly in consideration of reserves position, market demand and the cost of production.

vi) Mineable Reserves and Anticipated Life of Mine

The Rough Stone is Massive in nature. The depth persistence of the Rough Stone will be beyond the economically workable depth. An optimum depth of 51.0m (2.0m topsoil+ 49.0m Rough Stone) for the next Five years Scheme of mining period and 51.0m (2.0m Topsoil soil + 49.0m Rough Stone) for entire lease period has been established as economically viable depth. Eventually this depth is the optimum depth for safe and scientific quarrying.

The mineable reserves are calculated by excluding the mining loss due to formation of benches, ultimate depth of mine, the mineral reserve held up within the safety distances all along the boundary of quarry lease applied area.

The mineable reserves for this Rough stone is thus arrived as 497506cu.m (Table-15) for an assumed depth of 51m from top surface (2.0m Topsoil + 49.0m Rough Stone). The details of estimation of five years development & production plan (plate no. IV) is furnished in Table-19. The average rate of production of Rough Stone from this quarry is 99501 cu.m per year and mineable recoverable reserves 497506cu.m.

Based on the above, and taking into consideration of the available Mineable Reserves, **the life of mine will be about 5 years**, if the quarry is being worked continuously with prevailing market conditions and according to this Scheme of mining period.

c). Composite development plans showing pit layouts, dumps, stacks of mineral reject, if any, etc. and year wise sections in case of 'B' category mines:

A composite development year wise Plan and Sections are shown in Plate Nos.IV & IV-A. The details are furnished in Table-11. The average annual production of Rough Stone per year will be about 99501 cu.m.

d). Describe briefly giving salient features of the proposed method of working Indicating Category of mine:

The mining operation is being carried out by semi-mechanized opencast method ("B2" category of small mine). The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, loading and transportation of Rough Stone. The removal of blasted Rough Stone material is loaded into 10 MT capacity trucks with the help of hydraulic excavators.

There is only one working pit available in this area, the dimensions of which is given below:

Table No.12

	PIT
Length (m)	177.0
Width (m) (avg)	78.0
Depth (m) (avg)	10.0

Extent of Mechanization:

The mine will be worked by semi-mechanized method. However for drilling and hauling, jack hammers, hydraulic excavators and tippers will be used respectively.

Drilling Machines :

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.

Table No.13

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

Loading Equipment:

Loading of rough stone shall be carried out by 10 tonne capacity tippers from the working place periodically. Details of loading equipment are given as under.

Table No.14

Type	Nos	Bucket Capacity (MT)	Make	Motive power	H.P.
Hydraulic excavator	1	1.2 M ³	L&T or Ex200	Diesel	120

Transportation:

Transport of raw materials and waste shall be done by Tipper of 10 M.T. capacity.

Table No.15

Type	No.	Size / Capacity	Make	Motive power	H.P.
Tipper	4	10 M.T	Ashok Leyland	Diesel	110



Miscellaneous :

There is no other miscellaneous operation worth mentioning except drilling by jack hammer, working of Rough stone deposit by opencast semi-mechanized methods, transport of Rough stone by tippers and trucks and pumping out seepage water during rainy season.

Afforestation :

The 7.5m & 10m safety distance all along the lease boundary has been identified to be utilized for afforestation purpose. Yearly 60 Neem trees will be planted in this lease area. These trees will be planted along the boundary line, (Please refer Plate No.V for Mine layout, Land use and Afforestation Plan).

The Topsoil soil will be spread over the same and vegetative cover with suitable species will be provided. The extent of area to be afforested in next Five years is 0.44.0Ha. interval between trees – 5m, survival rate - 70%. A retaining wall will be constructed around the dumping yard.

The Afforestation programme for the next Five years are described as follows :

Table No. 16

Year	Name of the species	No. of species	Interval	Area in Ha.	Survival rate
2021-2022	Neem	60	5m	0.09.0	70%
2022-2023	Neem	60	5m	0.09.0	70%
2023-2024	Neem	60	5m	0.09.0	70%
2024-2025	Neem	60	5m	0.09.0	70%
2025-2026	Neem	60	5m	0.08.0	70%
TOTAL		300		0.44.0	

e). Describe briefly the layout of mine workings, pit road layout, the layout of faces and sites for disposal of Topsoil/waste along with ground preparation prior to disposal of waste, reject etc. A reference to the plans and sections may be given. UPL or ultimate size of the pit is to be shown for identification of the suitable dumping site:

The mining operation is being carried out by semi-mechanized opencast method ("B2" category of small mine). The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, loading and transportation of Rough Stone.

The operation will be confined to general shift only i.e. from 8.00 AM to 5.00 PM with one hour lunch interval between 12.00 PM to 1.00 PM. In Topsoil, a bench will be 2.0m height and width with 45° slope.

The Rough Stone, totally seven benches will be 7.0m height and 5.0m width for next Five years only. Please refer Plate No.IV & IV-A. The advancement of the pit will be from existing pit towards middle side of the lease area for the next Five years. Please refer Plate No.IV.

A bund will be constructed around the pit to prevent accident call and inrush of rainwater. Proper footpaths will be provided between benches for easy accessibility for workers.

Haul roads, to conform to statutory standards will be made according to convenience for smooth transport of Rough Stone and waste. Wherever necessary, crossing platforms will be provided in the haul roads at suitable point for safe crossing as tractors, tippers, trucks etc.,

The Top Soil will be utilized for the formation of mine roads, construction of bund and afforestation purpose,

Average annual production is about 99501cu.m of Rough Stone with 300 working days in a year. Considering the nature of the deposit and the anticipated daily production level, semi-mechanized mining is proposed.

A boundary barrier of 7.5m & 10.0m width will be maintained as per statute. Rough Stone locked up in this barrier will be excavated after obtaining permission from DGMS under Regulation 111 of Mines and Mineral Regulation, 1961. The sequence of working for the next Five years is indicated in Plate Nos. IV & V and the rate of production is given in Table No.11.

f) Conceptual Mine planning upto the end of lease period taking into consideration the present available reserves and resources describing the excavation, recovery of ROM, Disposal of waste, backfilling of voids, reclamation and rehabilitation showing on a plan with few relevant sections:

Conceptual Mining Plan :

Conceptual mining plan is prepared with an object of long-term systematic development of benches, lay outs, selection of permanent ultimate pit limit, depth of quarrying and ultimate pit, selection of sites for construction of infrastructure etc.,

While making the Conceptual Mining Plan and deciding the ultimate pit limits the following factors are considered.

i) Pit dimension :

a. Table No:17

	PIT
Length(m)	193.0
Width (m) (avg)	101.0
Depth (m)	51.0m (2.0m Topsoil + 49.0m Rough Stone)

01. Boundary Barriers

In this case a barrier of 7.5m & 10m is left along the lease boundary.

02. Depth of Mining :

The depth of mining is about 51.0m (2.0m Topsoil + 49.0m Rough Stone).

03. No. of benches :

The no. of benches will be eight including the Topsoil bench.

04. Size and slope of benches :

In Topsoil, the bench height will be 2.0m with 45° slope.

In Rough Stone, the bench 7.0m height and width 5.0m for next Five years.

05. Nature of Topsoil :

The nature of the topsoil in this area is gravelly soil. The top most gravelly soil, this layer which is thickness of about 2.0m from general ground level.

06. The size of the lease hold :

The lease area has an extent of 2.30.0Ha.

07. Nature of ore body :

In the area Rough Stone is massive Deposit and without much of geological disturbances.

i) The ultimate pit limits will be :

Ultimate pit limits have been marked in the Conceptual Mining Plan.

Table No. 18

	PIT
Length(M)	193.0
Width (m) (avg)	101.0
Depth (m)	51.0m (2.0m Topsoil + 49.0m Rough Stone)

01. Outline of the area already worked out – Plate No.III : 1.38.0 Ha.

02. The outline of the area to be worked out in the next Five years : 1.84.0 Ha.

Plate No. IV.

03. Yearwise area to be planted for next Five years -Plate No.IV. : 0.44.0 Ha.

04. Extent of areas occupied by roads, site services,
etc., - Plate No.V. : 0.02.0 Ha.

Table No. 19

Sl. No.	Description	Present Area (Ha.)	Area in use during the quarrying period (Ha.)
01.	Area under Quarrying	1.38.0	1.84.0
02.	Infrastructure	Nil	0.01.0
03.	Roads	0.01.0	0.01.0
04.	Green Belt	Nil	0.44.0
05.	Unutilized Area	0.91.0	Nil
	TOTAL	2.30.0	2.30.0

Ultimate pit boundaries:

Ultimate pit limits have been marked in the Conceptual Plan in Plate Nos. VII.

ii) Waste dumps :

There is no requirement for waste management as there is 100% recovery percentage.

60Neem trees/per year is to be afforested over the topsoil dumps to prevent wash off or erosion.

The Top Soil will be utilized for the formation of mine roads, construction of bund and afforestation purpose.

Blasting Pattern:

The massive formation shall be broken into pieces of portable size by drilling and Proposed Control 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.

Proposed Control Blasting parameters are as follows.

Table No. 20

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
Control 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	:	331.67M ³ .

b) During dry season, Nitrate Mixture (Gel Type) as base charge and any conventional type of explosives as booster charge will be used:

In rainy season, it is preferable to use only conventional type of explosives like slurry based explosives. Since it is a small mine and the working of the mine is also seasonal, drilling will be done by contractors and supply of explosives will be done by authorized dealer. However, blasting will be done by a qualified mate or Blaster.

c) Secondary Blasting:

Secondary blasting is not needed, since the primary blasting itself will take care of the required fragmentation of waste rock and mineral body.

d) Storage of Explosives:

The explosive shall be supplied by the authorized contractor at the blasting site at the time of blasting. The explosive shall be directly used so no storage of explosive is proposed.

e) Safety Precautions:

1. During handling all care shall be taken that no inflammable elements should be there.
2. Only safety explosive container with explosive license shall be used for safe and secure transportation of explosive.
3. Efficient Siren will be blown prior to the blasting & after clearance of blasting.

f) Underground Mines :

Not applicable.

3.0 MINE DRAINAGE

The lease area is in undulated topography. Rain water finds its natural coarse. The water table is touched at a depth of 70m in summer and at 64m in NE monsoon. The water table fluctuation is verified by observing the water levels in the above seasons in the nearby wells.

During the mining of Tenth bench, it may be necessary to pump out water. A 5 HP pump can easily deal rain water and seepage water and keep the mine dry. The pumped out water will be left out far away from the Southeastern boundary.

b. Depth of Mining:

The working in Rough Stone will reach a depth of 51.0m (2.0m Topsoil + 49.0m Rough Stone) in the next Five years.

c) Quantity and quality of water likely to be encountered:

In the next Five years, the water table will not pose any problem. However, to deal with storm water and seepage water, a diesel pump of 5 HP capacities is proposed.

In future, proper dewatering pumping arrangements to be made from pit bottom to nearby agricultural lands.

d) Describe regional and local drainage pattern. Also indicate annual rain fall, catchments area, and likely quantity of rain water to flow through the lease area, arrangement for arresting solid wash off etc.

Ground water is the main source in this area, apart from rain in the monsoon period. The water table is at a depth of 70m in summer and at 64m in rainy season. The ground water will be collected in the sump for the deposition of solid particles. Once the suspended particles are deposited it will be pumped out for domestic purpose, dust suppression system, gardening and Afforestation purpose. The excess water only will be pumped out to the ponds/closer water bodies-pond after the deposition of solid particles. There are no toxic elements found in the sump water.

To cope up with storm water and seepage water, an energy efficient electrical pump of 5 H.P capacity will be installed and the discharge will be left-out in the nallah/pond. Garland drains will be made all along the periphery of dumpsites to prevent the water carrying the wash-offs from the dumps. The water collected in the garland drains will flow towards a settling tank formed near by the dumpsite. The water will be allowed to settle the wash offs from the dumps in the settling tank and pure and clear water will be utilized for Afforestation purposes and for haul roads arrest the dust generation.

4.0. STACKING OF MINERAL REJECT /SUB GRADE MATERIAL AND DISPOSAL OF WASTE

a) Indicate briefly the nature and quantity of Topsoil, Topsoil/waste and Mineral Reject to be disposed off.

Topsoil:

The Topsoil is gravelly soil. It occurs to a depth of 2.0m. The generation of Topsoil for next Five years is about 828 tonnes.

Sub-grade Mineral:

There is no Sub-grade Mineral produced in the next Five years.

Mineral reject:

There is no requirement for waste management as there is 100% recovery percentage.

b) The proposed dumping ground within the lease area be proved for presence or absence of mineral and be outside the UPL unless simultaneous backfilling is proposed or purely temporary dumping for a short period is proposed in mineralized area with technical constraints & justification.

The dumping of waste material(Topsoil), will be done in steps to avoid sliding. One end of the waste dump to be matured for stabilization will be taken up for Afforestation.

Construction of garland drain in around the pit and dump and settling tank will be provided to guard against the heavy rainwater.

Periodically sprinkling/spraying water on roads leading from working face to waste dump, so that areas are always kept wet to prevent emission of air borne dust. Retaining wall will be constructed around the dumping yard. Stabilization measures, to be made for Year wise (future) dumps.

The Top Soil will be utilized for the formation of mine roads, construction of bund and afforestation purpose.

c) Attach a note indicating the manner of disposal of waste, configuration and sequence of year wise buildup of dumps along with the proposals for protective measures.

There is no requirement for waste management as there is 100% recovery percentage.

The Top Soil will be utilized for the formation of mine roads, construction of bund and afforestation purpose. Construction of garland drain in around the pit and dump and settling tank will be provided to guard against the heavy rainwater.

Periodically sprinkling/spraying water on roads leading from working face to waste dump, so these areas are always kept wet to prevent emission of air borne dust.

Retaining wall and garland drain will be constructed around the dumping yard. The dumping of topsoil, will be done in steps to avoid sliding. One end of the topsoil dump to be matured for stabilization will be taken up for afforestation.

5.0 USE OF MINERAL AND MINERAL REJECT:

a) Describe briefly the requirement of end-use industry specifically in terms of

The entire mined out mineral is been utilized by the nearby Crusher unit in Krishnagiri.

b) Give brief requirement of intermediate industries involved in up gradation of Mineral before its end-use:

There is no necessary for intermediate industries involved up gradation of Mineral.

c) Give detail requirements for other industries, captive consumption, export,

Associated industrial use etc:

Not Applicable.

d). Physical specifications:

Rough stone texture is medium to coarse grained and is composed of recrystallized minerals, hence it is a metamorphic rock. The grains are subhedral, inequigranular, with a granoblastic texture. The grains are crystalline i.e. Complete crystallization has occurred. Cleavage is absent. The color is dark olive green.

Supply of buyers :

Used in nearby Crusher units at Krishnagiri.

e) Give details of processes adopted to upgrade the ROM to suit the user Requirements:

Not applicable.

6.0 PROCESSING OF ROM AND MINERAL REJECT :

a) If processing / beneficiation of the ROM or Mineral Reject is planned to be conducted, briefly describe nature of processing / beneficiation. This may indicate size and grade of feed material and concentrate (finished marketable product), recovery etc:

The minerals produced from the mines need only specific sorting & grading for Size, Grade & Recovery factor. No mineral beneficiation processing will be required at mines. Besides this no other processing or beneficiation is required to be proposed at the mine site.

Mineral Beneficiation of Mineral :

Not applicable, no beneficiation is being carried out at this mine. Since the mineral was required and supplied in raw form.

Beneficiation Test Done On Sub-Grade Mineral:

Not applicable, since no sub-grade mineral is anticipated.

b) Give a material balance chart with a flow sheet or schematic diagram of the Processing procedure indicating feed, product, recovery, and its grade at each stage of processing:

Not applicable.

c) Explain the disposal method for tailings or reject from the processing plant:

Not applicable.

d) Quantity and quality of tailings /reject proposed to be disposed, size and capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailings dam:

Not applicable.

e) Specify quantity and type of chemicals if any to be used in the processing plant:

Not applicable.

f) Specify quantity and type of chemicals to be stored on site / plant:

Not applicable.

g) Indicate quantity (cum per day) of water required for mining and processing and sources of supply of water, disposal of water and extent of recycling:

Water balance chart may be given.

Not applicable.

7.0. OTHERS:

a. Site Services :

The proposed site services are:

Drinking water, rest shed, store room, public convenience etc., mines office and blaster shelter etc., please refer Plate Nos.IV, V and VIII.

Employment Potential:

i) Skilled Labour:

Foreman/ Part time Mining Engineer	:	1
Excavator operator	:	1
Co- operator	:	1
Jack hammer operator	:	6
Blaster/mate	:	1

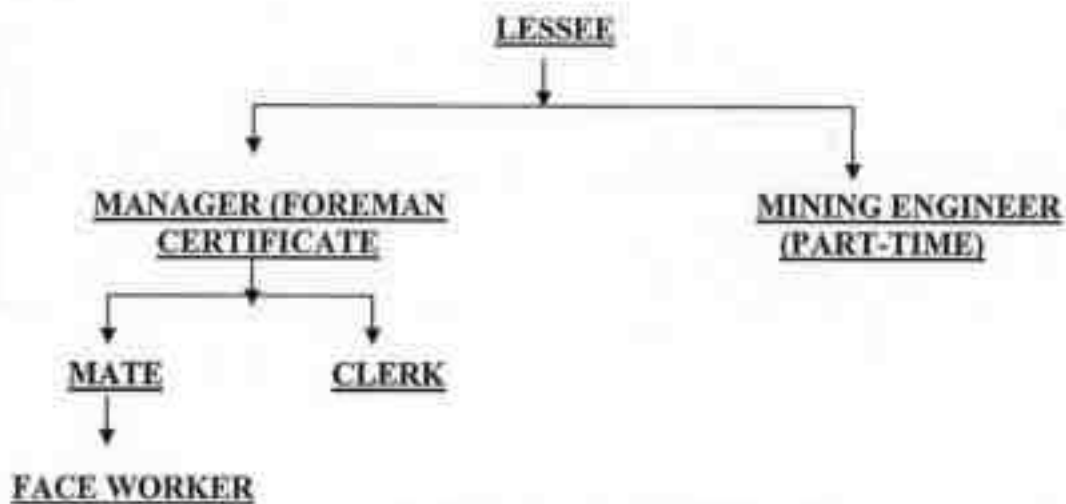
ii) Semi-skilled:	:	2
watchman	:	1

iii) Unskilled helper	:	1
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Total : **14 Nos.**



A Part time Mining Engineer will be appointed as per rule 42(1) (b) (ii) of MCDR 1988. The proposed organization chart :



The drilling will be done by contractors. The Manager will carry out blasting. The mine will work in a single shift from 8.00 AM to 5.00 PM with one hour lunch interval between 12.00 Noon and 1.00 PM.

8.0 PROGRESSIVE MINE CLOSURE PLAN

INTRODUCTION

Name of the Mine : Venkatesapuram Rough Stone Quarry

Lessee : Thiru. V. Sekar,

Address : Thiru. V. Sekar,
S/o. Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri District- 635 113.



Cell : 98433 33943.

Location :

Extent : 2.30.0Ha.
S.F.No : 270 (Part-1)
Village : Venkatesapuram
Taluk : Shoolagiri
District : Krishnagiri

Type of Lease Area : Non-Forest

Present land use pattern : Quarrying of Rough Stone

Method of Mining : Semi-mechanized

Mineral processing operation : Drilling and blasting is done.

8.1 Environment Base line information: Attach a note on the status of baseline

Information with regard to the following:

Existing land use pattern:

Table No:21

Sl. No.	Description	Present Area (Ha.)	Area in use during the quarrying period (Ha.)
01.	Area under Quarrying	1.38.0	1.84.0
02.	Infrastructure	Nil	0.01.0
03.	Roads	0.01.0	0.01.0
04.	Green Belt	Nil	0.44.0
05.	Unutilized Area	0.91.0	Nil
	TOTAL	2.30.0	2.30.0

Water Regime

Ground water is touched at a depth of 70m in summer and at 64m in NE monsoon season. The average rainfall is 700-800mm. There is no lake, reservoir or river near the area. Villagers use open well water for drinking and other domestic purposes for ages without any adverse health effects. However drinking water will be supplied from the public water supply system from nearby hamlets.

Air-Quality:

The air quality will be affected during the quarrying period due to blasting and jack drilling, which will be within permissible limits. Since this is an open area, the impact on air quality will be to the minimum. The mine roads will be sprinkled with water before starting the transportation of rough stone and wastes to minimize air pollution.

Noise Level:

Quarrying of Rough Stone had been carried out by drilling and control 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.

Flora and Fauna

Since the sub-seed area is a stony waste, it does not contain much vegetation. There is no report of existence of wild animals in this region.

Climate Conditions

The area receives rainfall of about 700mm to 800mm per annum and the rainy season is mainly from October-January during North East Monsoon. The summer is hot with maximum temperature of 38°C and winter encounters a minimum temperature of 18°C.

Human Settlement

The hamlets near the area are: Table No:22

Name of Hamlet	Population	Direction from the area	Distance
Venkatesapuram	500	North	2.5 kms.
Bukkasagaram	400	South	1.0km.
Sundatti	300	West	2.0 kms.
Punnagaram	350	East	4.0 kms.

Public building, Places of worship and Monuments

There is no public building, places of worship or archaeological or national monuments near the area. There is no wild life or bird sanctuary or no reserve or any protected social forest closer to the area.

8.2 Impact Assessment: Attach an Environmental Impact Assessment Statement Describing the impact of mining and beneficiation on environment on the following:

a) **Environmental Impact Assessment Statement:**

The factors that should be covered in this Para are: -

01. Land
02. Air Quality
03. Water Quality
04. Noise Levels
05. Vibration Levels
06. Water Regime
07. Socio-Economics
08. Historical Monuments etc.



Land:

It is a working mine. There is no proposal for back filling and reclamation. Before closure of the mine, a parapet wall will be constructed to prevent inadvertent entry of cattle and human beings. The dumps will be vegetated to prevent sliding. After closure of the mine, the pit will be allowed to collect seepage and rain water.

This will help to charge the nearby agricultural wells. Fish forming will also be attempted.

Afforestation will be attempted in the boundary barrier.

Air-Quality:

The air quality will be affected during the quarrying period due to blasting and jack drilling, which will be within permissible limits. Since this is an open area, the impact on air quality will be to the minimum. The mine roads will be sprinkled with water before starting the transportation of rough stone and wastes to minimize air pollution.

Water Quality:

Mining operation will not produce any toxic effluent in the form of solid, liquid or gas. The existing water quality will not be affected by mining operation. The Surface rain water flow through the seasonal water course as usual.

Noise Level:

Quarrying of Rough Stone had been carried out by drilling and control 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.

Vibration levels:

The ground vibration will be caused due to movement of earth moving equipment and blasting. But the impact on the environment will be negligible, since the quantity of explosives used will be very small and the movement of equipment will be intermittent.

Water Regime:

Mining operation will not produce any toxic effluent in the form of solid, liquid or gas and will not have any impact on quality of water and also on ground water.

Socio-Economics:

The local population is mostly agriculture based. Agricultural is done only on seasonal basis. Mining in this area is an avenue for employment. Mining certainly has created an impact in the Socio-economic standards of the local people. It has improved the life style of the local people and has improve the standard of living.

Historical Monuments:

There is no historical or Archaeological monument near the area. There is no scope for mining operation to have any impact on these aspects.

8.3 PROGRESSIVE RECLAMATION PLAN:

Since, it is an existing mine, the only proposal now is to plant 60Neem trees every year in the boundary barrier. Whenever the dump becomes inactive, tree planting will be carried out. A retaining wall will be constructed around the dumping yard. Please refer Plate Nos.V.

The Afforestation programme for the next Five years are described as follows :

Table No. 23

Year	Name of the species	No. Of species	Interval	Area in Ha.	Survival rate
2021-2022	Neem	70	5m	0.09.0	70%
2022-2023	Neem	70	5m	0.09.0	70%
2023-2024	Neem	70	5m	0.09.0	70%
2024-2025	Neem	70	5m	0.09.0	70%
2025-2026	Neem	70	5m	0.08.0	70%
TOTAL		350		0.44.0	

After complete extraction of mineral, the pit will be allowed to collect rain and seepage water to serve as a reservoir to charge the nearby wells. Fish culture will also be attempted. A bund will be constructed around the pits.

8.3.1. MINED OUT LAND:

It is an existing mining lease. There is no reclamation at this stage.

01. The area covered by pits : 1.84.0 Ha.
02. The area covered by Afforestation : 0.44.0 Ha.
03. The area covered by roads, infrastructure : 0.02.0 Ha.
04. Unutilized area : Nil

8.3.2. Topsoil management:

The Topsoil will be stacked separated for Afforestation purpose, which is being dumped separately will be used for forming earth bund all along the mine. Neem trees are planted on the bund for protecting the bund.

8.3.3. Tailing Dam Management

Does not arise.

8.3.4 Acid mine drainage, if any and its mitigative measures.

Not applicable.

8.3.5 Safety And Security

All the quarry workers will be provided with safety equipments like helmets, Mine Goggles, Ear plugs, Ear muffs, Dust mask, reflector jackets and Safety Shoes as personal protective device as per the specification approved by Director of mines safety. Periodically medical checkup will be conducted for all workers for any mine health related problems. Proper training and induction will be given by qualified and experienced safety officer to all employed about the safe and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically to carry out the quarrying operations scientifically to safe guard the men machinery and mineral and to create awareness of conventional opencast quarrying operations.

Parapet wall or bund have been constructed on all sides of the openings. Proper pumping arrangements during rainy season. Trees planted all along the mining lease boundary.

8.4 Disaster Management And Risk Assessment

The nearby hamlet is Shoolagiri which is at a distance of 12.0 kms. where facilities like Primary Health Centre etc., are available. Mode of transport available is Jeep. All the employee will be shifted to the nearest hamlet Shoolagiri. Mobile phone will be provided to the Mines Manager. The Manager/Supervisor will be provided with a mobile phone. The Mining area is very small. There is no chance for risk for any disaster. However, the details of contact person are given :

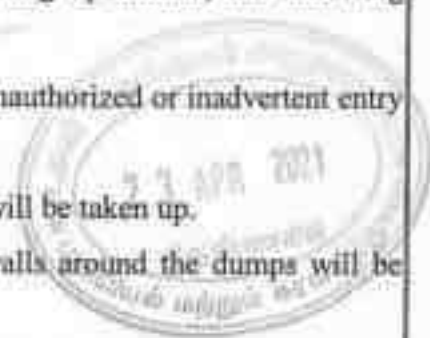
Contact person : Thiru. V. Sekar,
Postal Address : S/o. Venkatesappa,
D.No.4/165/B,
Karukondapalli Village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri District- 635 113.
Mobile No : 98433 33943.



8.5 Care and maintenance during temporary discontinuance:

In case, of any temporary closure or discontinuance of mining operations, the following steps are proposed.

- Watchman will be posted round the clock to prevent any unauthorized or inadvertent entry of general public.
- Works on stabilization of dumps to provide vegetal cover will be taken up.
- Construction of garland drains in the pit and retaining walls around the dumps will be attempted.



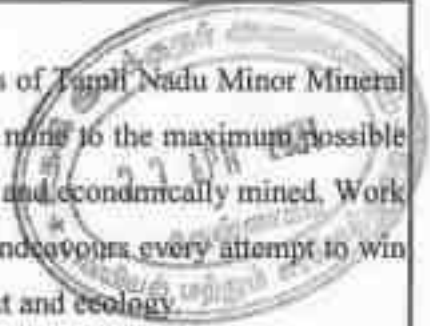
8.6 .Project Cost:

Table No.24

<u>A. Fixed Asset Cost:</u>			
1. Land Cost	:	Rs.94,00,000/-(Tender amount for Government Poramboke land)	
2. Labour Shed	:	Rs. 2,00,000/-	
3. Sanitary Facility	:	Rs. 90,000/-	
4. Fencing cost	:	Rs. 1,00,000/-	
Total=		Rs. 97,90,000/-	
<u>B. Operational Cost:</u>			
<u>Machinery cost</u>		:	Rs.40,00,000/-
<u>C. EMP Cost:</u>			
Drinking water facility	:	Rs. 1,20,000/-	
Safety kits	:	Rs. 80,000/-	
Water sprinkling	:	Rs. 60,000/-	
Afforestation	:	Rs. 40,000/-	
Water quality test	:	Rs. 30,000/-	
Air quality test	:	Rs. 30,000/-	
Noise/vibration test	:	Rs. 30,000/-	
Total=	:	Rs. 3,90,000/-	
Total Project Cost(A+B+C)		:	Rs. 1,41,80,000/-

9.0 Any Other Information:

The Scheme of Mining proposed has fully covered the aspects of Tamil Nadu Minor Mineral Concession Rules with a plan to extend the proposed working of the mine to the maximum possible depth of the deposit. To avoid wastage, the deposit has to be carefully and economically mined. Work persons have to be educated about the value of mineral. The Lessee endeavours every attempt to win mineral economically without wastage and to improve the environment and ecology.



S. Dhanasekar
S. DHANASEKAR, M.Sc. (Geol)
Qualified Person

This Mining Plan is approved based on guidelines / instruction issued and in corporation of the particulars specified in the letter No. 668/2021 dated 23-04-2021 of the Deputy Director of Geology and Mining, Krishnagiri and subject to further fulfillment of the conditions laid down under Tamil Nadu Minor Mineral Concession Rules, 1952 and Minor Mineral Conservation and Development Rule 2010.

~~Assistant Director
(Additional Charge)
Geology & Mining Dept,
Collectorate, Krishnagiri.~~

e
23/4/21

This Mining Plan is approved subject to the conditions / stipulation indicated in the Mining Plan Approval
Letter No. 668/2021 Dated 23/4/21

ANNEXURE-7

PROCEEDINGS OF THE DISTRICT COLLECTOR, KRISHNAGIRI

Present: Thiru C.Kathiravan, I.A.S.

Roc.No.81/2016/Mines

Dated 09.08.2016



Sub: Mines and Minerals - Minor Mineral - Rough Stone -
Krishnagiri District - Hosur Taluk (Now Shoolagiri), -
Venkatesapuram Village - Govt. Land in S.F.No.270
(Part-1) - Over an extent of 2.30.0 Hecta. - precise
area given for the proposed grant of quarry lease for
rough stone to Thiru V.Sekar S/o.Venkattappa -
under Tender-cum - Auction system - SEIAA
clearance and TNPCB obtained - order issued - reg.

- Ref:
1. Krishnagiri District Gazette Extra Ordinary No.2 dated 29.01.2016.
 2. Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 tender application dated 18.02.2016.
 3. The District Collector, Krishnagiri Memorandum in Roc.No.81/2016/Mines-2 dated 29.02.2016.
 4. Mining plan approved by the Deputy Director of Geology and Mining, Krishnagiri in Roc.No.81/2016/Mines-2 dated 25.04.2016.
 5. The State Level Environment Impact Assessment Authority of Tamil Nadu Lr.No.SEIAA-TN/F.No.5355/1(a)/EC No.3269/2016 dated 09.07.2016
 6. Proceedings No.F.0949HSR/RS/DEE/TNPCB/HSR/A/2016 dated 04.08.2016 of the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur
 7. Proceedings No.F.0949HSR/RS/DEE/TNPCB/HSR/W/2016 dated 04.08.2016 of the District Environmental Engineer, Tamil Nadu Pollution Control Board, Hosur
 8. Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 letter dated 09.08.2016.

24.8.16
23.8.21
22.4.21

-oOo-

ORDER:

Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 had participated in the tender-cum-auction for the grant of quarry lease for rough stone over an extent of 2.30.0 Hecta in Government land S.F.No.270 (Part-1) of Venkatesapuram Village of Hosur Taluk (Now Shoolagiri) of Krishnagiri District on 18.02.2016 and he is declared as the highest bidder and precise area had been given for the



grant of rough stone quarry lease in the said area for a period of **Ten years** from the date of execution of lease deed and he had been directed to submit the approved mining plan, Environmental Clearance from the SEIAA of Tamil Nadu and consent of the Tamil Nadu Pollution Control Board vide in the Memorandum 3rd cited.

The applicant had submitted the approved mining plan approved by the Deputy Director of Geology and Mining vide in the reference 4th cited, the Environment clearance given by the State Level Environment Impact Assessment Authority Tamil Nadu in the reference 5th cited and consent of the Tamil Nadu Pollution Control Board in the reference 6th and 7th cited.

In view of the above a quarry lease for rough stone is granted to Thiru V.Selvar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113 over an extent of 2.30.0 Hects in Government land S.F.No.270 (Part-1) of Venkatesapuram village of Hosur Taluk (Now Shoolagiri) of Krishnagiri District under the provisions of Rule 8 (1) of Tamil Nadu Minor Mineral Concession Rules, 1959 for a period of **Ten years** from the date of execution of lease deed subject to the following conditions.

I) The grantee should remit a sum of Rs.9,40,000/- towards security deposit, Rs.2300/- towards area assesment in the relevant head of accounts and submit non judicial stamp papers for the appropriate value of Rs.2,16,000/- and to execute the lease deed with District Collector in the prescribed time limit.

II) The grantee should get the consent for operation from the Tamil Nadu Pollution Control Board before the commencement of quarrying operation.

III.) A) சிறப்பு நிபந்தனைகள்:

- i. குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்ட குவாரிக்கு அருகிலுள்ள மட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரியாணி செய்வதும்.
- ii. அருகிலுள்ள கிராம எல்லைக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இது செஞ்சேலைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரியாணி செய்வதும்.

III.) B) சாதாரண சர்க்குாரி யாணி செய்வதற்கான நிபந்தனைகள்:

- (1) குத்தகை வாயில், குத்தகை ஒப்பந்தப்பத்திரம் திறைவேற்றம் நாளிலிருந்து பத்து ஆண்டுகளாகும்.
- (2) குவாரி குத்தகை வழங்கப்பட்ட இடத்தில் குவாரி செய்யும் வெளிக்கல்/ குண்டுக்கல்/ கட்டுக்கல்/ சக்கை மற்றும் ஐஸி ஆகியவற்றை வெறியடி இடத்திலிருந்து வெளியில் எடுத்துச் செல்லதற்கு முன்பு அவை ஒப்படைப்பிற்கும் அனுப்பித்தொடுக்கப்பட்ட விதத்தில் சீரமைக்க தீர்வை செலுத்தி இவ்வழங்கலத்தில் பங்கிட்டு மற்றும் நடைச்சீட்டு பெற்ற பின்புதான் வெறியடி களியங்களை குவாரியிலிருந்து வெளியில் எடுத்துச் செல்ல வேண்டும். 1959 ஆம் வருடத்தில் தமிழ்நாடு சிறுகளிய சலுகை விதிகள், இணைப்பு II-ல் அடங்கியிருந்து அரசால் நிர்ணயிக்கப்படும் விதத்தில் பங்கு தீர்வை செலுத்த



- வேண்டும். மேற்கண்ட தொகையைத் தவிர அரசால் ஒதுக்கப்படுகின்ற நிதியைப்பற்றி இந் தொகையையும் குத்தகைதாரர் செலுத்த வேண்டும்.
- (3) குத்தகை இடத்திற்கு அருகிலுள்ள குடியிருப்புகள், கட்டிடங்கள், நிறுவனங்கள், குளங்களின் களங்கள், மரங்கள், சாலைகள், வண்டிப்பாதைகள், நடைபாதைகள் மற்றும் இந் பொதுச் சொத்துக்களுக்கு பாதுகாப்பாகக் குவாரி செய்ய வேண்டும்.
 - (4) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகாமையில் உள்ள மட்டாரதாரர்கள் மற்றும் பொது மக்களுக்கு பாதுகாப்பாகக் குவாரி செய்ய வேண்டும்.
 - (5)
 - அ) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகிலுள்ள சமீப்பானதகைகள், சாலைகள், பிளாசாஸ் மற்றும் தொலைபேசி கம்பிகளுக்கு 50 மீட்டரும் குடியிருப்பு பகுதியிலிருந்து 300 மீட்டரும், நடைபாதைகள், கிராம சாலைகளுக்கு 10 மீட்டரும் பாதுகாப்பு இடைவெளி விட்டு குவாரி செய்ய வேண்டும்.
 - ஆ) அருகிலுள்ள அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
 - இ) அருகிலுள்ள மட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
 - (6) மாவட்ட ஆட்சித்தலைவர் (அல்லது அரசால் அதிகாரம் வழங்கப்பட்ட அனுபவமான குத்தகை வழங்கப்பட்ட இடத்தைப் பார்வையிடவும், குவாரி பதிவேடுகள், ஆய்வுகள் மற்றும் கணக்கை சரிபார்க்கவும் அனுமதிக்க வேண்டும். இது சம்பந்தமாக அவர்கள் கோரும் அனைத்து விவரங்களையும் வழங்க வேண்டும்.
 - (7) சுற்றுப்புற சூழ்நிலை பாதுகாப்பு, கனிம பாதுகாப்பு, தொழிலாளர் பாதுகாப்பு முதலியவற்றைக் கருத்தில் கொண்டு விஞ்ஞான அடிப்படையில் திறமையுடன் முறையாகக் குவாரி செய்ய வேண்டும்.
 - (8) மாவட்ட ஆட்சித்தலைவர் மற்றும் ஆணையர், முயல்பவர் மற்றும் காலத்தினுடைய ஆலோசனை அதிகாரம் வழங்கப்பட்ட அனுபவமான மேலே பந்தி (5)-ல் குறிப்பிட்டுள்ள நிர்வாகிகள் தொடர்பாகவும், மேற்கண்ட அனுபவங்களின் ஆணையர் திறமையற்றவர்களை குத்தகை வழங்கப்பட்ட இடத்தைப் பார்வையிட அனுமதிக்க வேண்டும்.
 - (9) குத்தகைதாரரின் செயலில் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றி அதனை பதிவு செய்வதற்கு முன்பு குத்தகை இடத்தில் குவாரி மற்றும் இது சம்பந்தப்பட்ட வேலைகளைத் தொடங்கக்கூடாது.
 - (10) குத்தகை வழங்கப்பட்டுள்ள இடத்திற்குள் எல்லையிலிருந்து 7.5 மீட்டர் தூரத்திற்குள் குவாரி செய்யக் கூடாது.
 - (11) பொது சாலைகளிலிருந்து குத்தகை வழங்கப்பட்ட இடத்திற்குள் செல்லாத வகை குத்தகைதாரர் சொந்த சொற்பில் செய்து கொள்ள வேண்டும்.
 - (12) குத்தகை ஒப்பந்தப்பத்திரத்துடன் இணைத்துள்ள வகைபடுத்திய கட்டியுள்ள குத்தகை இடத்தை சுற்றிலும் எல்லைக்கற்கள் தீட்டு அடித்தரை சரிபாணப்பு பாயரிக்க வேண்டும்.
 - (13) 1959 ஆம் வருத்திய தமிழ்நாடு சீர்திருத்த சட்டம் விதிக்க இணைப்பு XII மற்றும் XII-ல் உள்ள படிவங்களில் முறையாக இசைவானமைக்கீட்டு மற்றும் நடைச்சீட்டினைத் தவிர செய்து அவற்றில் மாவட்ட ஆட்சித்தலைவரால் அதிகாரம் வழங்கப்பட்ட அனுபவிகள் எனவெளிய முத்திரை மற்றும் அனுபவக் முத்திரைகள் பெற்று குவாரியிலிருந்து குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஐயல் ஆகியவற்றை வெளியில் எடுத்துச் செல்லும் ஒவ்வொரு வகைத்திற்கும் ஒவ்வொரு நடைச்சீட்டும் வழங்கப்பட வேண்டும். குண்டுக்கல், கட்டுக்கல், சக்கைக்கல், ஐயல் ஆகியவற்றை ஏற்றிச் செல்லும் ஒவ்வொரு வகையுடும் அதனைச் சேதமடைச் செய்யாதற்கு அதிகாரம் பெற்ற அனுபவச் சோதனைச் செய்யும்பொது நடைச்சீட்டினைக் காண்பிக்க வேண்டும். இசைவானமைக்கீட்டு மற்றும் நடைச்சீட்டின் நகல்பனை குவாரியில் வைத்திருக்க வேண்டும்.



முன்புள்ள இலையாணைக்கீடு மற்றும் நடைக்கீடுகள் இவ்வாறும் கனிமங்களை ஏற்றிச் செல்லும் வாகனங்கள் 1959-ம் வருத்திய தமிழ்நாடு சிறுகளில் சலுகை விதிகள் மற்றும் கரங்கங்கள் மற்றும் கனிமங்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம், 1957-ம் ஆண்டு உட்பற்றப்பட்டு, குத்தகைதாரர் மீது நடவடிக்கை எடுக்கப்படுவதுடன் குவாரித் குத்தகையையும் ஏற்று செய்ய நடவடிக்கை எடுக்கப்படும்.

- (14) குத்தகை வழங்கப்பட்ட இடத்தை குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஊர்வி குவாரி செய்ய மட்டும் பயன்படுத்த வேண்டும் குத்தகை உரிய ஆணை அல்லது குத்தகை ஒப்பந்தப்பத்திரத்தில் தவறுதலாக கனிம விவரம் குறிக்கப்பட்டு இருந்தால் அதனை எந்த நேரத்திலும் திருத்தவதற்கு மாபட்ட ஆட்சியருக்கு அதிகாரம் உண்டு குத்தகைதாரர் அதன்படிபடிவத்தில் எந்த உரிமையும் கோரமுடியாது.
- (15) வெடுகேற்றுவதற்கும், அடல் நாட்டித்த ஏற்றுமதி செய்வதற்கும் பயன்படும் பெரிய கற்குண்டங்கள் வடிவத்தில் கற்குவாரி செய்யக் கூடாது.
- (16) குத்தகை ஒப்பந்தப்பத்திரத்தில் குறிக்கப்படாத வேறு ஏதாவதொரு கனிமம் விவரம், அதனை கையாண்ட அல்லவாசின் அல்லாதவையுள்ளும், அறந்தரிய சிவியரெடு தொகையைச் செலுத்தாமலும் எடுக்கக்கூடாது. புதிய கனிமம் விவரம் விவரத்தை 30 தினங்களுக்குள் தெரிவிக்காமல் எடுத்துச் சென்றால் இம்முற்றத்திற்கு அந்த கனிமத்திற்குரிய சாதாரண சிவியரெடு சட்டமாதலையப்பால் 15 மடங்குமையுள்ளும் ஆட்சித்தலையவரால் அபராதம் விதித்து வசூலிக்கப்படும்.
- (17) குத்தகை காலம் முடிவிற்கு, குத்தகை வழங்கப்பட்ட இடத்திலிருந்து குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஊர்விசிய குவாரி செய்து வெளியில் எடுத்துச் செல்ல குத்தகைதாரருக்கு உரிமையில்லை.
- (18) குத்தகை காலம் முடிவடைந்த பிறகு குத்தகை இடத்தில் எஞ்சின், பெயின் போன்ற எந்தவிதமான தளவாட பொருட்களையும் வைத்திருக்கக்கூடாது. அவற்றை குத்தகை காலத்தில் கடைசி நாளன்று குத்தகைதாரர் எடுத்துச் சென்றவிட வேண்டும்.
- (19) குத்தகையை வேறு பெருக்கும் உள் குத்தகைக்கு விடக்கூடாது.
- (20) குவாரி செய்வதில் திறப்பு ஏற்படும் தட்டாடு கேட்கக்கூடாது.
- (21) குவாரியில் வேலை செய்யும் தொழிலாளர்கள் மற்றும் இரா நாங்களுக்கு வித்து ஏதாவது ஏற்படும் அகற்கு முழுப் பொறுப்பினையும் குத்தகைதாரரையேரும். இவர்க்கு அரசு பொறுப்பில்லை.
- (22) அரசுக்கு செலுத்த வேண்டிய தொகையை உரிய காலத்திற்குள் செலுத்தவில்லை என்றால் அத்தொகை 24 % அல்லது அரசால் அங்கப்பொது நிண்டிக்கப்படும் வீதத்தில் வட்டிகள் குத்தகைதாரரிடமிருந்து வசூலிக்கப்படும்.
- (23) அரசுக்கு செலுத்த வேண்டிய பாக்கித் தொகை தமிழ்நாடு வருவாய் வசூல் சட்டம் 1864-ன் கீழ் வசூலிக்கப்படும்.
- (24) குத்தகை நித்தலானகள், 1959-ஆம் வருத்திய தமிழ்நாடு சிறுகளில் சலுகை விதிகள், அரசு, ஆணையர், பதிவியல் மற்றும் கரங்கத்தலறை, மாபட்ட ஆட்சித்தலையல் ஆசிபொரது ஆணைகள் மீறப்பட்டு மீறல்க்கு அபராதம் விதிப்பதொடு அங்கமால் குத்தகைதாரருக்கு நேர்முக விளாணைக்கு வாய்ப்பளித்த பின்பு குத்தகை உரிமம் ஏற்று செய்ய நடவடிக்கை எடுக்கப்படும்.
- (25) அரசின் அங்கப்பொரதைய ஆணைகளுக்கேற்ப நித்தலானகளை மாற்றி அமைக்கவோ, நீக்கவோ, கூடுதலாக சேர்க்கவோ, மாபட்ட ஆட்சித்தலையருக்கு முழு அதிகாரம் உண்டு.
- (26) பெற்குரிய நித்தலானகளுடன் 1959-ஆம் வருத்திய தமிழ்நாடு சிறுகளில் சலுகை விதிகள், கரங்கங்கள் மற்றும் கனிமங்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம் 1957, மாபட்ட ஆட்சித்தலையல் ஆசிபொரால் அங்கப்பொரது நித்தலானகளுக்கும் ஆணைகள் குத்தகைதாரரையேக் கட்டுப்படுத்தும்.

(27) குவாரிகள்/கொங்கங்களுக்கு பொருத்தக்கூடிய தொழிலாளர் சட்டங்களுக்கு கட்டுப்பாட்டு குத்தகைதரர் குவாரி செயல்பாட்டும், தழிவாளர் சம்பந்தப்பட்ட தரகின் சட்டப்பூர்வமான நடவடிக்கைகளுக்கு குத்தகைதரர் உள்வாக சேற்று இடுக்கும்.

(28) இந்திய வெடிமருத்து சட்டம் 1884 (Central Act IV of 1884)-ஈபிடி-ஈபிடி வெடிமருத்து சட்டம் பெற்று குத்தகைதரர் மாற்றகளை வெடிமருத்து உட்க்க வேண்டும். நவரம் பட்சத்தில் குத்தகைதரர் கட்டும் தண்டினைக்கு உள்வாக வேண்டியிருக்கும்.

(29) குத்தகைதரர் குவாரியில் குழந்தை தொழிலாளர்களை பணியளித்தக்கூடாது.

IV) a) The conditions imposed by the Tamil Nadu Pollution Control Board in the consent to establishment in Air and Water Pollution Act should be strictly adhered and the consent should be renewed periodically.

b) The Environment Clearance issued by the SEIAA, Tamil Nadu should be renewed within the prescribed time limit.

V) Conditions imposed by the SEIAA.

1. i) The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 years from the date of issue whichever is earlier.

ii) The approved quantity of rough stone to be quarried = 125072 cum

iii) Depth of mining permitted = 42 mts.

2. A. Conditions to be complied before the commencing of mining operation

(1). The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that

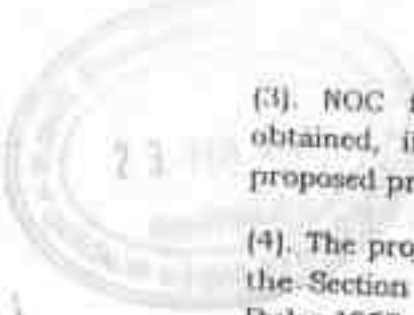
(i). The project has been accorded Environmental Clearance.

(ii). Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.

(iii). Environmental Clearance may also be seen on the website of the SEIAA.

(iv). The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.

(2). The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.

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- (3). NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
 - (4). The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
 - (5). A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
 - (6). Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
 - (7). The proponent shall ensure that *First Aid Box* is available at site.
 - (8). The excavation activity shall not alter the natural drainage pattern of the area.
 - (9). The excavated pit shall be restored by the project proponent for useful purposes.
 - (10). The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
 - (11). The quarrying operation shall be restricted between 7AM and 5 PM.
 - (12). The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
 - (13). A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
 - (14). Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.



(15). The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.

(16). Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.

(17). Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.

(18). The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.

(19). Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.

(20). A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.

(21). The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, Govt on 16.11.2009.

(22). The following measures are to be implemented to reduce Air Pollution during transportation of mineral

- (i). Roads shall be graded to mitigate the dust emission.
- (ii). Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.

(23). The following measures are to be implemented to reduce Noise Pollution

- (i). Proper and regular maintenance of vehicles and other equipment.
- (ii). Limiting time exposure of workers to excessive noise.
- (iii). The workers employed shall be provided with protection equipment and earmuffs etc.

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(iv). Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

(24). Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.

(25). Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.

(26). Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.

(27). Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.

(28). The following measures are to be adopted to control erosion of dumps:-

(i). Retention/ toe walls shall be provided at the foot of the dumps.

(ii). Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.

(29). Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCCB.

(30). Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(31). Rain water harvesting to collect and utilize the entire water falling in land area should be provided.

(32). Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all

the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.



(33). The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that measures shall be carried out. District Collector / Mining officer shall ensure this.

(34). No tree-felling shall be done in the leased area, except only with the permission from competent Authority.

(35). To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.

(36). It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.

(37). It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site

(38). Ground water quality monitoring should be conducted once in 3 Months.

(39). Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.

(40). Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.

(41). Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.

(42). Bunds to be provided at the boundary of the project site.



- (43). The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 100/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- (44). At least 10 Neem trees should be planted around the boundary of the quarry site.
- (45). Floor of excavated pit to be leveled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- (46). The Project Proponent shall ensure a minimum of 2.5 of the annual turnover will be utilized for the CSR Activity.
- (47). The Project Proponent shall provide solar lighting system to the nearby villages.
- (48). The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
- (49). Rainwater shall be pumped out Via Settling Tank only.
- (50). Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- (51). As per MoEF & CC, Govt, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.
- (52). The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
- (53) Safety equipments to be provided to all the employees.
- (54) Safety distance of 50 m has to be provided in case of railway, reservoir, canal/odai
- (55) The Assistant / Deputy Director Department of Geology and Mining shall ensure that the proponent has engaged the blaster with valid Blasting license / certificate obtained from the competent authority before execution of mining lease.



- (56) The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
- (57) The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
- (58) The proponent shall furnish the data obtained from the Public Works Department regarding the details of ground water table in the quarry site.
- (59) The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh case before execution of mining lease.
- (60) The proponent has to display the name board at the quarry site showing the details of proponent, leased period, extent etc., with respect to the existing activity before execution of mining.
- (61) Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
- (62) The PP has to study the Geo Environmental Assessment for the cluster of rough stone quarries jointly as a comprehensive report within 60 days from the date of presentation.

B. General Conditions:

- (1) EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
- (2) The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
- (3) No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
- (4) No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
- (5) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.



(6) Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.

(7) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.

(8) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.

(9) Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying them mineral shall not be overloaded.

(10) Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.

(11) All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

(12) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.

(13) Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.

(14) The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.

(15) The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the

Ministry of Environment and Forests and its regional office located at Chennai.



- (16) The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- (17) This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
- (18) The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
- (19) The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA.TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- (20) Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- (21) The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- (22) Any other conditions stipulated by other Statutory/ Government authorities shall be complied.



(VI) The lessee should strictly adhere all the conditions imposed in the environmental clearance issued by The SEIAA Tamil Nadu and consent order of the Tamil Nadu Pollution Control Board.

VII. The lessee should periodically renew the environmental clearance and the consent orders of the Tamil Nadu Pollution Control Board without any lapse.

VIII. If any illicit quarrying is found in the area over an extent of 2.30.0 hectares in S.F.No.270 (Part-1) of Venkatesapuram Village, Hosur Taluk (Now Shoolagiri), Krishnagiri District before the date of execution of lease deed, this lease deed is liable to be cancelled and criminal action will be initiated.

IX. If the quarry area is situated within 10 km distance from any protected areas NOC from the Standing committee of NBWL should be obtained before commencing the quarry operation.

X. If the lease holder wants to quarry more than the quantity permitted in the environmental clearance within the lease period, modified mining plan / scheme and Environment Clearance for the additional quantity should be submitted.

/True Copy/

Sd./-C.Kathiravan,
District Collector
Krishnagiri

For Collector
Krishnagiri

To
Thiru V.Sekar,
S/o.R.Ventesappa,
Door No.4/165/B,
Karukondapalli village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri District - 635 113.

S. DHANASEKAR, I.C.S. (Retd.)
Qualified Person

Copy to

1. The Sub Collector, Hosur.
2. The Tahsildar, Hosur
3. The Village Administrative Officer, Venkatesapuram village.

3768/2016 ANNEXURE III



தமிழ்நாடு தமில்நாடு TAMILNADU

S.No: 10453
Date: 05.8.16
Rs: 5000

V. Sekar
Karukondapalli

T 509290
A. Venkataswamy
S.V. Licence No: 3891/B1/20
HOSUR. (T.N)



LEASE DEED FOR QUARRYING AND CARRYING AWAY MINOR MINERALS BY PRIVATE PERSONS (APPENDIX - I)

(See Rule 8 of Tamil Nadu Minor Mineral Concession Rules 1959 and Krishnagiri District Collector's Proc. No. 81/2016 (Mines-2) dated 05.08.2016.)


THIS INDENTURE MADE THIS 24 day of August 2016 between the Governor of Tamil Nadu (hereinafter referred to as "the Lessor" which expression shall, where the context so admits include his successors in office and assigns) on the one part, and Thiru V. Sekar, S/o M. Venkatesappa, D.No. 4/165/B, Karukondapalli Village, Bairamangalam (Post), Denkanikottai Taluk, Krishnagiri District 635 113 (hereinafter called "the lessee" which expression shall where the context so admits include his heirs, executors, administrators, legal representatives and assigns) of the other part.

V. Sekar
LESSEE

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தமிழ்நாடு தமிழ்நாடு TAMILNADU



S.No. 10454
Date 05-8-16
Rs 5000


V. Sekar
Karukondopalli.

T 509291

A. Venkataswamy
S.V. Licence No: 3891/B1/20
HOSUR. (T.N)

WHEREAS the lessee has been the successful bidder in a sealed tender cum public auction conducted by the Government of Tamil Nadu (hereinafter referred as "the Government") for the lease of land in Krishnagiri district for the purpose of quarrying rough stone, jelly and sized stone and has deposited with the Collector of Krishnagiri a sum of Rs. 9,40,000/- (Rupees nine lakhs and forty thousand only) at State Bank of India, Krishnagiri on 09.08.2016 as security for the due and faithful performance by the lessee of the covenants and conditions on the part of the lessee hereinafter contained.

AND WHEREAS the lessor has agreed to grant the lessee, a lease of the lands and premises hereinafter described, as per Tamil Nadu Minor Mineral Concession Rules, 1959 (herein after called "The Rules").


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AND WHEREAS the lessee had paid to the credit of the Government a sum of Rs. 94,00,000/- (Rupees ninty four lakhs only) as one time lease amount for ten years of lease.



NOW THESE PRESENTS WITNESS AS FOLLOWS:-

1. The lessor hereby demises to the lessee all those several pieces or parcels of land situate in the village of Venkatesapuram in the Sub Registration District of Shoolagiri in the State of Tamil Nadu being more particularly described in the Schedule hereunder written and delineated in the map or plan hereunto annexed and there in coloured.

2. There are included in the said demise and for the purposes thereof the liberties following:-

(1) To get rough stone, jelly and sized stones from the said demised pieces of land.

(2) For the purpose aforesaid to use any water in or under the said demised pieces of land and to divert the same and to make or construct any water courses or ponds so, however, that nothing shall be done in the exercise of this authority which shall interfere with the rights of any adjoining owners or tenants of the lessor in respect of such water.

(3) Generally to do all things which shall be convenient or necessary for getting the rough stone, jelly etc. hereby authorised to be got and for removing and disposing thereof as aforesaid.

3. There are excepted from and reserved to the lessor out of this demise:-

(1) All earth, minerals and other substances not hereinbefore expressly authorised to be got from the demised lands by the lessee.

(2) Liberty for the lessor or other persons authorised by them to search for, work, get, carry away and dispose of the excepted minerals and other substances and for such purposes to have the right of ingress, egress and regress over the said demised pieces of land and to make, erect and use all pits, machinery, buildings, roads and other necessary works and conveniences provided that the rights hereby reserved shall be exercised in such a way as to cause as little obstruction as possible to the lessee in the use and enjoyment of his rights hereunder and that reasonable compensation for damages caused by any such obstruction shall be paid to the lessee the amount thereof and in case of difference to be settled by arbitration as hereinafter provided.


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4. The said premises shall be held by the lessee for the term of **TEN YEARS** from the 24th day of April -2016 to the 23rd day of April -2026 which shall however be determinable as hereinafter provided.

5. The lessee shall pay during the said term the area assessment the cess and seigniorage fee or dead rent which ever is greater, for the minerals removed or consumed at the rates prescribed from time to time in appendix II of the rules.

(1) The said seigniorage fee as prescribed in appendix II from time to time shall be paid before the same is removed from the demised pieces of land. The mode of payment of the same shall be indicated by the District Collector from time to time.

(2) The lessee hereby covenants that any fee, cess, rent, rates or any other sum due to the Government if not paid within the stipulated period will pay with interest as envisaged in the rules.

6. The lessee hereby covenants with the lessor as follows:-

(1) To pay the assessment, cess and seigniorage fee or dead rent which ever is greater and other amounts due to the Government, on the days and in the manner aforesaid.

(2) To bear, pay and discharge all existing and future rates, taxes, assessment, duties, impositions, outgoings and burdens whatsoever imposed or charged upon the demised premises or the produce thereof or the land assessment, the cess and the seigniorage fee or dead rent hereby reserved or upon the owner or occupier in respect thereof or payable by either in respect thereof except such charges or impositions as the lessee is or may hereby be by law exempted from.

(3) Before digging or opening any part of the said demised pieces of land for **rough stone, jelly** etc. carefully remove the surface soil and lay aside and store the same in some convenient part of the said demised piece of land until the land from which it has been removed is again restored to a state, fit for cultivation as hereinafter provided.

(4) To effectually fence off the same demised pieces of land from the adjoining lands and to keep the fences in good repairs and -condition.

(5) Not to assign, underlet or part with the possession of the demised premises or any part thereof without the written consent of the lessor first obtained.

(6) After working out any part of the said demised pieces of land forthwith to level the same and replace the surface soil thereof and slope the edges where necessary so as to afford convenient connection with the adjoining land.


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(7) That the lessee shall keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and other particulars of the mineral obtained by the lessee from the said lands and also the number of persons employed in carrying on the said quarrying operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and workings in the said lands and shall allow any officer thereunto authorized by the Government from time to time and at any time, to examine such accounts and any such plans and shall when so required supply and furnish to the Government all such information and returns regarding all or any of the matters aforesaid, the Government shall from time to time require and direct.

(8) That the lessor's agents, servants and workmen shall be at liberty at all reasonable times during the said term to inspect and examine the works carried on by the lessee under the liberties herein before granted and the lessee shall and will from time to time and at all times during the said term hereby granted confirm to and observe all orders and regulations which the lessor or his authorised agents as the result of such inspection may from time to time see fit to impose to keep the premises in good and substantial repair, order and condition or in the interest of public health and safety.

(9) That the lessee shall not without the express sanction in writing of the Collector cut down or injure any timber or trees on the said lands but he may clear away brush wood or undergrowth which interferes with any operations authorized by these presents.

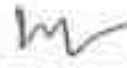
(10) That if the lands shall be used for any purpose other than quarrying for **rough stone, jelly etc.** or if they are not under or at any time cease to be used for the said purpose the lessor shall be at liberty to terminate the lease without notice.

(11) That this lease may be terminated in respect of the whole or any part of the premises by six months notice in writing on either side.

(12) That on such determination the lessee shall have no right to compensation of any kind.

(13) That the land assessment, cess and seigniorage, rents or other amounts payable under these presents, shall be recoverable under the provisions of Tamil Nadu Revenue Recovery Act 1864 (Tamil Nadu Act II of 1864) or any subsisting statutory modification thereof.


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(14) At the determination of the lease to deliver up the demised premises in such condition as shall be in accordance with the provisions of these presents save that the lessee shall, if so required by the lessor, restore in manner provided by the foregoing covenant in that behalf the surface of any part of the land which has been occupied by the lessee for the purpose of the works hereby authorized and has not been so restored.

(15) That the lessee shall abide by the conditions laid down in the payment of Wages Act 1936, the Mines Act 1952 (Central Act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884). Metalliferous Mines-Regulations, 1961, Mines and Minerals (Development and Regulation) Act, 1957 and rules made there under.

(16) The lessee shall comply with the provision of labour laws applicable to quarries and any contravention of the provisions shall attract legal proceedings of the appropriate Government.

(17) After signing this agreement and in the sketch of FMB, the lessee has no rights to question about the measurement of the area leased out, lease conditions and other related matters.


(18) On any account neither the lease period can be extended nor renewed for a further period.

(19) (a) On execution of these presents, the lessee has to take possession of the leasehold area immediately by giving proper acknowledgement.

(b) On the date of expiry of the lease period, the lessee shall hand over the leased out area to the Village Administrative Officer concerned through an affidavit, and the acknowledgement obtained from the Village Administrative Officer for having done so shall be handed over to the Taluk Tahsildar concerned under intimation to the concerned Revenue Divisional Officer and the District Collector.

(20) The lessee hereby covenants to get the lease agreement registered at his expenses under clause (d) of sub section (1) of section 17 of Registration Act 1908.

(21) The lessee shall remove, or allow removal and transportation of the mineral prescribed from the area where quarrying is permitted only after obtaining bulk transport permit and authenticated despatch slips in the forms prescribed in Appendices XII and XIII to these rules, from the Deputy Director (Geology and Mining) Krishnagiri. The lessee or his men shall issue the fascimiled despatch slips to the vehicles used for removal or transportation of the mineral furnishing all the


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particulars in the despatch slips specifically indicating the vehicle number, the quantity of the mineral allowed to be transported by the vehicle by using that despatch slip and the date and time of issue of the despatch slip to the vehicle. All the vehicles used for transporting minor mineral from the leased out area shall accompany with the individual despatch slips for the quantity of the minerals available in the vehicle at all the times of transportation of the mineral by the vehicles and produce them for check and verification by the competent authorities.

(22) Any violation of the above condition will lead to penal action under Tamil Nadu Minor Mineral Concession Rules 1959 read with Mines and Minerals (Development and Regulation) Act 1957 (hereinafter called the Act).

(23) (a) Only rough stone, jelly and sized stone must be quarried and the lessee should not quarry big granite blocks or ornamental stone of export worthy blocks to be used for cutting and polishing.

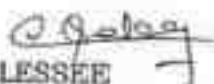
(b) If it is found that the lessee is producing granite blocks for cutting and polishing and for export, the lease granted in these presents will be cancelled, with forfeiture of security deposit to the Government and penal action will be initiated as per Mines and Minerals (Development & Regulation) Act 1957.


(24) The lessee has to form approach road at his own cost and the Government will not be responsible for dispute if any with or nearby Pattadars or other third parties.

(25) The lessee has to quarry according to the provisions of Mines and Minerals (Development and Regulation) Act 1957, Metalliferous Mines Regulations 1961 and the rules made thereunder.

26) The lessee should maintain at his cost boundary pillars, proper sign board indicating the survey number and extent, period of lease, name of the lessee and maintain the sign board during the lease period.

7. The lessor hereby covenants with the lessee that the lessee paying the land assessment, the cess and the seigniorage fee hereby reserved and observing and performing the several covenants and stipulations on the part of the lessee herein contained shall peacefully hold and enjoy the premises, liberties and powers hereby demised and granted during the said term without any interruption by the lessor or any persons rightfully claiming under or in trust for him.


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8. It is hereby further agreed between the parties as follows:-

(1) If any part of the land assessment, cess or seigniorage hereby reserved shall be unpaid for thirty days after becoming payable (whether formally demanded or not) or if the lessee which the demised premises or any part thereof remain vested in him, shall become insolvent or if any covenant on the lessee's part herein contained shall not be performed or observed, then and in any of the said cases it shall be lawful for the lessor at any time thereafter to declare the whole or any part of the said security deposit of Rs. 9,40,000/- to be forfeited and also to re-enter upon the demised premises or any part thereof in the name of the whole and thereupon the demise shall absolutely determine but without prejudice to the rights of action of the lessor in respect of any breach or non-observance of the lessee's covenants herein contained.

(2) At the determination of the lease, the lessee shall be at liberty to remove, carry away and dispose off all the stock of rough stone, jelly etc ready for delivery and all engines, machinery, and all plant, articles and things whatsoever (not being building or brick or stones), the lessee first paying any land assessment, cess and seigniorage and other sums which may be due and performing and observing the covenants on his part herein before reserved and contained and also making good any damage done by such removal but any buildings which shall be erected on the said demised pieces of lands by the lessee and left there on at the determination of lease shall be the absolute property of the lessor who shall not be bound to pay any price for the same.

(3) If the lessee shall have paid the land assessment, cess and seigniorage due to the Government and duly observed and performed the covenants and conditions on his part herein contained, the said deposit of Rs. 9,40,000/- (Rupees nine laksh fourty thousand only) shall be returned to him at the expiration of the said term of ten years.

(4) Should any question or dispute arise regarding this agreement executed in pursuance of these Rules or any other matter or thing connected therewith or the powers of the lessee thereunder the amount or payment of the seigniorage fee or area assessment made payable thereby, the matter in issue shall be decided by the Director of Geology and Mining, Chennai. In case the lessee is not satisfied with the decision of the Director of Geology and Mining, Chennai the matter shall be referred to the State Government for decision.


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9. If the lessee is in occupation of the lease-hold area after the expiry of the period for which the lease has been granted or after the determination of the lease, the lessee shall be deemed to be in unlawful possession of the said area and he shall be liable for eviction from the lease-hold area in addition to being liable to be charged at double the rate of the lease amount or bid amount as the case may be, for the period of such occupation.

10. All land assessment, cess and seigniorage payable under these presents shall be recoverable under the provisions of the Tamil Nadu Revenue Recovery Act, 1864, as if they were arrears of land revenue.

11. In the event of any breach by the lessee by any of the conditions of this agreement, it shall be lawful for the Government to levy enhanced seigniorage or for the Collector to give notice in writing to the lessee of his intention to cancel these presents whereupon the same shall stand canceled but without prejudice to any rights which the Government may have against the pattadar in respect of any antecedent claim or breach of covenant or condition.

12. The lessee shall abide by the conditions laid down in the payment of wages Act, 1936, (Central act IV of 1936), the Mines Act, 1952 (Central act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884).

13. No hindrance should be caused to, the surrounding patta fields and poramboke lands.


14. The lessee should strictly adhere to the conditions and rules stipulated by the Government for Minor Minerals from time to time and he should remit seigniorage for the Minerals removed as per the rates stipulated by Government from time to time.

15. The lessee should maintain a safety zone of 7.5 metres on the boundary of the patta lands and 10 metre from the poramboke lands in and around the lease hold area.

16. The lessee should demarcate the leasehold area at his own cost and should quarry stone only within that area.

17. The lessee should not assign, underlet or sublet any part of the lease area.

18. The lessee should obtain the permit, and the despatch slips for the transport of Rough stone/Jelly, etc from the Assistant Director/Deputy Director of Geology and Mining, Krishnagiri. The despatch slips should be kept in the quarry site and be issued to all the vehicle while transporting the stone, Jelly etc from the quarry.


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19. The lessee should leave a safety distance of 50 metres from the railway line, National Highways roads, low tension and high tension and Telephone lines, transformers, temples, or historical importance etc. 10 metre from the village road and 300 metre from the approved layout and habitations.

20. The lessee should strictly adhere to the conditions stipulated in Krishnagiri District Gazette Extra Ordinary issued No. 02 dated 29.01.2016 and rules stipulated by the Government from time to time.

21. In the event of any breach of rules or the condition of lease deed or the conditions of the lease order and the Gazette condition, the lease would become liable for automatic termination without any prior notice.

22. The lessee should adhere the terms and conditions laid down in Krishnagiri District Collector, Proceedings Roc. No. 81/2016 (Mines-2) dated 09.08.2016.

23. The lease period starts from the 24th day of August 2016 and ends on the 23rd day of August 2026.

24. For the purpose of calculation of Stamp duty one time lease amount of Rs. 94,00,000/- + Anticipated encroachment fee of Rs. 1,12,56,300/- Security Deposit of Rs. 9,40,000/- + Area Assessment Rs. 2,300/- were taken in to account.

25. The grantee should get the consent for operation from the Tamil Nadu Pollution Control Board before the commencement of quarrying operation.

26 II சிறப்பு நிபந்தனைகள்:

- i. குவாரி குத்தகை வழங்க உத்தேசிக்கப்பட்டுள்ள குவாரிக்கு அருகிலுள்ள மட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளியும், அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்வவேண்டும்.
- ii. அருகிலுள்ள கிராம சாலைகளுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளியும், இதர நெடுஞ்சாலைகளுக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளியும் விட்டு குவாரிப்பணி செய்வவேண்டும்.

III சாதாரண கற்குவாரி பணி செய்வதற்கான நிபந்தனைகள்:

- (1) குத்தகை காலம், குத்தகை ஒப்புத்தப்பத்திரம் நிறைவேற்றும் நாளிலிருந்து பத்து ஆண்டுகளாகும்.
- (2) குவாரி குத்தகை வழங்கப்பட்ட இடத்தில் குவாரி செய்யும் வேலிக்கல்/ குண்டுக்கல்/ கட்டுக்கல்/ சக்கை மற்றும் லும்பி ஆகியவற்றை மேற்படி இடத்திலிருந்து வெளியில் எடுத்துச் செல்வதற்கு முன்பு அவை ஒவ்வொன்றிற்கும் அவற்றிற்குரிய வீதத்தில் சீரியலிஜ் தீர்வை செலுத்தி கிரவுண்டிங், பாய்ட் மற்றும் நடைச்சீட்டு பெற்ற பின்புதான் மேற்படி களங்களை குவாரியிலிருந்து வெளியில் எடுத்துச் செல்ல வேண்டும். 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகனிவ சலுகை விதிகள், இலாபம் II-ல் அடங்கியோடு அரசால் நிர்ணயிக்கப்படும் வீதத்தில் பாய் தீர்வை செலுத்த வேண்டும். மேற்கண்ட நொக்கையத் தவிர அரசால்


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- அய்வப்பொது நிர்ணயிக்கப்படும் இது தொகைகளையும் குத்தகைதாரர் செலுத்த வேண்டும்.
- (3) குத்தகை இடத்திற்கு அருகிலுள்ள குடியிருப்பவன், கட்டடங்கள், நீர்நிலைகள், குளங்கள், கட்டடங்கள், பரங்கள், சாலைகள், வண்டிப்பாதைகள், நடைபாதைகள் மற்றும் இது பொதுச் சொத்துக்களுக்கு பாதுகாப்பில்லாமல் குவாரி செய்ய வேண்டும்.
- (4) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகாமையில் உள்ள மட்டாநாராகர் மற்றும் பொது மக்களுக்கு பாதுகாப்பில்லாமல் குவாரி செய்ய வேண்டும்.
- (5) அ) குத்தகை வழங்கப்பட்ட இடத்திற்கு அருகிலுள்ள ரயில்பாதைகள், சாலைகள், மின்சாரம் மற்றும் தொலைபேசி கம்பிகளுக்கு 50 மீட்டரும், குடியிருப்பு பகுதியிலிருந்து 300 மீட்டரும், நடைபாதைகள், கிராம சாலைகளுக்கு 10 மீட்டரும் பாதுகாப்பு இடைவெளி விட்டு குவாரி செய்ய வேண்டும்.
- ஆ) அருகிலுள்ள அரசு நிலங்களுக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
- இ) அருகிலுள்ள மட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணி செய்ய வேண்டும்.
- (6) மாவட்ட ஆட்சித்தலைவர் (அல்லது அரசால் அதிகாரம் வழங்கப்பட்ட அலுவலரை குத்தகை வழங்கப்பட்ட இடத்தைப் பார்க்கவிரும்பும், குவாரி பதிவேடுகள், ஆவணங்கள் மற்றும் கணக்காக சரிபார்க்கவும் அனுமதிக்க வேண்டும். இது சம்பந்தமாக அவர்கள் கோரும் அனைத்து விவரங்களையும் வழங்க வேண்டும்.
- (7) சுற்றுப்புற சூழ்நிலை பாதுகாப்பு, கனிய பாதுகாப்பு, தொழிலாளர் பாதுகாப்பு முதலியவற்றைக் கருத்தில் கொண்டு விந்ஞான அடிப்படையில் திறமையுடன் முறையாகக் குவாரி செய்ய வேண்டும்.
- (8) மாவட்ட ஆட்சித்தலைவர் மற்றும் ஆணையர், ஸ்டிபென்ட்ஸ் மற்றும் சுயங்கந்தாநா ஆகியோரால் அதிகாரம் வழங்கப்பட்ட அலுவலரை மேலே பத்தி (5)-ல் குறிப்பிட்டுள்ள நிபந்தனைகள் தொடர்பாகவும், மேற்கண்ட அலுவலர்களின் ஆணையை நிறைவேற்றவும் குத்தகை வழங்கப்பட்ட இடத்தைப் பார்க்கவிரும்பும் அனுமதிக்க வேண்டும்.
- (9) குத்தகைதாரரின் செலவின் குத்தகை ஒப்பந்தப்பத்திரம் நிறைவேற்றி அதனை பதிவு செய்வதற்கு முன்பு குத்தகை இடத்தில் குவாரி மற்றும் இது சம்பந்தப்பட்ட வேலைகளைத் தொடங்கக்கூடாது.
- (10) குத்தகை வழங்கப்பட்டுள்ள இடத்திற்குள் எல்லையிலிருந்து 7.5 மீட்டர் தூரத்திற்குள் குவாரி செய்யக் கூடாது.
- (11) பொது சாலைகளிலிருந்து குத்தகை வழங்கப்பட்ட இடத்திற்குச் செல்ல பாதை வசதி குத்தகைதாரர் சொந்த பொறுப்பில் செய்து கொள்ள வேண்டும்.
- (12) குத்தகை ஒப்பந்தப்பத்திரத்துடன் இணைந்துள்ள வரையடத்தில் கட்டியுள்ள குத்தகை இடத்தைச் சுற்றிலும் எல்லைக்கற்கள் நட்டு அவற்றைச் சரியானபடி பராமரிக்க வேண்டும்.
- (13) 1959 ஆம் வருடத்திய தமிழ்நாடு சிறுகளியச் சலுகை விதிகள் இணைப்பு XII மற்றும் XII-ல் உள்ள படிவங்களில் முறையாக இசைவாணைச்சீட்டு மற்றும் நடைச்சீட்டினைத் தயார் செய்து அவற்றில் மாவட்ட ஆட்சித்தலைவரால் அதிகாரம் வழங்கப்பட்ட அலுவலரின் கையொப்ப முத்திரை மற்றும் அலுவலக முத்திரைகள் பெற்று குவாரியிலிருந்து குண்டுக்கல், கட்டுக்கல், சக்கைகள் மற்றும் ஜவளி ஆகியவற்றை வெளியில் எடுத்துச் செல்லும் ஒவ்வொரு வாகனத்திற்கும் ஒவ்வொரு நடைக்கும் வழங்கப்படவேண்டும். குண்டுக்கல், கட்டுக்கல், சக்கைகள், ஜவளி ஆகியவற்றை ஏற்றிச் செல்லும் ஒவ்வொரு வாகனமும் அதனைச் சேதமடைச் செய்வதற்கு அதிகாரம் பெற்ற அலுவலர் சேதமடைச் செய்யப்போது நடைச்சீட்டினைக் காண்பிக்க வேண்டும். இசைவாணைச்சீட்டு மற்றும் நடைச்சீட்டின் நகல்களை குவாரியில் வைத்திருக்க வேண்டும். முறையாக இசைவாணைச்சீட்டு மற்றும் நடைச்சீட்டுகள் இல்லாமல் கனியங்களை ஏற்றிச் செல்லும் வாகனங்கள் 1959-ம் வருடத்திய தமிழ்நாடு சிறுகளியச் சலுகை விதிகள் மற்றும் சுயங்கந்தாநா மற்றும் கனியங்கள் ஒழுங்குமுறை மற்றும் அபிவிருத்தி சட்டம், 1957-ம் ஆண்டு கையாற்றப்பட்டு, குத்தகைதாரர் மீது நடவடிக்கை எடுக்கப்படுவதுடன் குவாரிக் குத்தகையையும் காத்து செய்ய நடவடிக்கை எடுக்கப்படும்.


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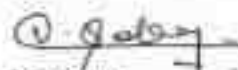
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- (14) குத்தகை வழங்கப்பட்ட இடத்தை குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஐய்லி குவாரி செய்ய மட்டும் பயன்படுத்த வேண்டும் குத்தகை உரிய ஆணை அல்லது குத்தகை ஒப்பந்தப்பத்திரத்தில் தவறுதலாக கனிய விவரம் குறிக்கப்பட்டு இருந்தால் அதனை எந்த நேரத்திலும் திருத்தவதற்கு மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு குத்தகைதாரர் அனுபவப்படையில் எந்த உரிமையும் கோரமுடியாது.
- (15) பெருகேற்றுமவதற்கும், அயல் நாட்டிற்கு ஏற்றுமதி செய்வதற்கும் பயன்படும் செயல் கத்துண்டங்கள் வழங்கத்தில் சுற்குவாரி செய்வக் கூடாது.
- (16) குத்தகை ஒப்பந்தப்பத்திரத்தில் குறிக்கப்படாத வேறு ஏதாவதொரு கனியம் கிடைத்தால், அதனை சம்பந்தப்பட்ட அனுபவரின் அனுமதியைப் பெறாமலும், அதற்குரிய சீனியரிஜ் தொகையைச் செலுத்தாமலும் எடுக்கக்கூடாது. பூதிய கனியம் கிடைத்த விவரத்தை 30 தினங்களுக்குள் தெரிவிக்காமல் எடுத்துச் சென்றால் இக்குற்றத்திற்கு அந்த கனியத்திற்குரிய சாதாரண சீனியரிஜ் கட்டணத்தொகையால் 15 மடங்குவரை மாவட்ட ஆட்சித்தலைவரால் அபராதம் விதித்து வசூலிக்கப்படும்.
- (17) குத்தகை காலம் முடிந்தபிறகு, குத்தகை வழங்கப்பட்ட இடத்திலிருந்து குண்டுக்கல், கட்டுக்கல், சக்கை மற்றும் ஐய்லியை குவாரி செய்து வெளியில் எடுத்துச் செயல் குத்தகைதாரருக்கு உரிமையின்மை.
- (18) குத்தகை காலம் முடிவடைந்த பிறகு குத்தகை இடத்தில் எஞ்சினர், மெஷின் போன்ற எந்தவிதமான தளவாட பொருட்களையும் வைத்திருக்கக்கூடாது. அப்படி குத்தகை காலத்தில் கடைசி நாளன்று குத்தகைதாரர் எடுத்துச் சென்றாகி வேண்டும்.
- (19) குத்தகையை வேறு எவருக்கும் உள் குத்தகைக்கு விடக்கூடாது.
- (20) குவாரி செய்வதில் இழப்பு ஏற்படின் நஷ்டாடு கேட்கக்கூடாது.
- (21) குவாரியில் வேலை செய்வதும் தொழிலாளர்கள் மற்றும் இதர நபர்களுக்கு விபத்து ஏதாவது ஏற்படின் அதற்கு முழுப் பொறுப்பினையும் குத்தகைதாரனரேயும் இவர்க்கு அரசு பொறுப்பில்லை.
- (22) அரசுக்கு செலுத்த வேண்டிய தொகையை உரிய காலத்திற்குள் செலுத்தவில்லைய என்றால் அத்தொகை 24 % அல்லது அரசால் அவ்வப்போது நிர்ணயிக்கப்படும் வீதத்தில் வட்டியுடன் குத்தகைதாரரிடமிருந்து வசூலிக்கப்படும்.
- (23) அரசுக்கு செலுத்த வேண்டிய பாக்கித் தொகை தமிழ்நாடு வருவாய் வகுப் சட்டம் 1884-ன் கீழ் வசூலிக்கப்படும்.
- (24) குத்தகை நிபந்தனைகள், 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிய சலுகை விதிகள், அரசு ஆணையர், பூதியியல் மற்றும் கனிகத்துறை, மாவட்ட ஆட்சித்தலைவர் ஆகியோரது ஆணைகள் கீழ்ப்படிந்து அபராதம் விதிப்பதோடு அல்லாமல் குத்தகைதாரருக்கு நேர்புக விளரணைக்கு வாய்ப்பளித்த பின்பு குத்தகை உரிமை எந்து செயல் நடவடிக்கை எடுக்கப்படும்.
- (25) அரசின் அவ்வப்போதைய ஆணைகளுக்கேற்ப நிபந்தனைகளை மாற்றி அனுமதிக்கவோ, நீக்கவோ, கூடுதலாக கோக்கவோ, மாவட்ட ஆட்சித்தலைவருக்கு முழு அதிகாரம் உண்டு.
- (26) பெற்குறிய நிபந்தனைகளுடன் 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிய சலுகை விதிகள், கார்வங்கல் மற்றும் கனியங்கள் (ஒழுங்குமுறை மற்றும் அபிவிருத்தி) சட்டம் 1957, மாவட்ட ஆட்சித்தலைவர் ஆகியோரால் அவ்வப்போது பிரஸீகிக்கப்படும் ஆணைகள் குத்தகைதாரனரக் கட்டுப்படுத்தும்.
- (27) குவாரிகள்/கார்வங்கல்களுக்கு பொருத்தக்கூடிய தொழிலாளர் சட்டங்களுக்கு கட்டுப்பட்டு குத்தகைதாரர் குவாரி செய்யவேண்டும். தவறியால் சம்பந்தப்பட்ட அரசின் சட்டப்படிவமான நடவடிக்கைகளுக்கு குத்தகைதாரர் உள்ளாக வேண்டி இருக்கும்.
- (28) இந்திய வெடிமருந்து சட்டம் 1884 (Central Act IV of 1884)-ன்படி உரிய வெடிமருந்து உரிமை பெற்று குத்தகைதாரர் பாறைகளை வெடிவைத்து உடைக்க வேண்டும். தவறும் பட்சத்தில் குத்தகைதாரர் கடும தண்டனைக்கு உள்ளாக வேண்டியிருக்கும்.
- (29) குத்தகைதாரர் குவாரியில் குழந்தை தொழிலாளர்களை பணியமர்த்தக்கூடாது.


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III) a) The conditions imposed by the Tamil Nadu Pollution Control Board in the consent to establishment in Air and Water Pollution Act should be strictly adhered and the consent should be renewed periodically.

b) The Environment Clearance issued by the SEIAA, Tamil Nadu should be renewed within the prescribed time limit.

IV) Conditions imposed by the SEIAA.

1. i) The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 years from the date of issue whichever is earlier.

ii) The approved quantity of rough stone to be quarried = 125072 cbm

iii) Depth of mining permitted = 42 mts

2. A. Conditions to be complied before the commencing of mining operation

(1). The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that

(i). The project has been accorded Environmental Clearance.

(ii). Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.

(iii). Environmental Clearance may also be seen on the website of the SEIAA.

(iv). The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.

(2). The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.

(3). NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.

(4). The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules: 1959.

(5). A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.


LESSEE


DISTRICT COLLECTOR

- (6). Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
- (7). The proponent shall ensure that First Aid Box is available at site.
- (8). The excavation activity shall not alter the natural drainage pattern of the area.
- (9). The excavated pit shall be restored by the project proponent for useful purposes.
- (10). The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
- (11). The quarrying operation shall be restricted between 7AM and 5 PM.
- (12). The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
- (13). A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
- (14). Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.
- (15). The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
- (16). Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
- (17). Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
- (18). The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.
- (19). Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
- (20). A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.


LESSEE

(21). The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, Gol on 16.11.2009.

(22). The following measures are to be implemented to reduce Air Pollution during transportation of mineral

- (i). Roads shall be graded to mitigate the dust emission.
- (ii). Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.

(23). The following measures are to be implemented to reduce Noise Pollution

- (i). Proper and regular maintenance of vehicles and other equipment.
- (ii). Limiting time exposure of workers to excessive noise.
- (iii). The workers employed shall be provided with protection equipment and earmuffs etc.
- (iv). Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

(24). Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, Gol to control noise to the prescribed levels.

(25). Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.

(26). Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.

(27). Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.

(28). The following measures are to be adopted to control erosion of dumps:-

- (i). Retention/ toe walls shall be provided at the foot of the dumps.
- (ii). Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.



LESSEE


DISTRICT COLLECTOR

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25



(29). Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.

(30). Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

(31). Rain water harvesting to collect and utilize the entire water falling in land area should be provided.

(32). Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.

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(34). No tree-felling shall be done in the leased area, except only with the permission from competent Authority.

(35). To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.

(36). It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.

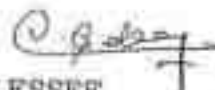
(37). It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site.

(38). Ground water quality monitoring should be conducted once in 3 Months.

A. V. S. S. S.
DISTRICT COLLECTOR



- (39). Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
- (40). Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
- (41). Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
- (42). Bunds to be provided at the boundary of the project site.
- (43). The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
- (44). At least 10 Neem trees should be planted around the boundary of the quarry site.
- (45). Floor of excavated pit to be leveled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
- (46). The Project Proponent shall ensure a minimum of 2.5 of the annual turnover will be utilized for the CSR Activity
- (47). The Project Proponent shall provide solar lighting system to the nearby villages
- (48). The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
- (49). Rainwater shall be pumped out Via Settling Tank only
- (50). Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
- (51). As per MoEF & CC, Gol, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.
- (52). The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
- (53) Safety equipments to be provided to all the employees.


LESSEE


DISTRICT COLLECTOR

(54) Safety distance of 50 m has to be provided in case of railway, reservoir, canal/odai.

(55) The Assistant / Deputy Director Department of Geology and Mining shall ensure that the proponent has engaged the blaster with valid Blasting license certificate obtained from the competent authority before execution of mining lease.

(56) The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.

(57) The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.

(58) The proponent shall furnish the data obtained from the Public Works Department regarding the details of ground water table in the quarry site.

(59) The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh case before execution of mining lease.

(60) The proponent has to display the name board at the quarry site showing the details of proponent, leased period, extent etc., with respect to the existing activity before execution of mining.

(61) Heavy earth machinery equipments if utilized, after getting approval from the competent authority.

(62) The proponent has to study the Geo Environmental Assessment for the cluster of rough stone quarries jointly as a comprehensive report within 60 days from the date of presentation.

B. General Conditions:

(1) EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.

(2) The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.

(3) No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.


(4) No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.


LESSEE


DISTRICT COLLECTOR

19/04

- (5) Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- (6) Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
- (7) A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
- (8) Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- (9) Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying them mineral shall not be overloaded.
- (10) Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
- (11) All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- (12) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- (13) Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
- (14) The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.


LESSEE


DISTRICT COLLECTOR

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[15] The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its regional office located at Chennai.

[16] The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

[17] This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance

[18] The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.

[19] The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA.TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.

[20] Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

[21] The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

[22] Any other conditions stipulated by other Statutory/ Government authorities shall be complied.

V. The lessee should strictly adhere all the conditions imposed in the environmental clearance issued by The SEIAA Tamil Nadu and consent order of the Tamil Nadu Pollution Control Board,


LESSEE


DISTRICT COLLECTOR 21/2A

VI. The lessee should periodically renew the environmental clearance and the consent orders of the Tamil Nadu Pollution Control Board without any lapse.

VII. If any illicit quarrying is found in the area over an extent of 2.30.0 hectares in S.F.No. 270 (part-1) of Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District before the date of execution of lease deed, this lease deed is liable to be cancelled and criminal action will be initiated.

VIII. If the quarry area is situated within 10 km distance from any protected areas NOC from the Standing committee of NBWL should be obtained before commencing the quarry operation.

IX. If the lease holder wants to quarry more than the quantity permitted in the environmental clearance within the lease period, modified mining plan / scheme and Environment Clearance for the additional quantity should be submitted.

THE SCHEDULE

TALUK : SHOOLAGIRI
VILLAGE : VENKATESAPURAM

Sl. No.	Survey number	Field	Extent Leased out in Hectares	Boundary			
				North S.F. No.	East S.F. No.	South S.F. No.	West S.F. No.
1.	270 (Part-1)		2.30.0	269 (Part)	270 (part-2)	270 (part)	229/1, 231/10 (part)

P. G. Ganesan
LESSEE

[Signature]
DISTRICT COLLECTOR

22/2/11



In Witness whereof **Thiru C. Kathiravan I.A.S** the Collector of Krishnagiri District acting for and on behalf of and by the order and direction of the Governor of TamilNadu, "The Lessor" and Thiru V. Sekar, S/o. M. Venkatesappa, D.No. 4/165/B, Karukondapalli Village, Bairamangalam (Post), Denkanikottai Taluk, Krishnagiri District 635 113 "The lessee" hereunto set their respective hands.

V. Sekar
LESSEE



[Signature]
DISTRICT COLLECTOR 23/24

Signed by the above named in the presence of the following witnesses

Signed by the above named in the presence of the following witnesses.

① V. MURALI MOHAN
S/o M. VAIKUNTAPPA
BUKASAMPARAM(VU P)
HOSUR(T.R)
KRISHNAGIRI (D.T)

[Signature]
(L.SURESH)
DEPUTY DIRECTOR
Department of geology and Mining
Collectorate, Krishnagiri.

② *Ilahi*
M. Ganesh
40 K. Mahadevan
4/1 Karukondapalli
Bairamangalam(Po)
Krishnagiri (D.T)

[Signature]
(S. RAJAKUMARAN)
ASSISTANT GEOLOGIST
Ofc. the Dept. of Geology and Mining,
Collectorate, Krishnagiri.

சா.பி. சீரமைப்பு கி.பி. 1927-28-க்குள்

வட்டம். சேலம்

1460 ஏக்கர், 270

சீரமைப்பு கி.பி. 1927-28-க்குள்

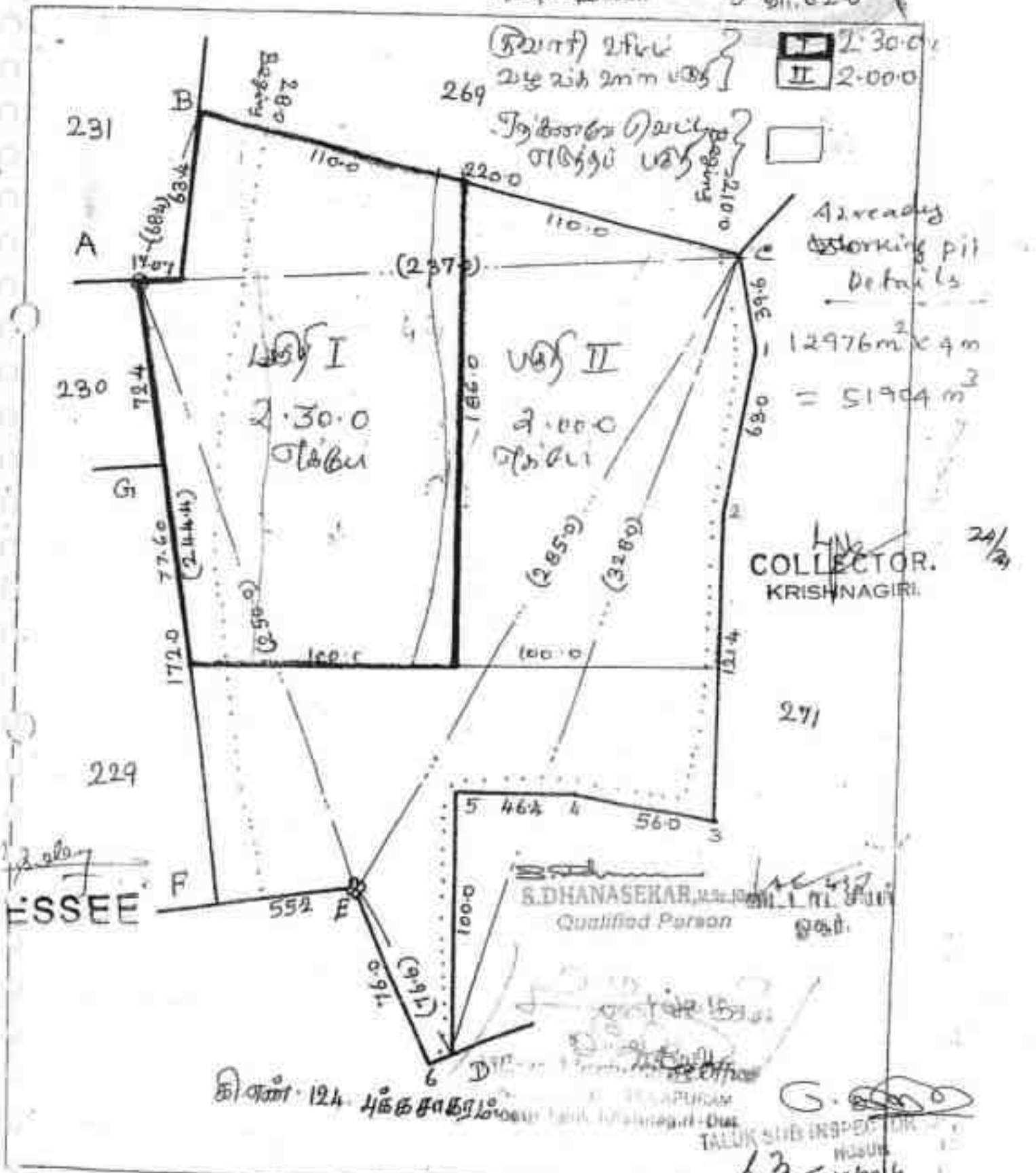
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COLLECTOR. KRISHNAGIRI 24/3

S. DHANASEKAR, M.S. J. O. S. S. Qualified Person

கி.எண். 124. 486 சரகரம்

TALUK SURVEY OFFICE

சுவாமிநாதன் c. ching - 115

அளவு. 115.15: 2000 கி.மீ.

Sub-Inspector of Surveyor DEPUTY DIRECTOR OFFICE



Dr. S. KALYANASUNDARAM ,I.F.S.(Retd.)
CHAIRMAN

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY - TAMIL NADU
3rd Floor, Panagal Maaigal,
No.1, Jeemis Road, Saidapet,
Chennai-15.
Phone No.044-24359974
Fax No. 044-24359975



ENVIRONMENTAL CLEARANCE

Lr. No.SEIAA-TN/F.No.5355/1(a)/ EC.No:3269/2016 dated:09.07.2016

To
Thiru. V.Sekar
Door No.4/165/B,
Karukondapalli Village
Bayaramangalam Post
Denkanikottai Taluk
Krishnagiri District - 635113



Sir,

- Sub:** SEIAA-TN – Proposed Rough Stone quarry located at S.F.No 270 (Part-1) (Government Poramboke Land), Venkatesapuram Village, Hosur Taluk, Krishnagiri District- Issue of Environmental Clearance – EC.
- Ref:** 1. Your Application for Environmental clearance dt: 06.06.2016
2. Minutes of the 77th SEAC held on 08.06.2016
3. Minutes of the SEIAA meeting held on 09.07.2016



Details of Minor Mineral Activity:-

This has reference to your application first cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

1	Name of Project Proponent and address	Thiru. V. Sekar Door No.4/165/B, Karukondapalli Village Bayaramangalam Post Denkanikottai Taluk Krishnagiri District - 635113
2	Location of the Proposed Activity	
	Survey Number	270 (Part-1) (Government Poramboke Land)
	Latitude and Longitude	12°44'04.73"N to 12°43'57.8"N 77°56'12.53"E to 77°56'08.21"E
	Village	Venkatesapuram

[Signature]
CHAIRMAN
SEIAA-TN

	Taluk	Tlosur
	District	Krishnagiri
3	Proposed Activity	
	i. Minor mineral	Rough Stone
	ii. Mining Lease Area	2.30.0 Ha
	iii. Approved quantity	125072 cu.m of Roughstone
	iv. Depth of Mining	42 m
	v. Type of mining	Openacast Semi Mechanised Mining
	vi. Category(B1/B2)	B2
	vii. Precise area communication	Na.Ka.No.B1/2016/Kanimam dated:29.02.2016
	viii. Mining plan approval	Deputy Director Rc.81/2016/Mines-1 dated:25.04.2016
	ix. Mining lease period	5 Years
4	Whether Project area attracts any General conditions specified in the EIA notification, 2006 as amended:-	Not attracted. Affidavit furnished
5	Man Power requirement per day:	18 Employees
6	Utilities	
	i. Source of Water :	Water suppliers/Borewell
	ii. Quantity of Water Requirement in KLD:	
	a. Domestic	0.75KLD
	b. Industrial	} 1.75KLD
	c. Green Belt & Dust Suppression	
	iii. Power Requirement:	
	a. Domestic Purpose	TNEB
	b. Industrial Purpose	
7	Cost	
	i. Project Cost	Rs.116.97 Lakhs
	ii. EMP Cost	Rs.3.70 Lakhs
8	Public Consultation:-	Not required as per O.M. dated 24.12.2013 of MoEF, Gov.
9	Date of Appraisal by SEAC:- Agenda No:	08.06.2016 77-58
10	Date of Review/Discussion by SEIAA and the Remarks:-	The proposal was placed before the SEIAA in its 178 th Meeting held on 09.07.2016 and the Authority after careful consideration, decided to grant environmental clearance to the said project Mining of Rough Stone to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.
11	Validity:	The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 Years from the date of issue whichever is earlier.

Chairman
CHAIRMAN
SEIAA-TN

Conditions to be Complied before commencing mining operations:-

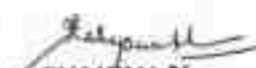
1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
 - I. The project has been accorded Environmental Clearance.
 - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
 - III. Environmental Clearance may also be seen on the website of the SEIAA.
 - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
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11. The quarrying operation shall be restricted between 7AM and 5 PM.
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13. A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
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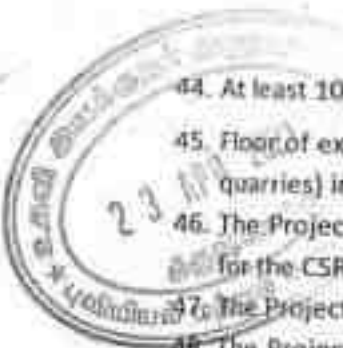

CHAIRMAN
SEIAA-TN


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 - Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
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 - The workers employed shall be provided with protection equipment and earmuffs etc.
 - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
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CHAIRMAN
SEIAA-TN

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35. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
36. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.
37. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site
38. Ground water quality monitoring should be conducted once in 3 Months
39. Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
40. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
41. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
42. Bunds to be provided at the boundary of the project site.
43. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.


CHAIRMAN
SEIAA-TN

- 
44. At least 10 Neem trees should be planted around the boundary of the quarry site.
 45. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
 46. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
 47. The Project Proponent shall provide solar lighting system to the nearby villages
 48. The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
 49. Rainwater shall be pumped out Via Settling Tank only
 50. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
 51. As per MoEF&CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from standing committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.
 52. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
 53. Safety equipments to be provided to all the employees.
 54. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
 55. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
 56. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
 57. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
 58. The Proponent shall furnish the data obtained from the Public Works Department regarding the details of Ground Water table in the quarry site.
 59. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
 60. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
 61. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
 62. The PP has to study the Geo Environmental Assessment for the cluster of rough stone quarries jointly as a comprehensive report within 60 days from the date of presentation.


CHAIRMAN
SEIAA-TN



General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent for Establishment from the TNPCB, Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.


CHAIRMAN
SEIAA-TN



16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance

18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.


19. The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.

20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

22. Any other conditions stipulated by other Statutory/Government authorities shall be complied

23. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


CHAIRMAN
SEIAA-TN

Copy to:

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary, Environment and Forests Department, Government of Tamil Nadu, Tamil Nadu.
3. The Additional Chief Secretary, Industries Department, Government of Tamil Nadu, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-32
7. The District Collector, Krishnagiri District
8. The Commissioner of Geology and Mines, Guindy, Chennai-32
9. E1 Division, Ministry of Environment & Forests, Parivaran Bhawan, New Delhi.
10. Spare.


S. DHANASEKAR, M.Sc. (Geo)
Qualified Person



TAMILNADU POLLUTION CONTROL BOARD

ANNEXURE-IV



CONSENT ORDER NO. 1908128112645 DATED: 12/11/2019.

PROCEEDINGS NO.F.2298HSR/RS/DEE/TNPCB/HSR/W/2019 DATED: 12/11/2019

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. V SEKAR ROUGH STONE QUARRY , S.F.No. 270 (Part-I), VENKATESAPURAM village, Shoolagiri Taluk and Krishnagiri District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

- REF:** 1. CTO's Proc.No. F.0949 HSR/RS/DEE / TNPCB / HSR / W&A / 2016, Dated: 21.09.2016.
 2. Uni's OCMMS application No.28112645 for RCO, Dated: 09.09.2019,
 3. IR.No: F.2298 HSR/RS/AE/HSR/2019, Dated: 05.11.2019.

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietor
M/s. V SEKAR ROUGH STONE QUARRY,
S.F.No. 270 (Part-I),
VENKATESAPURAM Village,
Shoolagiri Taluk,
Krishnagiri District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2021

S. Palanisamy
Digitally signed by S. Palanisamy
Date: 2019.11.13 08:29:08 +05'30'
District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR



TAMILNADU POLLUTION CONTROL BOARD
SPECIAL CONDITIONS

This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Rough Stone (Quarrying in an extent of 2.30 Hect at S.F.No.270 (Part 1)(Government Poramboke Land),Venkatespuram Village,Hosur Taluk,Krishnagiri District lying in Latitude.12°44'04.73"N to 12°43'57.8"N,Longitude 77°56'12.53"E to 77°56'08.21"E)	125072	m ³ / 5 Years

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	0.5	On Industrys own land
Effluent Type : Trade Effluent:			



TAMILNADU POLLUTION CONTROL BOARD



Additional Conditions:

1. The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the DEIAA, Krishnagiri District vide Letter No. SEIAA -TN / F.No.5355 / 1(a) / EC.No.3269 / 2016, Dated: 09.07.2016.
2. The unit shall comply all the conditions imposed in the Mining Lease Agreement executed with the District Administration vide Proc. No. 81/2016(Mine-2), Dated: 09.08.2016.
3. The unit shall treat and dispose the sewage generated from the unit through Septic tank and Soak Pit arrangement as reported.
4. The unit shall ensure that no trade effluent is generated at any stage of its manufacturing process.
5. The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
6. The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
7. The consent issued is subject to the final outcome of National Green Tribunal (South-Zone) in application No. 165/2013.
8. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

S. Palanisamy

Digitally signed by S. Palanisamy
Date: 2018.11.13 09:25:49
+05'30'

**District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR**

To
The Proprietor,
M/s.V SEKAR ROUGH STONE QUARRY,
No.270(Part 1), (Government Poramboke Land), Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District.,
Pin: 635109.

Copy to:

1. The Commissioner, SHOOLAGIRI-Panchayat Union, Shoolagiri Taluk, Krishnagiri District.
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

POLLUTION PREVENTION PAYS



TAMILNADU POLLUTION CONTROL BOARD



Category of the Industry :

RED

CONSENT ORDER NO. 1908228112645 DATED: 12/11/2019.

PROCEEDINGS NO.F.2298HSR/RS/DEE/TNPCB/HSR/A/2019 DATED: 12/11/2019

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT -M/s. V SEKAR ROUGH STONE QUARRY , S.F.No. 270 (Part-I), VENKATESAPURAM village, Shoologiri Taluk and Krishnagiri District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) -Issued- Reg.

- REF:**
1. CTO's Proc.No. F. 0949 HSR/RS/DEE / TNPCB / HSR / W&A / 2016. Dated: 21.09.2016.
 2. Unit's OCMMS application No.28112645 for RCO, Dated: 09.09.2019.
 3. IR.No: F.2298 HSR/RS/AE/HSR/2019, Dated: 05.11.2019.

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietor
M/s V SEKAR ROUGH STONE QUARRY,
S.F.No. 270 (Part-I),
VENKATESAPURAM village,
Shoologiri Taluk,
Krishnagiri District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2021

S. Palanisamy

Digitally signed by S. Palanisamy
Date: 2019.11.13
09:27:30 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

POLLUTION PREVENTION PAYS



TAMILNADU POLLUTION CONTROL BOARD

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Rough Stone (Quarrying in an extent of 2.30 Hect at S.F.No.270 (Part 1)(Government Poramboke Land), Venkatespuram Village, Hosur Taluk, Krishnagiri District lying in Latitude 12°44'04.73"N to 12°43'57.8"N, Longitude 77°56'12.53"E to 77°56'08.21"E)	125072	m ³ / 5 Years

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	Vehicle Movement	Fugitive	Water sprinkler system	
2.	Mining Area	Fugitive	Water sprinkler system	



TAMILNADU POLLUTION CONTROL BOARD



Additional Conditions:

1. The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the DEIAA, Krishnagiri District vide Letter No. SEIAA -TN / F.No.5355 / 1(a) / EC.No.3269 / 2016, Dated: 09.07.2016.
2. The unit shall comply all the conditions imposed in the Mining Lease Agreement executed with the District Administration vide Proc. No. 81/2016(Mine-2), Dated: 09.08.2016.
3. The unit shall operate and maintain the APC measures in the form of portable water sprinklers effectively and continuously so as to satisfy the NAAQ / Emission standards prescribed by the Board.
4. The unit shall adhere to the ANL standards as prescribed by the Board.
5. The unit shall continue to develop more green belt with trees having thick canopy cover in the unit's premises.
6. The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
7. The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
8. The consent issued is subject to the final outcome of National Green Tribunal (South Zone) in application No. 165/2013.
9. The unit shall not use 'Use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc, plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastics flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.
10. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

S. Palanisamy Digitally signed by S. Palanisamy Date: 2019.11.13 08:28:11 +0530

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

To
The Proprietor,
M/s V SEKAR ROUGH STONE QUARRY,
No.270(Part 1), (Government Poramboke Land), Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District,
Pin: 635109

Copy to:

1. The Commissioner, SHOOLAGIRI-Panchayat Union, Shoolagiri Taluk, Krishnagiri District.
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEB-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File


S. DHANASEKAR, H.S. (Gen)
Qualified Person

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

To
Thiru V.Sekar,
S/o.R.Ventesappa,
Door No.4/165/B,
Karukondapalli village,
Bayaramangalam Post,
Denkanikottai Taluk,
Krishnagiri District - 635 113.

ANNEXURE - V



Roc.81/2016/Mines-1

dated 25.04.2016.

Sir,

Sub: Mines and Minerals - Krishnagiri District - Hosur Taluk
- Venkatesapuram village - Government Land in
S.F.No.270 (Part-1) - Over an extent of 2.30.0 Hectares
- Precise area given for the proposed grant of Quarry
lease for Rough Stone for a period of 10 years from the
date of execution of lease deed to Thiru V.Sekar,
S/o.Venkatesappa - 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.81/2016/Mines-1 dated 29.02.2016.
 3. Thiru V.Sekar, S/o.R.Ventesappa, Door
No.4/165/B, Karukondapalli village,
Bayaramangalam Post, Denkanikottai Taluk,
Krishnagiri District - 635 113 letter dated
22.04.2016

-o0o-

Thiru V.Sekar, S/o.R.Ventesappa, Door No.4/165/B, Karukondapalli
village, Bayaramangalam Post, Denkanikottai Taluk, Krishnagiri District - 635 113
had been given precise area over an extent of 2.30.0 hectares in Government
Poramboke land in S.F.No.270 (Part-1) of Venkatesapuram Village, Hosur Taluk,
Krishnagiri District for a period of 10 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 Tamilnadu vide reference 2nd cited.

2. In the reference 3rd cited Thiru V.Sekar has submitted draft Mining Plan
for approval for the proposed rough stone quarry lease over an extent of 2.30.0
hectares in Government Poramboke land in S.F.No.270 (Part-1) of Venkatesapuram
Village, Hosur Taluk, Krishnagiri District for a period 10 years from the date of
execution of lease deed.

3. The Mining Plan submitted by Thiru V.Sekar 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.



That the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws 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.81/2016/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 Sathish	Venkatesapuram	269 (Part-A)	4.00.0	Re.No.74/12 Mines dated 21.05.2012	16.06.14 to 15.06.2019
2.	Thiru V.Nagabushnam	Venkatesapuram	269 (Part-B)	3.25.0	--	Precise area given
3.	M/s.Munichandrappe & Co.,	Venkatesapuram	269 (Part-C)	3.50.0	--	Precise area given
4.	Thiru C.Paramesh	Venkatesapuram	269 (Part-D)	3.00.0	--	Precise area given
5.	Thiru V.Rangappa	Venkatesapuram	270 (Part-2)	2.00.0	--	Precise area given
6.	Thiru V.Sekar	Venkatesapuram	270 (Part-1)	2.30.0	--	Precise area given (Instant proposal)
Total				18.05.0		

Deputy Director,
Geology and Mining,
Krishnagiri

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

S.DHANASEKAR, M.Sc. (Env)
Qualified Person

ANNEXURE - VI

செ. சேதுர்

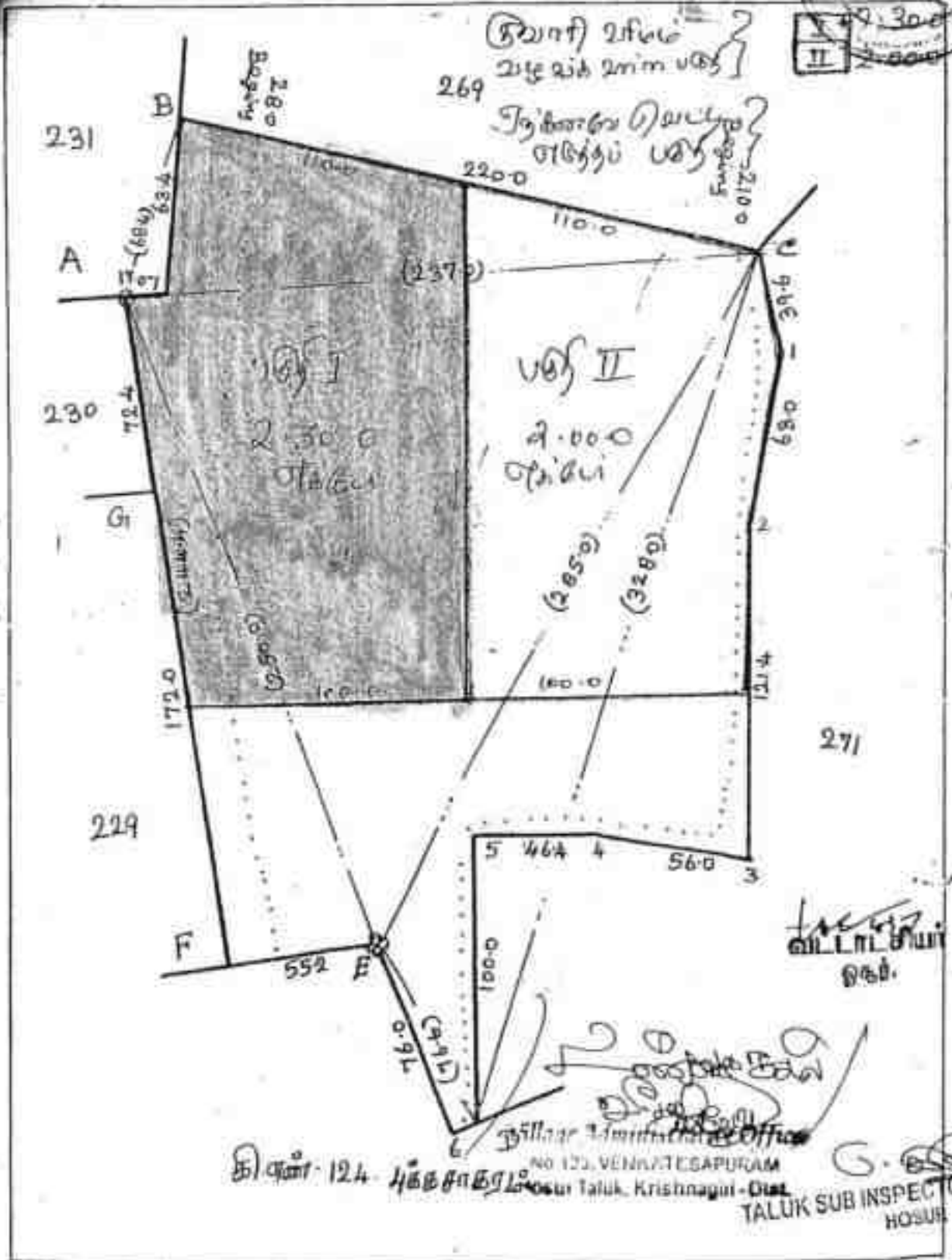
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தொகுப்பு

23 APR 2021
செ. சேதுர் # 458

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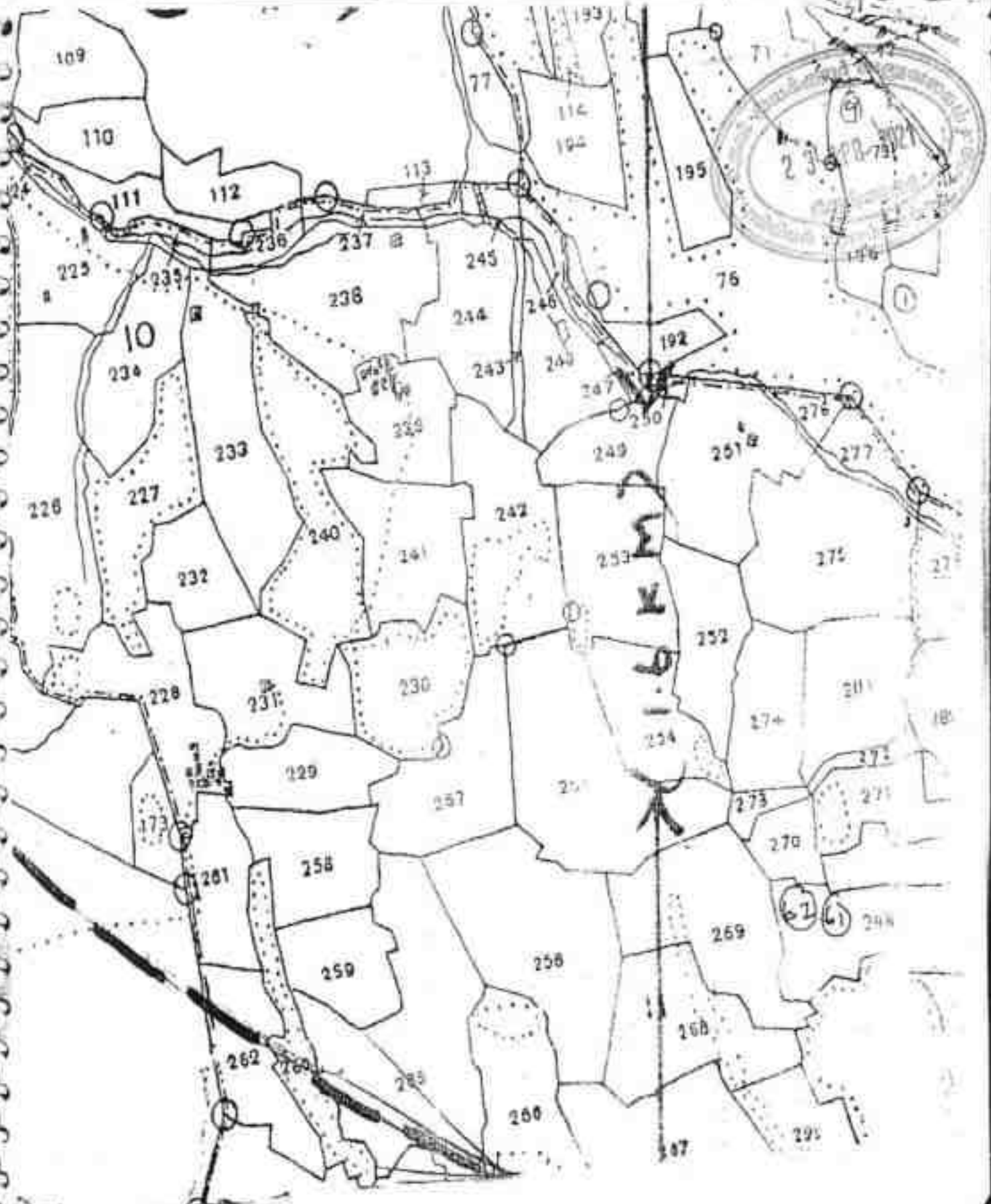
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S. DHANASEKAR, M.Sc. (Geo)
Qualified Person



Handwritten notes in the bottom left corner, including the word 'Prasanna' and some illegible scribbles.

S. DHANASEKAR, M.Sc. (Geo)
Qualified Person

ANNEXURE-VII

	2	3	4	5	6	7	8	9	10	W	
267	8	267-8	P	V	...	8-4	8	0 91	0 12-0	0 11	227 m. Gurukulam
	9	-9	P	V	...	8-4	8	0 91	0 12-0	0 15	154 Gov. Gurukulam
	10	-10	P	V	...	8-4	8	0 91	0 24-0	0 22	438 m. Gurukulam (1), Dr. Srinivas Mishra (2)
	11	-11	P	V	...	8-4	8	0 91	0 22-0	0 20	410 m. Gurukulam (1), Dr. Srinivas Mishra (2)
								2 80-0	2 54		
268	1	268-1	P	V	...	8-4	8	0 91	0 11-0	0 10	107 Dr. Srinivasan (a) Gurukulam Mishra
	2	-2	P	V	...	8-4	8	0 91	0 08-0	0 07	107 Dr. Srinivasan (a) Gurukulam Mishra
	3	-3	P	V	...	8-4	8	0 91	0 22-0	0 20	196 Dr. Srinivasan
	4	-4	P	V	...	8-4	8	0 91	0 32-0	0 29	268 Dr. Srinivasan
	5	-5	P	V	...	8-4	8	0 91	0 32-0	0 29	268 Dr. Srinivasan
	6	-6	P	V	...	8-4	8	0 91	0 40-0	0 36	186 Dr. Srinivasan
	7	-7	P	V	...	8-4	8	0 91	1 11-0	1 01	161 Gov. Gurukulam
	8	-8	P	V	...	8-4	8	0 91	0 88-0	0 80	438 m. Gurukulam (1), Dr. Srinivas Mishra (2)
	9	-9	P	V	...	8-4	8	0 91	0 42-0	0 38	172 Dr. Srinivasan
	10	-10	P	V	...	8-4	8	0 91	0 42-0	0 38	227 m. Gurukulam
	11	-11	P	V	...	8-4	8	0 91	0 36-0	0 32	10 Gov. Gurukulam
	12	-12	P	V	...	8-4	8	0 91	0 64-0	0 58	440 m. Gurukulam (1), Dr. Srinivas Mishra (2)
	13	-13	P	V	...	8-4	8	0 91	0 51-0	0 46	227 m. Gurukulam
								5 79-0	5 25		
269	...	269	Dr. Srinivasan	...	...	...	...	22 75-0	...	...	400-
270	...	270	Dr. Srinivasan	...	...	...	...	5 82-0	...	...	400-
271	1	271-1	P	V	...	8-4	8	0 91	2 20-5	1 84	441 Gov. Gurukulam (1), Gov. Srinivasan Mishra (2)



S. DHANASEKAR, IAS (Retd.)
Qualified Person

Handwritten signatures and official stamps, including the name 'S. DHANASEKAR' and 'NO. 12, V. KRISHNAPURAM'.



ANNEXURE - IX



தகவல்

இந்திய அரசாங்கம்
Unique Identification Authority of India
Government of India

ஆய அட்டயணம் / Enrollment No.: 200726744/01640

- ஆதார் அட்டயணத்திற்கான சான்று குடியறிமக்கு அல்ல
- அட்டயண சான்ற இணையதளம் மூலம் உறுதிப்படுத்திக் கொள்ளவும்



INFORMATION

- Aadhaar is proof of identity, not of citizenship.
- To establish identity, authenticate online.

To
 Cewg CewgCewgCewg
 Sefar Venkatesappa
 SIO: Venkatesappa
 4/165-B KARUKONDAPALLI
 DENKANROTTAI
 Baramangalam
 Baramangalam
 Denkanrota Krishnaji
 Tamil Nadu 635113
 8003551113



- ஆதார் நாடு முழுவதிலும் செல்லுபடியாகும்
- வருங்காலத்தில் அரசு மற்றும் அரசு சாரா சேவைகளை பயன்படுத்திக் கொள்ள ஆதார் உதவிகரமாக இருக்கும்

உங்கள் ஆதார் எண் / Your Aadhaar No.:

8606 9507 4225

- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

இந்திய அரசாங்கம்
 Government of India
 Cewg CewgCewgCewg
 Sefar Venkatesappa
 SIO: Venkatesappa
 4/165-B KARUKONDAPALLI
 DENKANROTTAI
 Baramangalam, Baramangalam,
 Krishnaji, Denkanrota, Tamil
 Nadu 635113




இந்திய அரசாங்கம்
 Unique Identification Authority of India
 ஆதார்
 முகவரி
 40 CewgCewgCewgCewg
 Sefar Venkatesappa
 SIO: Venkatesappa
 4/165-B KARUKONDAPALLI
 DENKANROTTAI
 Baramangalam, Baramangalam,
 Krishnaji, Denkanrota, Tamil
 Nadu 635113

Address:
 SIO: Venkatesappa, 4/165-B,
 KARUKONDAPALLI,
 DENKANROTTAI,
 Baramangalam, Baramangalam,
 Krishnaji, Denkanrota, Tamil
 Nadu, 635113

8606 9507 4225

8606 9507 4225

ஆதார் - சாதாரண மனிதனின் அதிகாரம்




 S. DHANASEKAR, SIO, (Sefar)
 Qualified Person



FACULTY OF SCIENCE

பெரியார் பல்கலைக்கழக ஆட்சிக்குழு 2003 ஆம் ஆண்டு ஏப்ரல் மாதம் நடந்த பயன்பாட்டு புவியமைப்பியல் தேர்வில் S தனசேகர் என்பவர் முதல் வகுப்பில் தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி அறிவியல் நிறைஞர் என்னும் பட்டத்தை அவருக்குப் பல்கலைக்கழக இலச்சிணையுடன் வழங்குகிறது.

The Syndicate of the Periyar University hereby makes known that **DHANASEKAR S** *has been admitted to the* **DEGREE OF MASTER OF SCIENCE in APPLIED GEOLOGY**

he/she having been certified by duly appointed Examiners to be qualified to receive the same and was placed in the **FIRST CLASS** *at the Examination held in* **APRIL 2003**



Given under the seal of this University

Periyar
Date: 15-09-2004
Periyar 636011, Tamil Nadu, India
Periyar 636011, Tamil Nadu, India.

Registrar

Vice-Chancellor

S. DHANASEKAR, U.S.A. (PhD)
Qualified Person

ANNEXURE - XI

☎ : 04288 - 262489

PRITHVI MINERALS,



VARANALLAMPALAYAM,
ALATHUR POST - 637 303,
SANKARI Tk, Salem Dt. Tamil Nadu

Date : 15.11.10

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Shri. S. DHANASEKAR, S/o. Shri. A. Sundaram residing at No. 8/3, Kullappa Street, Omalur Taluk, Salem District - 636 455 is working in our mines from 15.10.2003 to 05.07.2005 as Part time Geologist. From 08.07.2005 to till date he is working as Full time Geologist. During the above tenure of service his execution of the assigned work is exemplary and worth mentioning.

We wish him success in his future endeavors.

for PRITHVI MINERALS,

(T. P. THANGAVEL)

Partner

S. DHANASEKAR, B.Sc. (Geol)
Qualified Person

PHOTO SHOWN EXISTING LEASE AREA VIEW-1




PHOTO SHOWN EXISTING LEASE AREA VIEW-2




S. DHANASEKAR, u.l.c.(Med)
Qualified Person



PLATE NO-I
DATE OF SURVEY: 29 - 03 - 2021
LESSEE ADDRESS:
THIRU.V.SEKAR, S/o.VENKATESAPPA, DOOR NO.4/165/B, KARUKONDAPALLI VILLAGE, BAYARAMANGALAM POST, DENKANIKOTTAI TALUK, KRISHNAGIRI DISTRICT - 635 113.
LOCATION OF QUARRY:
EXTENT : 2.30.0 Ha, S.F.NO : 270 (PART-1), VILLAGE : VENKATESAPURAM, TALUK : SHOOLAGIRI, DISTRICT : KRISHNAGIRI.
INDEX
QUARRY LEASE AREA : ●
TOPO SHEET NO.: 57 H/14
LATITUDE : 12° 43' 58.7014" N to 12° 44' 3.1722" N
LONGITUDE : 77° 56' 12.8213" E to 77° 56' 8.3746" 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.DHANASEKARAM, QUALIFIED PERSON

KEY MAP



PLATE NO-1A

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANDIOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha.
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE AREA

VILLAGE ROAD

APPROACH ROAD

KEY MAP

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.,
QUALIFIED PERSON**



PLATE NO-1B

DATE OF SURVEY: 29-09-2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTA TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

TOPO SHEET NO. : 57 H/14

LATITUDE : 12° 43' 58.7014" N to 12° 44' 3.1722" N

LONGITUDE : 77° 56' 12.8213" E to 77° 56' 8.3746" E

QUARRY LEASE AREA



10KM RADIUS



TOPO SHEET MAP

SCALE - 1:1,00,000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE.



S.DHANASEKARAM,
QUALIFIED PERSON



PLATE NO-IC

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE AREA 

SATELLITE IMAGE

(LEASE AREA)

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.DHANYASEKAR M.Sc.
QUALIFIED PERSON

PILLARNO	LATITUDE	LONGITUDE
1	12° 43' 58.3596" N	77° 56' 9.5116" E
2	12° 44' 3.1722" N	77° 56' 8.3746" E
3	12° 44' 3.3493" N	77° 56' 8.8816" E
4	12° 44' 5.3959" N	77° 56' 8.9374" E
5	12° 44' 4.7411" N	77° 56' 12.5773" E
6	12° 43' 58.7014" N	77° 56' 12.8213" E

12° 44' 4.7411" N
77° 56' 12.5773" E



PLATE NO-ID

DATE OF SURVEY: 29 - 03 - 2021




LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX


QUARRY LEASE BOUNDARY 
500M RADIUS 
300M RADIUS 

SATELLITE IMAGE
(600m RADIUS)

SCALE 1:5000

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.
QUALIFIED PERSON

12° 44' 3.1722" N
77° 56' 8.3746" E

12° 43' 58.7014" N
77° 56' 12.8213" E

12° 43' 58.3596" N
77° 56' 9.5116" E

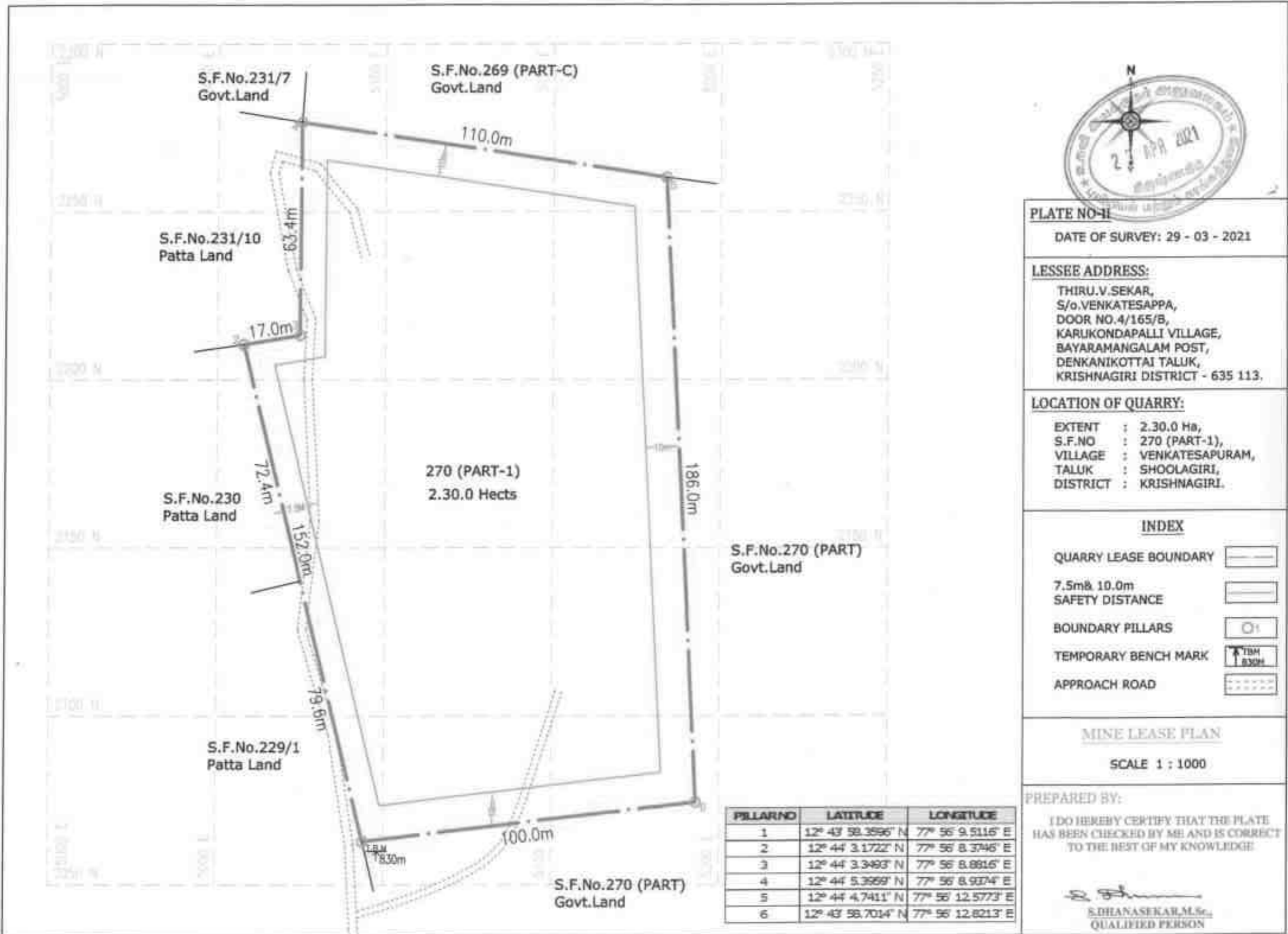


PLATE NO-II
 DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:
 THIRU.V.SEKAR,
 S/o.VENKATESAPPA,
 DOOR NO.4/165/B,
 KARUKONDAPALLI VILLAGE,
 BAYARAMANGALAM POST,
 DENKANIKOTTAI TALUK,
 KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:
 EXTENT : 2.30.0 Ha,
 S.F.NO : 270 (PART-1),
 VILLAGE : VENKATESAPURAM,
 TALUK : SHOOLAGIRI,
 DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE BOUNDARY	
7.5m & 10.0m SAFETY DISTANCE	
BOUNDARY PILLARS	
TEMPORARY BENCH MARK	
APPROACH ROAD	

MINE LEASE 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. PRANASEKAR, M.Sc.,
 QUALIFIED PERSON

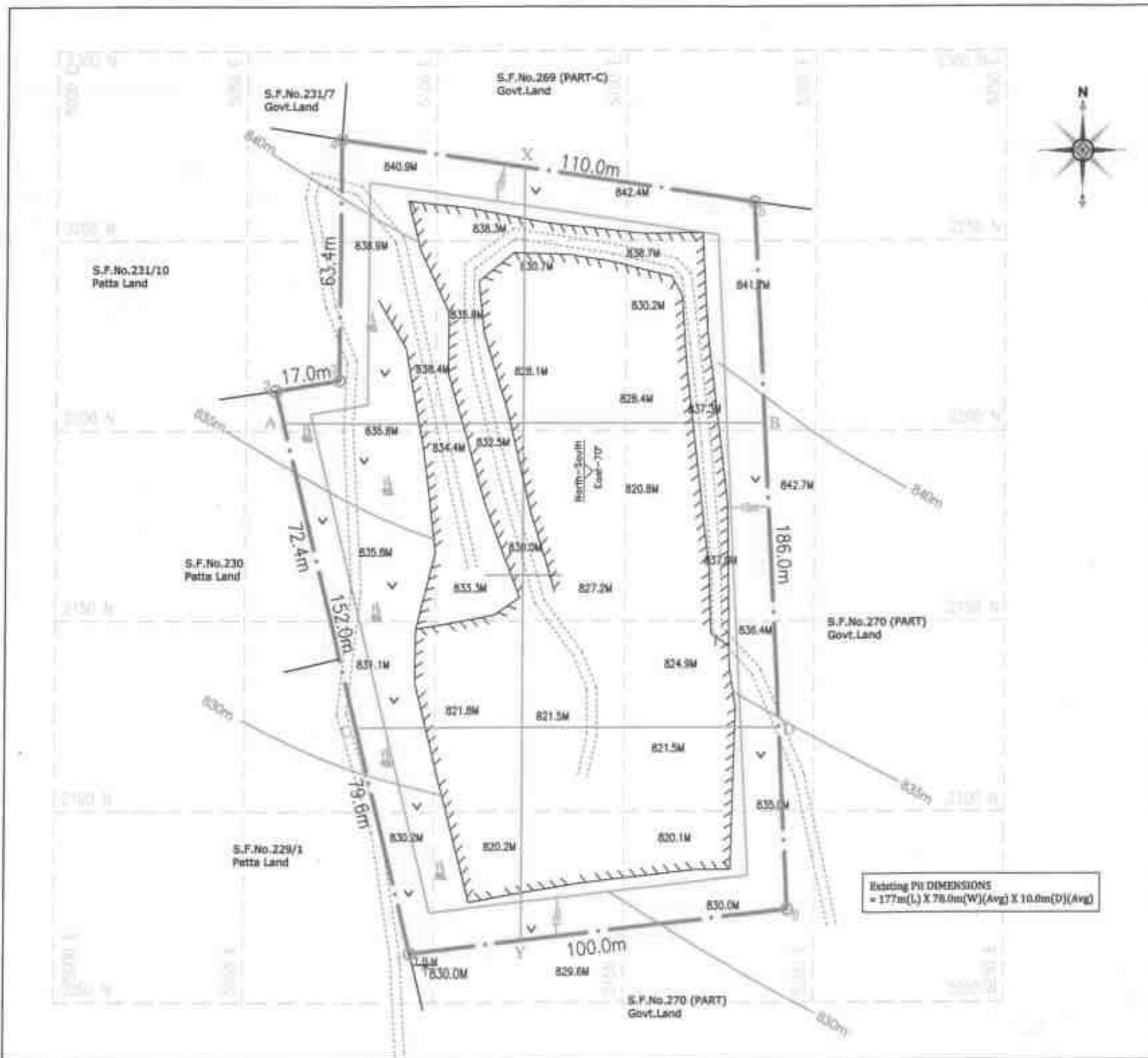
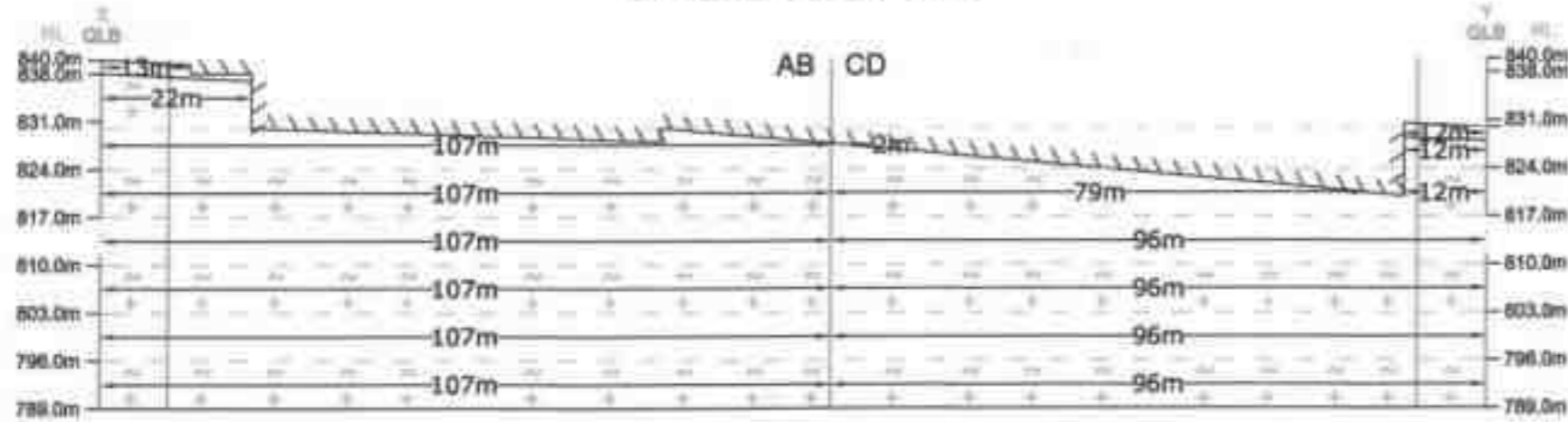
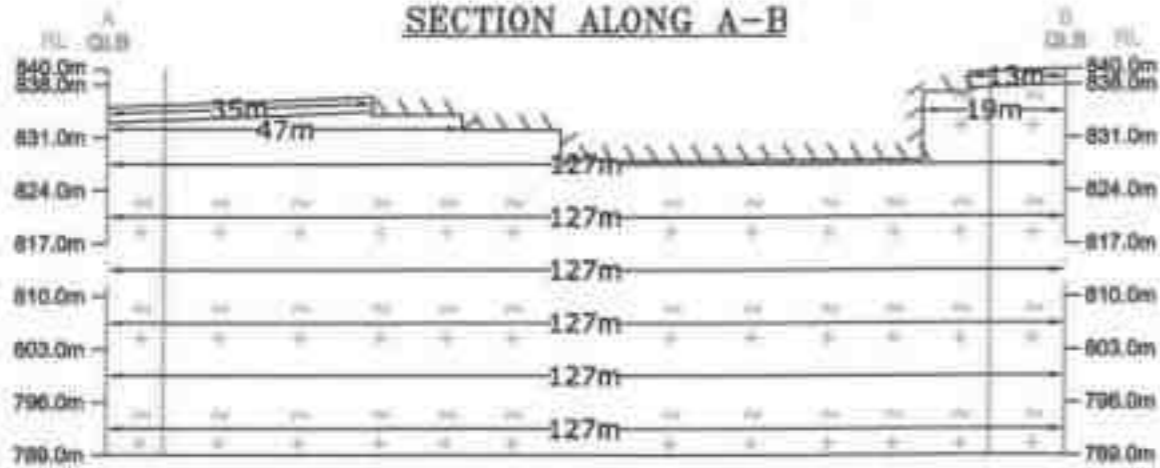


PLATE NO-III	
DATE OF SURVEY: 29 - 03 - 2021	
LESSEE ADDRESS:	
THIRU.V.SEKAR, S/o.VENKATESAPPA, DOOR NO.4/165/B, KARUKONDAPALLI VILLAGE, BAYARAMANGALAM POST, DENKANIKOTTAI TALUK, KRISHNAGIRI DISTRICT - 635 113.	
LOCATION OF QUARRY:	
EXTENT : 2.30.0 Ha, S.F.NO : 270 (PART-1), VILLAGE : VENKATESAPURAM, TALUK : SHOOLAGIRI, DISTRICT : KRISHNAGIRI.	
INDEX	
QUARRY LEASE BOUNDARY	
7.5m & 10.0m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
TOP SOIL	
ROUGH STONE	
STRIKE & DIP	
QUARRY PIT	
CONTOUR LINE	
QUARRY ROAD	
SHRUB	
SURFACE AND GEOLOGICAL 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., QUALIFIED PERSON	

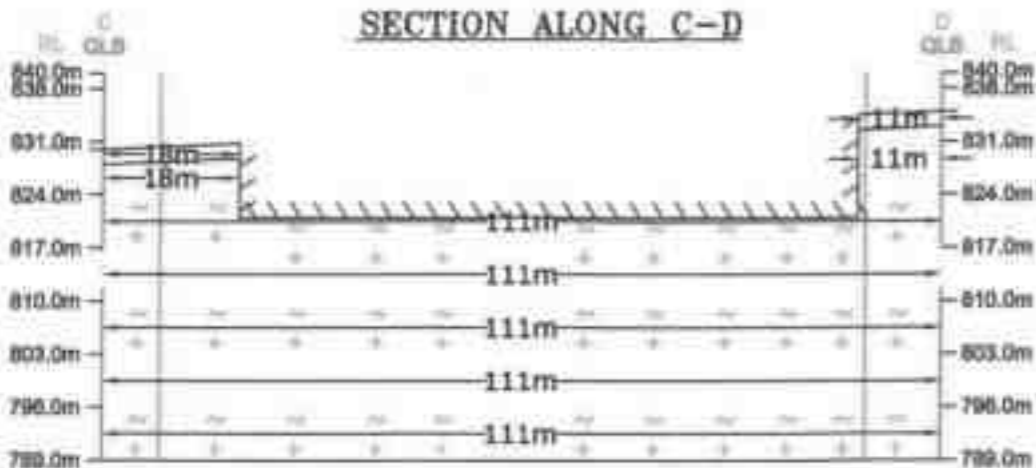
SECTION ALONG X-Y



SECTION ALONG A-B



SECTION ALONG C-D



TOTAL DEPTH = 51m
 SURFACE GROUND LEVEL ABOVE - 10m
 SURFACE GROUND LEVEL BELOW - 41m

GEOLOGICAL RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Geological Reserves in m ³ (100%)	Top Soil in m ³
XY-AB	I	13	48	2			1248
	II	22	66	7	10164	10164	
	III	107	127	7	95123	95123	
	IV	107	127	7	95123	95123	
	V	107	127	7	95123	95123	
	VI	107	127	7	95123	95123	
	VII	107	127	7	95123	95123	
	VIII	107	127	7	95123	95123	
Total=					580902	580902	1248
XY-CD	I	12	29	2			696
	II	14	29	4	1624	1624	
	III	91	111	7	70707	70707	
	IV	96	111	7	74592	74592	
	V	96	111	7	74592	74592	
	VI	96	111	7	74592	74592	
	VII	96	111	7	74592	74592	
Total=					370699	370699	696
Grand Total=					951601	951601	1944



PLATE NO-III-A

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
 S/o.VENKATESAPPA,
 DOOR NO.4/165/B,
 KARUKONDAPALLI VILLAGE,
 BAYARAMANGALAM POST,
 DENKANIKOTTAI TALUK,
 KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
 S.F.NO : 270 (PART-1),
 VILLAGE : VENKATESAPURAM,
 TALUK : SHOOLAGIRI,
 DISTRICT : KRISHNAGIRI.

INDEX

- QUARRY LEASE BOUNDARY
- 7.5m & 10.0m SAFETY DISTANCE
- TOP SOIL
- ROUGH STONE
- QUARRY PIT

GEOLOGICAL SECTIONS

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.,
 QUALIFIED PERSON

PLATE NO-IV

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE BOUNDARY	
7.5m & 10.0m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
TOP SOIL	
ROUGH STONE	
QUARRY PIT	
CONTOUR LINE	
QUARRY ROAD	
SHRUB	

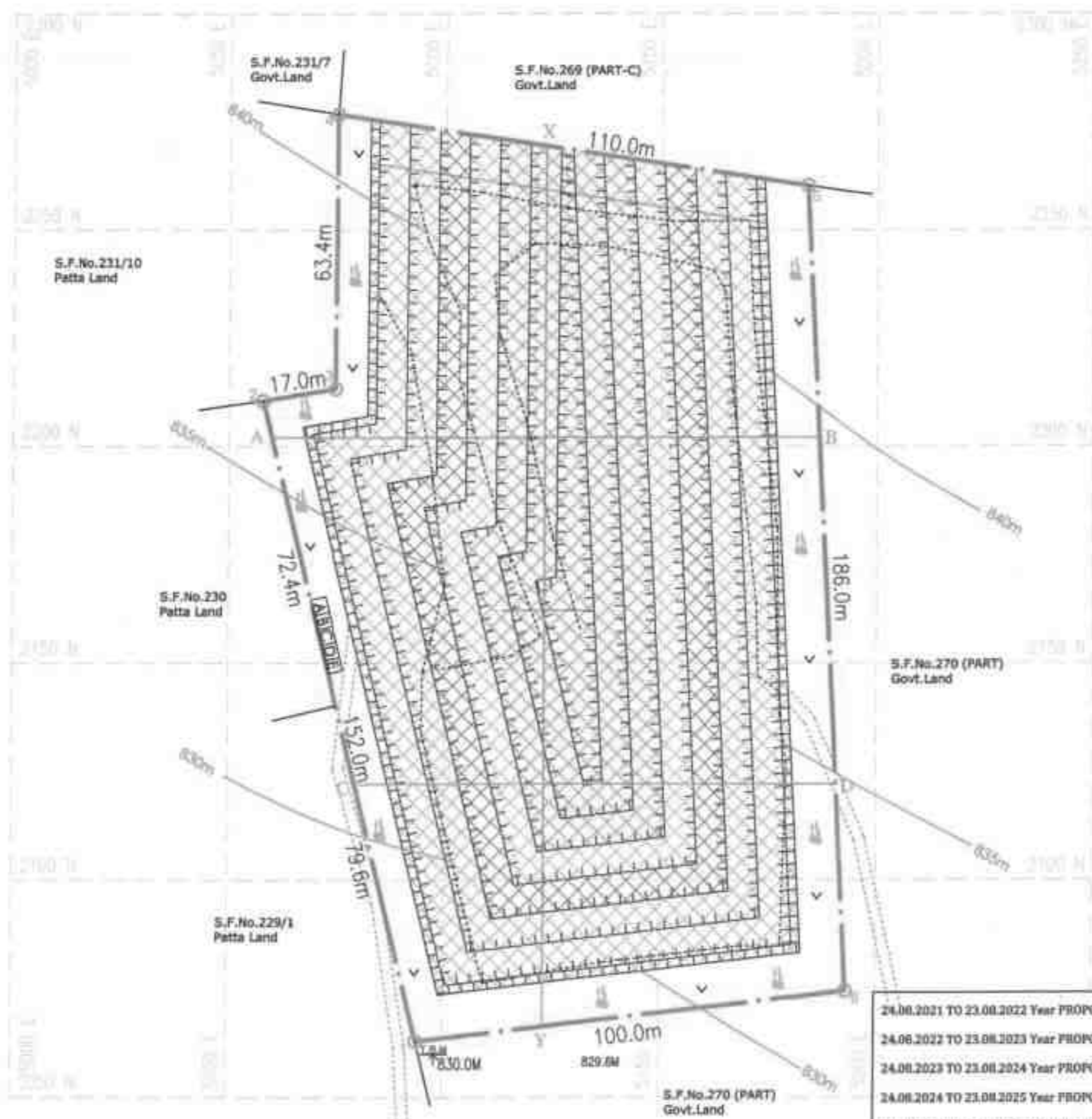
YEARWISE DEVELOPMENT AND PRODUCTION PLAN

SCALE 1 : 1000

PREPARED BY:

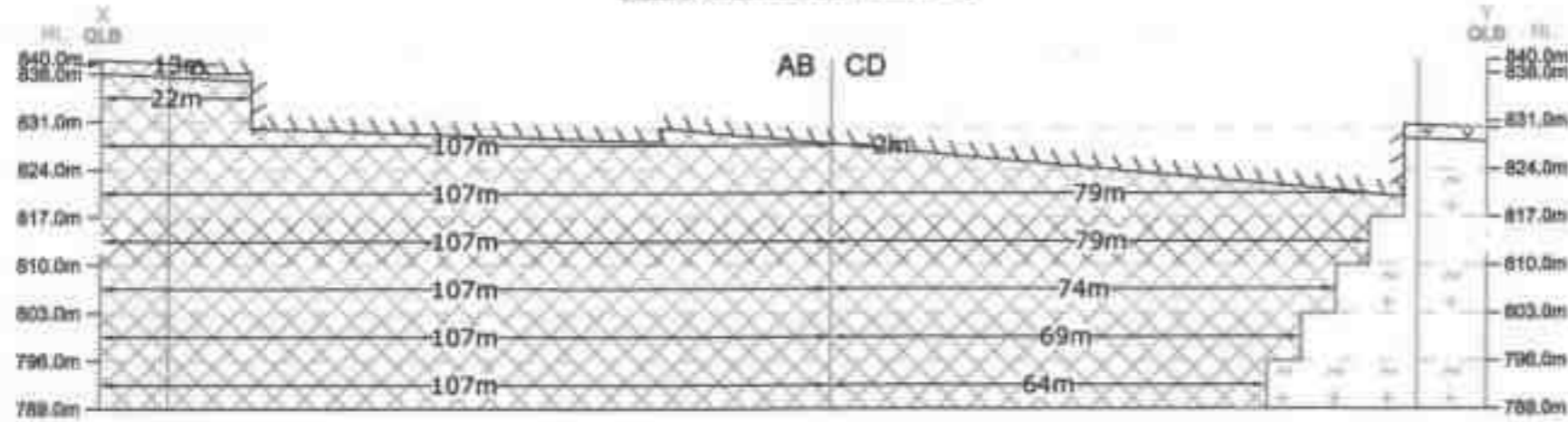
I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

S.DRANASEKAR, M.Sc.
QUALIFIED PERSON



24.08.2021 TO 23.08.2022 Year PROPOSED EXCAVATION	
24.08.2022 TO 23.08.2023 Year PROPOSED EXCAVATION	
24.08.2023 TO 23.08.2024 Year PROPOSED EXCAVATION	
24.08.2024 TO 23.08.2025 Year PROPOSED EXCAVATION	
24.08.2025 TO 23.08.2026 Year PROPOSED EXCAVATION	

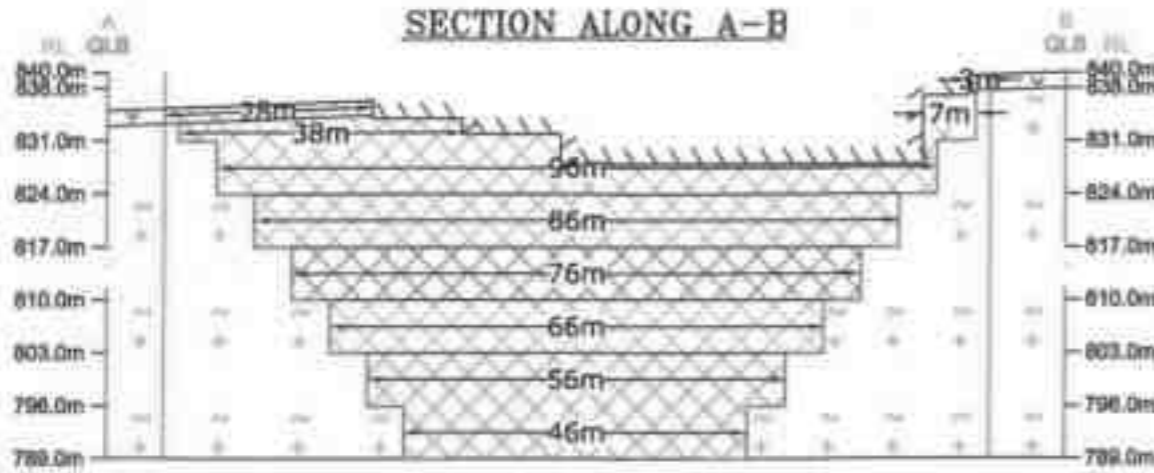
SECTION ALONG X-Y



24.08.2021 TO 23.08.2022	Year PROPOSED EXCAVATION
24.08.2022 TO 23.08.2023	Year PROPOSED EXCAVATION
24.08.2023 TO 23.08.2024	Year PROPOSED EXCAVATION
24.08.2024 TO 23.08.2025	Year PROPOSED EXCAVATION
24.08.2025 TO 23.08.2026	Year PROPOSED EXCAVATION

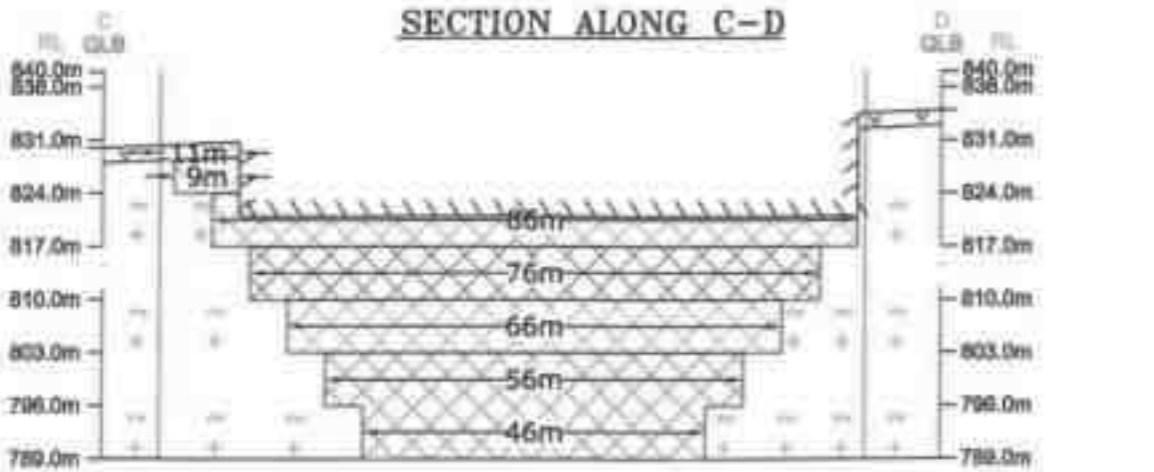
PLATE NO-IV-A
 DATE OF SURVEY: 29 - 03 - 2021
LESSEE ADDRESS:
 THIRU.V.SEKAR,
 S/o.VENKATESAPPA,
 DOOR NO.4/165/B,
 KARUKONDAPALLI VILLAGE,
 BAYARAMANGALAM POST,
 DENKANIKOTTAI TALUK,
 KRISHNAGIRI DISTRICT - 635 113.

SECTION ALONG A-B



TOTAL DEPTH = 51m
 SURFACE GROUND LEVEL ABOVE - 10m
 SURFACE GROUND LEVEL BELOW - 41m

SECTION ALONG C-D



YEARWISE DEVELOPMENT AND PRODUCTION							
Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m ³)	Recoverable Reserves in m ³ (100%)	Top Soil in m ³
24.08.2021 - 23.08.2022	I	13	31	2			806
	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	I	1	11	2			22
	II	2	9	4	72	72	
Total=					78906	78906	828
24.08.2022 - 23.08.2023	IV	107	86	7	64414	64414	
	III	79	86	7	47558	47558	
	Total=					111972	111972
24.08.2023 - 23.08.2024	V	107	76	7	56924	56924	
	IV	79	76	7	42028	42028	
Total=					98952	98952	
24.08.2024 - 23.08.2025	VI	107	66	7	49434	49434	
	V	74	66	7	34188	34188	
Total=					83622	83622	
24.08.2025 - 23.08.2026	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					124054	124054	
GRAND Total =					497506	497506	828

LOCATION OF QUARRY:
 EXTENT : 2.30.0 Ha,
 S.F.NO : 270 (PART-1),
 VILLAGE : VENKATESAPURAM,
 TALUK : SHOOLAGIRI,
 DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE BOUNDARY	
7.5m & 10.0m SAFETY DISTANCE	
TOP SOIL	
ROUGH STONE	
QUARRY PIT	

YEARWISE DEVELOPMENT & PRODUCTION SECTIONS
 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.DHANASEKARAM,
 QUALIFIED PERSON

PLATE NO-V
 DATE OF SURVEY: 29 - 03 - 2021
 LESSEE ADDRESS:
 THIRU. V. SEKAR,
 S/o. VENKATESAPPA,
 DOOR NO. 4/165/B,
 KARUKONDAPALLI VILLAGE,
 BAYARAMANGALAM POST,
 DENKANIKOTTAI TALUK,
 KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:
 EXTENT : 2.30.0 Ha,
 S.F.NO : 270 (PART-1),
 VILLAGE : VENKATESAPURAM,
 TALUK : SHOOLAGIRI,
 DISTRICT : KRISHNAGIRI.

INDEX

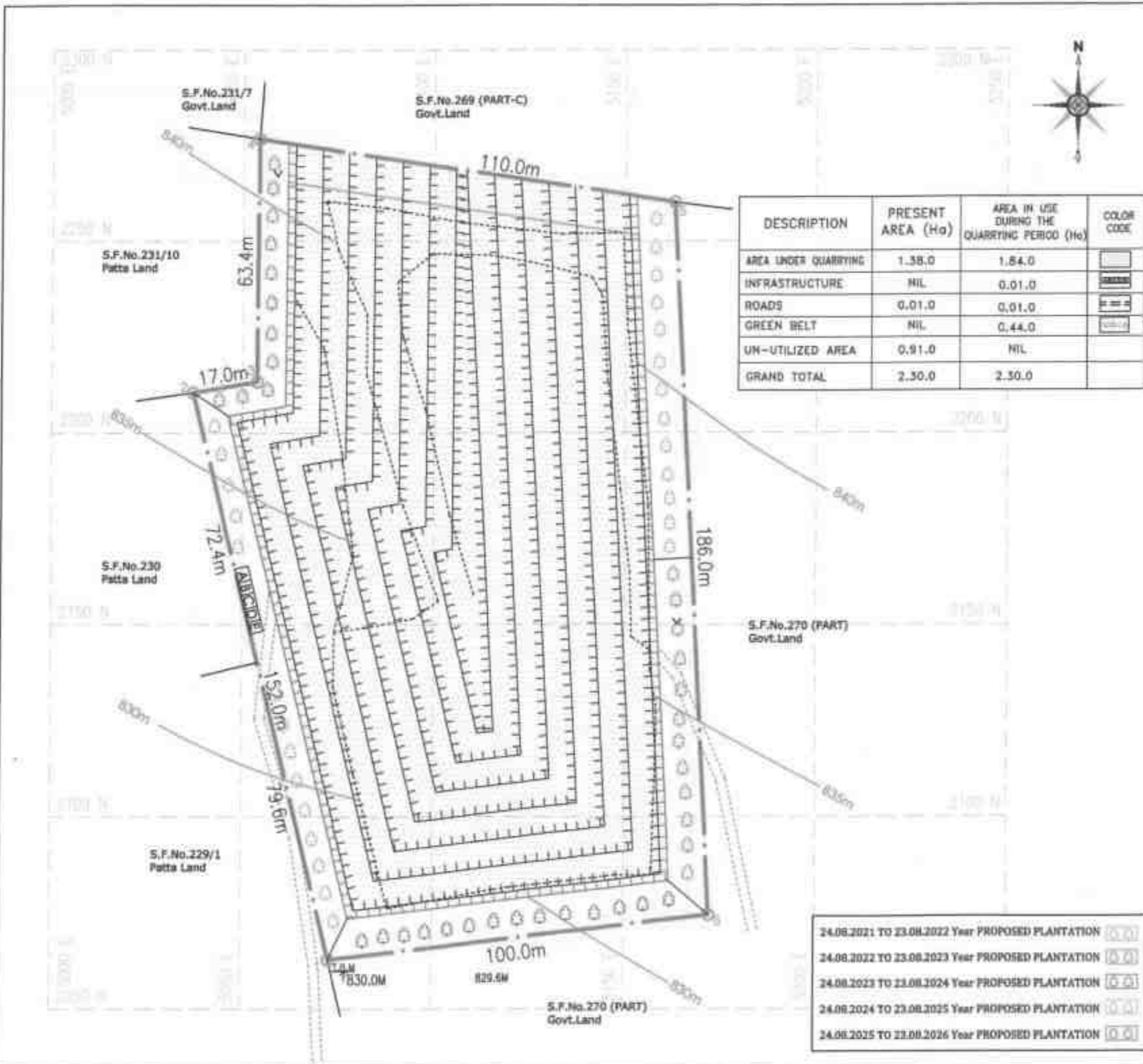
QUARRY LEASE BOUNDARY	
7.5m & 10.0m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
TOP SOIL	
ROUGH STONE	
QUARRY PIT	
CONTOUR LINE	
QUARRY ROAD	
MINE LAYOUT	

MINE LAYOUT, LAND USE PATTERN & AFFORESTATION 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. DEANASEKAR M.Sc.
 QUALIFIED PERSON

DESCRIPTION	PRESENT AREA (Ha)	AREA IN USE DURING THE QUARRYING PERIOD (Ha)	COLOR CODE
AREA UNDER QUARRYING	1.38.0	1.84.0	
INFRASTRUCTURE	NIL	0.01.0	
ROADS	0.01.0	0.01.0	
GREEN BELT	NIL	0.44.0	
UN-UTILIZED AREA	0.91.0	NIL	
GRAND TOTAL	2.30.0	2.30.0	



24.08.2021 TO 23.08.2022 Year PROPOSED PLANTATION	
24.08.2022 TO 23.08.2023 Year PROPOSED PLANTATION	
24.08.2023 TO 23.08.2024 Year PROPOSED PLANTATION	
24.08.2024 TO 23.08.2025 Year PROPOSED PLANTATION	
24.08.2025 TO 23.08.2026 Year PROPOSED PLANTATION	

12° 44' 4.7411" N
77° 56' 12.5773" E

OCTOBER TO DECEMBER

PLATE NO-VI

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE BOUNDARY	
500m RADIUS	
300m RADIUS	
TREES	
QUARRY ROAD	
APPROACH ROAD	
WIND DIRECTION	
ADJACENT QUARRY	
DRY AGRICULTURAL LAND	
SHRUB	

ENVIRONMENT PLAN

SCALE- 1:5000

PREPARED BY:

I DO HEREBY CERTIFY THAT THE PLATE
HAS BEEN CHECKED BY ME AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE!

EDHANASEKAR, M.Sc.
QUALIFIED PERSON

12° 44' 3.1722" N
77° 56' 8.3746" E

12° 43' 58.7014" N
77° 56' 12.8213" E

JULY TO SEPTEMBER

12° 43' 58.3596" N
77° 56' 9.5116" E

PLATE NO-VII

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLEI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAI TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

QUARRY LEASE BOUNDARY	
7.5m & 10.0m SAFETY DISTANCE	
TEMPORARY BENCH MARK	
TOP SOIL	
ROUGH STONE	
QUARRY PIT	
CONTOUR LINE	
QUARRY ROAD	
FENCING	
PARAPET WALL	
ULTIMATE PIT LIMIT	
PROPOSED WATER STORAGE	

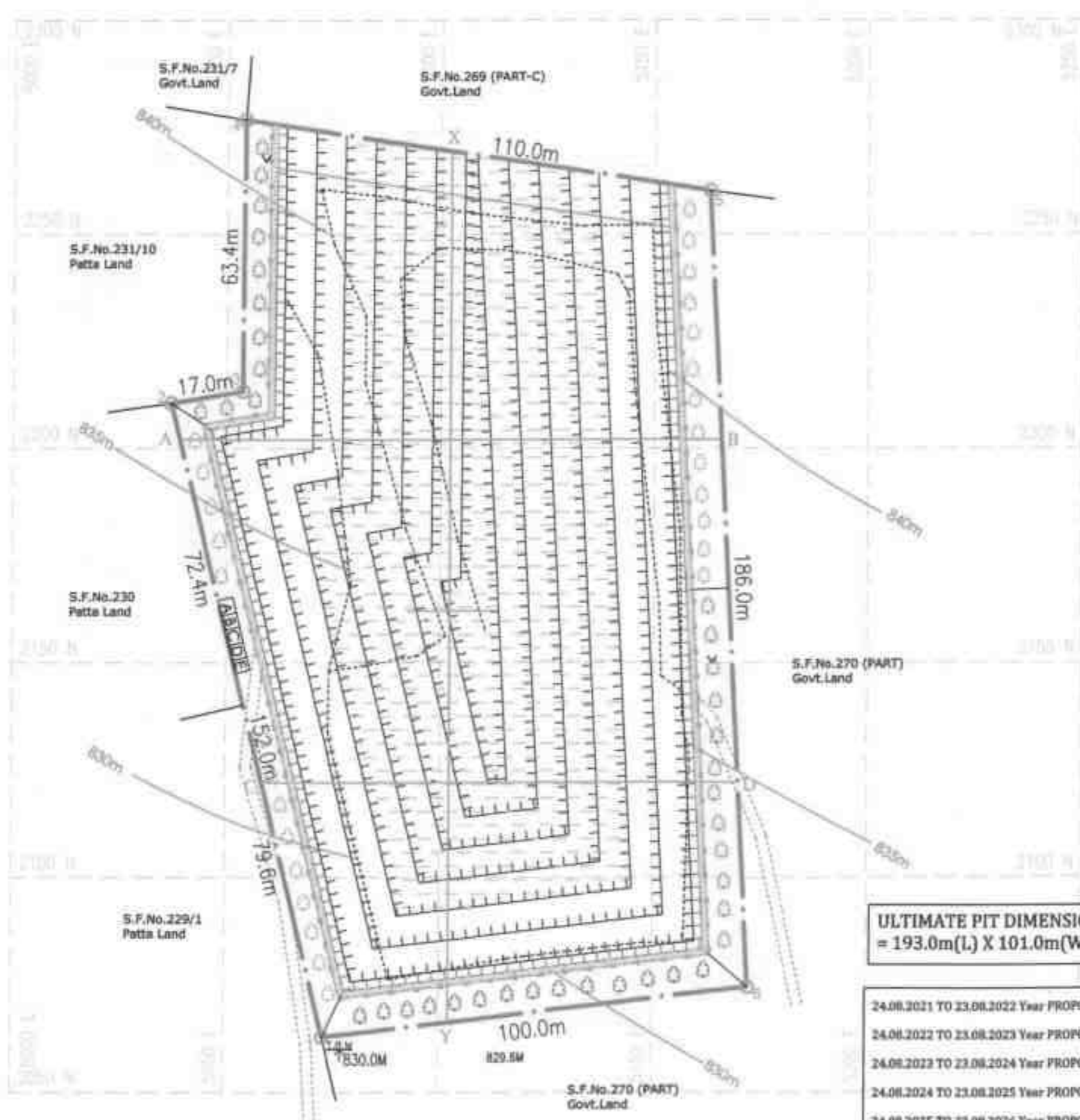
CONCEPTUAL & FINAL MINE CLOSURE PLAN

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.DRANASEKARAM, Sc.,
QUALIFIED PERSON

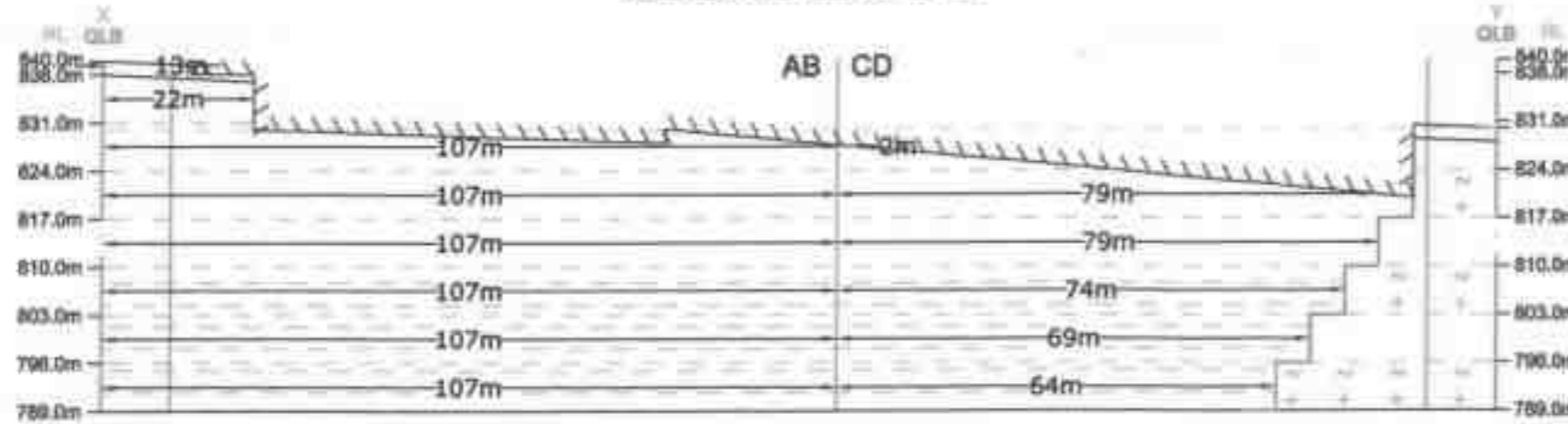


ULTIMATE PIT DIMENSION
= 193.0m(L) X 101.0m(W)(Avg) X 51.0m(D)

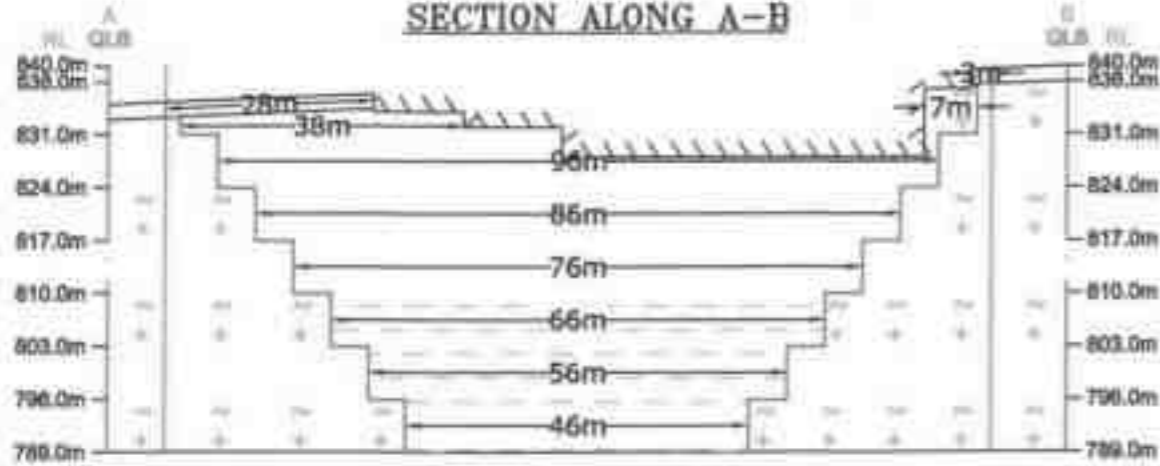
24.08.2021 TO 23.08.2022 Year PROPOSED PLANTATION	
24.08.2022 TO 23.08.2023 Year PROPOSED PLANTATION	
24.08.2023 TO 23.08.2024 Year PROPOSED PLANTATION	
24.08.2024 TO 23.08.2025 Year PROPOSED PLANTATION	
24.08.2025 TO 23.08.2026 Year PROPOSED PLANTATION	



SECTION ALONG X-Y



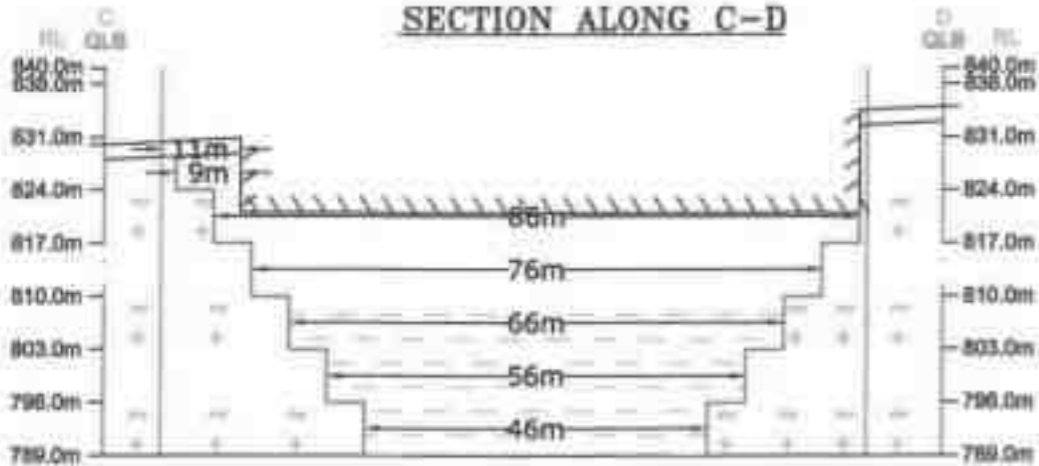
SECTION ALONG A-B



TOTAL DEPTH = 51m
 SURFACE GROUND LEVEL ABOVE - 10m
 SURFACE GROUND LEVEL BELOW - 41m

ULTIMATE PIT DIMENSION
 = 193.0m(L) X 101.0m(W)(Avg) X 51.0m(D)

SECTION ALONG C-D



MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in (m³)	Mineable Reserves in m³ (100%)	Top Soil in m³
XY-AB	I	13	31	2			806
	II	22	45	7	6930	6930	
	III	107	96	7	71904	71904	
	IV	107	86	7	64414	64414	
	V	107	76	7	56924	56924	
	VI	107	66	7	49434	49434	
	VII	107	56	7	41944	41944	
	VIII	107	46	7	34454	34454	
Total=					326004	326004	806
XY-CD	I	1	11	2			22
	II	2	9	4	72	72	
	III	79	86	7	47558	47558	
	IV	79	76	7	42028	42028	
	V	74	66	7	34188	34188	
	VI	69	56	7	27048	27048	
	VII	64	46	7	20608	20608	
Total=					171502	171502	22
Grand Total=					497506	497506	828

PLATE NO-VII-A

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
 S/o.VENKATESAPPA,
 DOOR NO.4/165/B,
 KARUKONDAPALLI VILLAGE,
 BAYARAMANGALAM POST,
 DENKANIKOTTAI TALUK,
 KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
 S.F.NO : 270 (PART-1),
 VILLAGE : VENKATESAPURAM,
 TALUK : SHOOLAGIRI,
 DISTRICT : KRISHNAGIRI.

INDEX

- QUARRY LEASE BOUNDARY
- 7.5m & 10.0m SAFETY DISTANCE
- TOP SOIL
- ROUGH STONE
- QUARRY PIT
- ULTIMATE PIT SLOPE
- PROPOSED WATER STORAGE

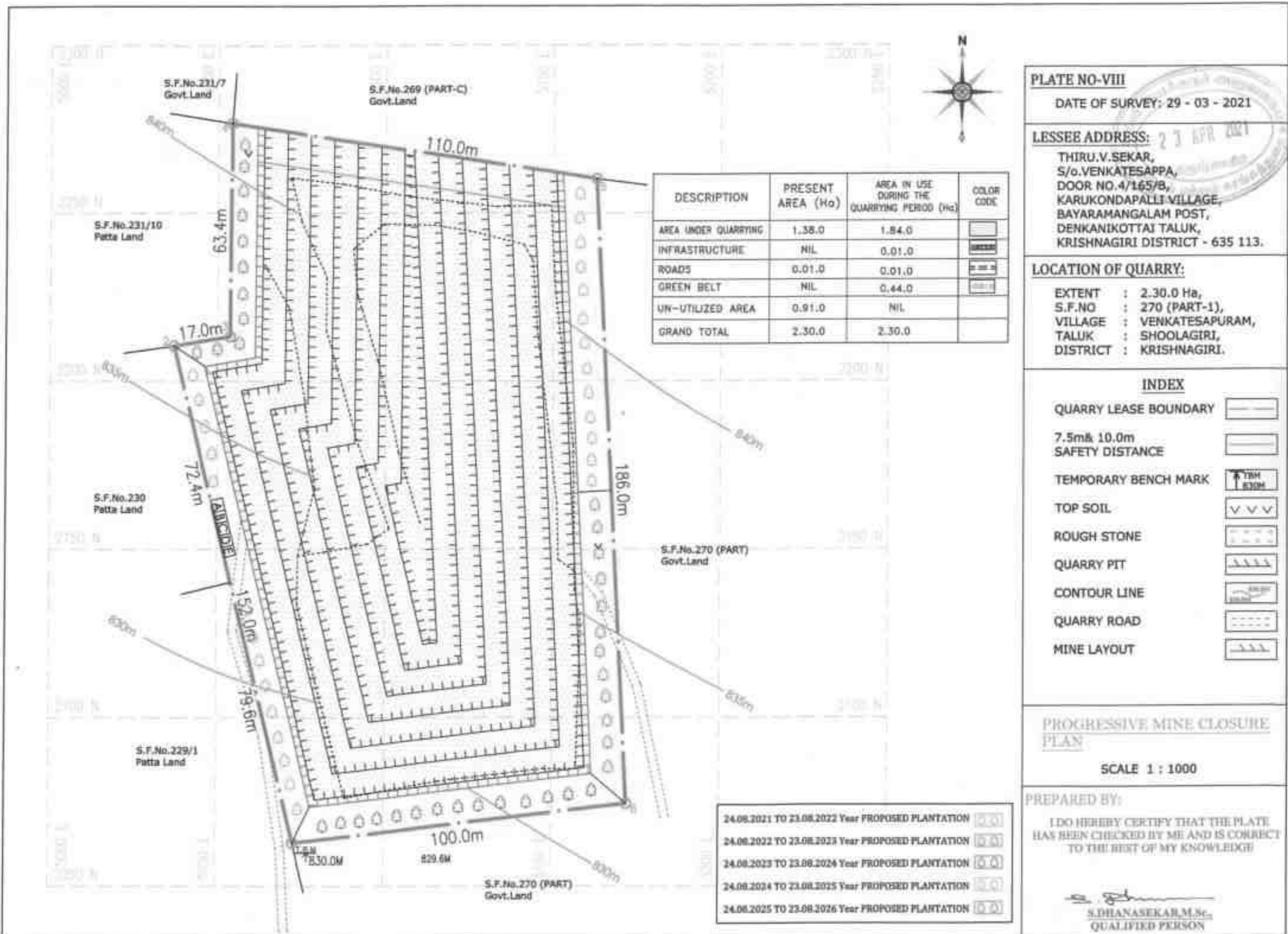
CONCEPTUAL & FINAL
 MINE CLOSURE SECTIONS

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

K.DHANASEKAR M.Sc.
 QUALIFIED PERSON



DESCRIPTION	PRESENT AREA (Ha)	AREA IN USE DURING THE QUARRYING PERIOD (Ha)	COLOR CODE
AREA UNDER QUARRYING	1.38.0	1.84.0	[Symbol]
INFRASTRUCTURE	NIL	0.01.0	[Symbol]
ROADS	0.01.0	0.01.0	[Symbol]
GREEN BELT	NIL	0.44.0	[Symbol]
UN-UTILIZED AREA	0.91.0	NIL	[Symbol]
GRAND TOTAL	2.30.0	2.30.0	[Symbol]

PLATE NO-VIII

DATE OF SURVEY: 29 - 03 - 2021

LESSEE ADDRESS:

THIRU.V.SEKAR,
S/o.VENKATESAPPA,
DOOR NO.4/165/B,
KARUKONDAPALLI VILLAGE,
BAYARAMANGALAM POST,
DENKANIKOTTAJ TALUK,
KRISHNAGIRI DISTRICT - 635 113.

LOCATION OF QUARRY:

EXTENT : 2.30.0 Ha,
S.F.NO : 270 (PART-1),
VILLAGE : VENKATESAPURAM,
TALUK : SHOOLAGIRI,
DISTRICT : KRISHNAGIRI.

INDEX

- QUARRY LEASE BOUNDARY [Symbol]
- 7.5m& 10.0m SAFETY DISTANCE [Symbol]
- TEMPORARY BENCH MARK [Symbol]
- TOP SOIL [Symbol]
- ROUGH STONE [Symbol]
- QUARRY PIT [Symbol]
- CONTOUR LINE [Symbol]
- QUARRY ROAD [Symbol]
- MINE LAYOUT [Symbol]

PROGRESSIVE 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. Dhyanasekaram
S.DHIANASEKARAM,Sc.
QUALIFIED PERSON

24.08.2021 TO 23.08.2022 Year PROPOSED PLANTATION	[Symbol]
24.08.2022 TO 23.08.2023 Year PROPOSED PLANTATION	[Symbol]
24.08.2023 TO 23.08.2024 Year PROPOSED PLANTATION	[Symbol]
24.08.2024 TO 23.08.2025 Year PROPOSED PLANTATION	[Symbol]
24.08.2025 TO 23.08.2026 Year PROPOSED PLANTATION	[Symbol]

Annexure V
NABET CERTIFICATE



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.



ANNEXURE VI
Existing EC, CTE, CTO



Dr. S. KALYANASUNDARAM ,I.F.S.(Retd.)
CHAIRMAN

ANNEXURE - 111
STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY - TAMIL NADU
3rd Floor, Panagal Maaligai,
No.1 Jeemis Road, Saidapet,
Chennai-15.
Phone No.044-24359974
Fax No. 044-24359975

ENVIRONMENTAL CLEARANCE

Ir. No-SEIAA-TN/F.No.5355/1(a)/ EC.No:3269/2016 dated:09.07.2016

To

Thiru. V. Sekar
Door No.4/165/B,
Karukondapalli Village
Bayaramangalam Post
Denkanikottai Taluk
Krishnagiri District - 635113



Sir,

Sub: SEIAA-TN - Proposed Rough Stone quarry located at S.F.No 270 (Part-1) (Government Poramboke Land), Venkatesapuram Village, Hosur Taluk, Krishnagiri District- Issue of Environmental Clearance - Ref.

Ref: 1. Your Application for Environmental Clearance dt: 06.06.2016
2. Minutes of the 77th SEAC held on 08.06.2016
3. Minutes of the SEIAA meeting held on 09.07.2016

Details of Minor Mineral Activity:-

This has reference to your application first cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

1	Name of Project Proponent and address	Thiru. V. Sekar Door No.4/165/B, Karukondapalli Village Bayaramangalam Post Denkanikottai Taluk Krishnagiri District - 635113
2	Location of the Proposed Activity	
	Survey Number	270 (Part-1) (Government Poramboke Land)
	Latitude and Longitude	12°44'04.73"N to 12°43'57.8"N 77°56'12.53"E to 77°56'08.21"E
	Village	Venkatesapuram

S. Kalyanasundaram
CHAIRMAN
SEIAA-TN

	Tafuk	Location
	District	Krishnagiri
3	Proposed Activity	
	i. Minor mineral	Rough Stone
	ii. Mining Lease Area	2.30.0 Ha
	iii. Approved quantity	125072 cu.m of Roughstone
	iv. Depth of Mining	42 m
	v. Type of mining	Opencast Semi Mechanised Mining
	vi. Category(B1/B2)	B2
	vii. Precise area communication	Na.Ka.No.81/2016/Kanimam dated:29.02.2016
	viii. Mining plan approval	Deputy Director Rc.81/2016/Mines-1 dated:25.04.2016
	ix. Mining lease period	5 Years
4	Whether Project area attracts any General conditions specified in the EIA notification, 2006 as amended:-	Not attracted. Affidavit furnished
5	Man Power requirement per day:	18 Employees
6	Utilities	
	i. Source of Water :	Water suppliers/Borewell
	ii. Quantity of Water Requirement in KLD:	
	a. Domestic	0.75KLD
	b. Industrial	} 1.75KLD
	c. Green Belt & Dust Suppression	
	iii. Power Requirement:	
	a. Domestic Purpose	TNEB
	b. Industrial Purpose	
7	Cost	
	i. Project Cost	Rs.116.97 Lakhs
	ii. EMP Cost	Rs.3.70 Lakhs
8	Public Consultation:-	Not required as per G.M. dated 24.12.2013 of MeEF, Gov.
9	Date of Appraisal by SEAC:-	08.06.2016
	Agenda No:	77-58
10	Date of Review/Discussion by SEIAA and the Remarks:-	
	The proposal was placed before the SEIAA in its 178 th Meeting held on 09.07.2016 and the Authority after careful consideration, decided to grant environmental clearance to the said project Mining of Rough Stone to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.	
11	Validity:	
	The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 Years from the date of issue whichever is earlier.	

[Signature]
CHAIRMAN
SEIAA-TN

2 *[Signature]*

[Signature]

Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
 - I. The project has been accorded Environmental Clearance.
 - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
 - III. Environmental Clearance may also be seen on the website of the SEIAA.
 - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.
14. Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.

(Signature)

3

407

(Signature)
CHAIRMAN
SEIAA-TN

15. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
16. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
17. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
18. The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.
19. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
20. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
21. The Proponent shall take appropriate measures to ensure that the GIC shall comply with the revised NAAQ norms notified by MoEF, GoI on 16.11.2009.
22. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
- Roads shall be graded to mitigate the dust emission,
 - Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
23. The following measures are to be implemented to reduce Noise Pollution
- Proper and regular maintenance of vehicles and other equipment
 - Limiting time exposure of workers to excessive noise.
 - The workers employed shall be provided with protection equipment and earmuffs etc.
 - Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
24. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.
25. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
26. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
27. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
28. The following measures are to be adopted to control erosion of dumps:-
- Retention/ toe walls shall be provided at the foot of the dumps.
 - Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.

D. G. G. G.

K. S. S.
CHAIRMAN
SEIAA-TN

K. S. S.
12/11/16

29. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.
30. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
31. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
32. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
33. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
34. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
35. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
36. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.
37. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site
38. Ground water quality monitoring should be conducted once in 3 Months
39. Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
40. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
41. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
42. Bunds to be provided at the boundary of the project site.
43. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

P. Gopal

5

[Signature]
 CHAIRMAN
 SEIAATN

- 23
44. At least 10 Neem trees should be planted around the boundary of the quarry site.
 45. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
 46. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
 47. The Project Proponent shall provide solar lighting system to the nearby villages
 48. The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
 49. Rainwater shall be pumped out Via Settling Tank only
 50. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
 51. As per MoEF&CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from standing committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.
 52. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
 53. Safety equipments to be provided to all the employees.
 54. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
 55. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid blasting license/certificate obtained from the competent authority before execution of mining lease.
 56. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
 57. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
 58. The Proponent shall furnish the data obtained from the Public Works Department regarding the details of Ground Water table in the quarry site.
 59. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
 60. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
 61. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
 62. The PP has to study the Geo Environmental Assessment for the cluster of rough stone quarries jointly as a comprehensive report within 60 days from the date of presentation.

6 P. Solay J

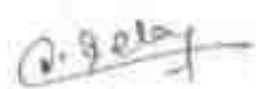


CHAIRMAN
SEIAA-TN
RE
25/1/14



General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent for Establishment from the TNPC board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.


CHAIRMAN
SEIAA-TN

7  

16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance

18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.

19. The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.

20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

22. Any other conditions stipulated by other Statutory/Government authorities shall be complied

23. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


CHAIRMAN
SEIAA-TN

Copy to:

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary, Environment and Forests Department, Government of Tamil Nadu, Tamil Nadu.
3. The Additional Chief Secretary, Industries Department, Government of Tamil Nadu, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (S2), 34, HEPC Building, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-32
7. The District Collector, Krishnagiri District
8. The Commissioner of Geology and Mines, Guindy, Chennai-32
9. E1 Division, Ministry of Environment & Forests, Parivaran Bhawan, New Delhi.
10. Spare.




S. DHANASEKAR, J.S. 30/01
Qualified Person



TAMILNADU POLLUTION CONTROL BOARD



CONSENT ORDER NO. 1908128112645 DATED: 12/11/2019.

PROCEEDINGS NO.F.2298HSR/RS/DEE/TNPCB/HSR/W/2019 DATED: 12/11/2019

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. V SEKAR ROUGH STONE QUARRY , S.P.No. 270 (Part-I), VENKATESAPURAM village, Shoolagiri Taluk and Krishnagiri District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. CTO's Proc.No. F. 0949 HSR/RS/DEE / TNPCB / HSR / W&A / 2016. Dated: 21.09.2016.

2. Unit's OCMMS application No.28112645 for RCO, Dated: 09.09.2019.

3. IR.No: F.2298 HSR/RS/AB/HSR/2019, Dated: 05.11.2019.

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietor
M/s. V SEKAR ROUGH STONE QUARRY,
S.P.No. 270 (Part-I),
VENKATESAPURAM Village,
Shoolagiri Taluk,
Krishnagiri District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2021

S. Palanisamy

Digitally signed by S.

Palanisamy

Date: 2019.11.13

09:25:08 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR



TAMILNADU POLLUTION CONTROL BOARD
SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Rough Stone (Quarrying in an extent of 2.30 Hect at S.F.No.270 (Part 1)(Government Poramboke Land),Venkatespuram Village,Hosur Taluk,Krishnagiri District lying in Latitude 12°44'04.73"N to 12°43'57.8"N,Longitude 77°56'12.53"E to 77°56'08.21"E)	125072	m ³ / 5 Years

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	0.5	On Industrys own land
Effluent Type : Trade Effluent			

(Handwritten signature)



TAMILNADU POLLUTION CONTROL BOARD



Additional Conditions:

1. The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the DEIAA, Krishnagiri District vide Letter No. SEIAA -TN / F.No.5355 / 1(a) / EC.No.3209 / 2016, Dated: 09.07.2016.
2. The unit shall comply all the conditions imposed in the Mining Lease Agreement executed with the District Administration vide Proc. No. 81/2016(Mine-2), Dated: 09.08.2016.
3. The unit shall treat and dispose the sewage generated from the unit through Septic tank and soak pit arrangement as reported.
4. The unit shall ensure that no trade effluent is generated at any stage of its manufacturing process.
5. The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
6. The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
7. The consent issued is subject to the final outcome of National Green Tribunal (South Zone) in application No. 165/2013.
8. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

S. Palanisamy

Digitally signed by S. Palanisamy
Date: 2019.11.19 06:25:48
+05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

To
The Proprietor,
M/s.V SEKAR ROUGH STONE QUARRY,
No.270(Part I), (Government Poramboke Land), Venkateswaram Village, Shoolagiri Taluk, Krishnagiri District,
Pin: 635109

Copy to:

1. The Commissioner, SHOOLAGIRI-Panchayat Union, Shoolagiri Taluk, Krishnagiri District.
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEB-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File

POLLUTION PREVENTION PAYS

S. Palanisamy



TAMILNADU POLLUTION CONTROL BOARD



Category of the Industry :

RED

CONSENT ORDER NO. 1908228112645 DATED: 12/11/2019.

PROCEEDINGS NO.F.2298HSR/RS/DEE/TNPCB/HSR/A/2019 DATED: 12/11/2019

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT -M/s. V SEKAR ROUGH STONE QUARRY , S.F.No. 270 (Part-I), VENKATESAPURAM village, Shoolagiri Taluk and Krishnagiri District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) -Issued- Reg.

- REF:**
1. CTO's Pmc.No. F. 0949 HSR/RS/DEE / TNPCB / HSR / W&A / 2016. Dated: 21.09.2016.
 2. Unit's OCMMS application No.28112645 for RCO, Dated: 09.09.2019.
 3. IR.No: F.2298 HSR/RS/AI/HSR/2019, Dated: 05.11.2019.

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietor
M/s V SEKAR ROUGH STONE QUARRY,
S.F.No. 270 (Part-I),
VENKATESAPURAM village,
Shoolagiri Taluk,
Krishnagiri District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2021

S. Palarisamy

Digitally signed by S. Palarisamy

Date: 2019.11.13
08:27:30 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

POLLUTION PREVENTION PAYS

TAMILNADU POLLUTION CONTROL BOARD

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Rough Stone (Quarrying in an extent of 2.30 Hectal S.F.No.270 (Part 1)(Government Poramboke Land), Venkatespuram Village, Hosur Taluk, Krishnagiri District lying in Latitude 12°44'04.73"N to 12°43'57.8"N, Longitude 77°56'12.53"E to 77°56'08.21"E)	125072	m ³ / 5 Years

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	Vehicle Movement	Fugitive	Water sprinkler system	
2.	Mining Area	Fugitive	Water sprinkler system	

A. G. G. G.



TAMILNADU POLLUTION CONTROL BOARD



Additional Conditions:

1. The unit shall comply all the conditions prescribed in the Environmental Clearance issued by the DEIAA, Krishnagiri District vide Letter No. SEIAA -TN / F.No.5355 / 1(a) / EC.No.3269 / 2016, Dated: 09.07.2016.
2. The unit shall comply all the conditions imposed in the Mining Lease Agreement executed with the District Administration vide Proc. No. 81/2016(Mine-2), Dated: 09.08.2016.
3. The unit shall operate and maintain the APC measures in the form of portable water sprinklers effectively and continuously so as to satisfy the NAAQ / Emission standards prescribed by the Board.
4. The unit shall adhere to the ANL standards as prescribed by the Board.
5. The unit shall continue to develop more green belt with trees having thick canopy cover in the unit's premises.
6. The unit's operation/ activity for the mining shall not disturb the nearby agricultural land if any at any circumstances.
7. The unit shall take necessary precautionary measures to prevent any adverse impact on the nearby habitation.
8. The consent issued is subject to the final outcome of National Green Tribunal (South Zone) in application No. 165/2013.
9. The unit shall not use 'Use and throwaway plastics' such as plastic sheets used for food wrapping, spreading on dining table etc, plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastics flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag etc.,
10. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification, failing which this order will be withdrawn without any notice and further action will be initiated against the unit as per law.

S. Palanisamy District signed by S. Palanisamy Date: 2016 11 03 09:28:11 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
HOSUR

To
The Proprietor,
M/s V SEKAR ROUGH STONE QUARRY,
No.270(Part 1), (Government Pambhoke Land), Venkatesapuram Village, Shoolagiri Taluk, Krishnagiri District.,
Pin: 635109

Copy to:

1. The Commissioner, SHOOLAGIRI Panchayat Union, Shoolagiri Taluk, Krishnagiri District.
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCBE-Monitoring, Tamil Nadu Pollution Control Board, Vellore for favour of kind information.
4. File


S. DHANASEKAR, I.E.S. (T.N.)
Qualified Person

