EXECUTIVE SUMMARY FOR
PROPOSED ROUGH STONE QUARRY
CATEGORY – B1 (CLUSTER AREA – 6.41.00 Ha.)

(Submitted for Public Hearing as per the provisions of EIA Notification 2006 & its amendments thereof)

ToR Identification No. TO25B0108TN5357464N (F.No. 12396), dated 13.08.2025

PROPOSED QUARRY LEASE DETAILS	
SURVEY NO	3/1
VILLAGE	KODANGIPATTI
TALUK	BODINAICKANUR
DISTRICT	THENI
EXTENT	1.69.00Ha
PROPOSED PRODUCTION QUANTITY	ROUGH STONE: 1,62,825 m^3 PEAK PRODUCTION: 32,750 m3 (5TH YEAR)
LAND	GOVERNMENT PORAMBOKE LAND

(Sector No. 1(a) (Sector no.1 as per NABET)
Category of the Project: B1 Cluster Mining, Total Cluster Area – 6.41.00 Ha
Baseline Monitoring Period – March to May 2025

APPLICANT

THIRU.M.SURIYACHELVAN,
NO.5-3-79-1, 3RD STREET, DURAIRAJAPURAM, ANAIKARAIPATTI,
BODINAICKANUR TALUK, THENI DISTRICT-625582.

ENVIRONMENTAL CONSULTANT	LABORATORY
M/s. GLOBAL MINING SOLUTIONS *(NABET Accredited & ISO 9001 Certified Consultant)* Plot No. 6, S.F.No. 13/2, A2, VS City, RC Chettypatty, Kottamettupatty, Omalur, Salem, Tamil Nadu – 636 455. NABET Accreditation No: NABET/EIA/23-26/SA 0241, Valid Until - January 4, 2026 Contact: 97502 23535 & 94446 54520 Email: infoglobalmining@gmail.com, globalminingsolutionssalem@gmail.com	**M/s. SHRIENT ANALYTICAL & RESEARCH LABS PRIVATE LIMITED** (NABL Accredited Testing Laboratory) Valid Until -29.09.2025 #416/15, Dhargas Road, Perungalathur, West Tambaram, Chennai, Tamil Nadu, India.

Chapter 1

EXECUTIVE SUMMARY

1.1 INTRODUCTION

Environmental Impact Assessment (EIA) as a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.

This proposal is towards obtaining environmental clearance for Rough Stone Quarry over an extent of 1.69.00 Ha Government Poramboke Land in S.F. No. 3/1 of Kodangipatti Village, Bodinaickanur Taluk, Theni District, Tamil Nadu State for production capacity of 1,62,825 m^3 of rough stone for 5 years with ultimate depth up to 25 m BGL. The mining plan has prepared and same was approved by Assistant Director, Department of Geology and Mining, Theni, vide Rc.No.60/Mines/2025, Dated 09.06.2025.

As per EIA notification, 2006 and its subsequent amendments the proposed **"**Rough Stone Quarry of Thiru.M.Suriyachelvan**"** is falls under Schedule 1(a) Mining of Minerals. It is further classified under Category B1 due to the overall extent of cluster area is 6.41.00 Ha which is >5 Ha. The ToR for the preparation of EIA/EMP was approved vide ToR identification number TO25B0108TN5357464N, Dated: 13.08.2025. This report has been prepared in line with the approved TOR for maximum excavation of 1,62,825 m^3 of rough stone for 5 years with ultimate depth up to 25 m BGL.

S.No.	Description	Status/Remarks
1.	Sector	1(a), non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Rough Stone

4.	Type of Lease	The applied lease area is fresh lease .
5.	Extent of the lease	1.69.00 Ha.
6.	Proposed depth of Mining	25 m BGL for five years
7.	Method of mining	Opencast Mechanized
8.	Proposed lease period	5 Years
9.	Proposed Environmental Clearance	5 Years
10.	Proposed production quantity for Five years	Rough Stone – 1,62,825 m^3

The Lessee Thiru.M.Suriyachelvan, is an individual with sound experience in the identification, quarrying and marketing of Rough Stone and Gravel. The proposed land is a Patta land and attached as **Annexure 6.**

1.2 LOCATION

The proposed Quarry lease area is situated at S. F. No. 3/1 of Kodangipatti Village, Bodinaickanur Taluk, Theni District, Tamil Nadu State. The area lies in the north latitude of 10°00'45.29"N to 10°00'48.77"N and eastern longitude of 77°24'05.46"E to 77°24'13.45"E with Survey of India Topo Sheet No. 58 G/05. To conduct the study, the proposed mine lease area (core zone) and an impact zone of 10 km radius (called buffer zone) around the proposed mine site were considered. The EIA report is based on three months baseline data (i.e. March 2025 to May 2025)

1.3 GEOLOGY

The rock type noticed in the area for lease is Charnockite which contains mostly Quartz and Feldspar with some ferromagnesian minerals. The Charnockite is part of peninsular Gneisses, a high grade metamorphic rock.The strike of the Charnockite formation is $N35^0E$ –$S35^0W$ with dipping towards $SE60^0$.

1.4 PROJECT DESCRIPTION

This is a proposed Rough Stone quarry by Opencast Mechanized mining method with drilling and blasting. The quarrying is restricted up to a depth of 25 m below ground level. The geological reserves are estimated to be Rough Stone – 3,94,750 m^3. The

mineable reserve calculated by deducting safety distance and bench loss. The mineable reserves are 1,62,825 m^3 (41.24 %) of Rough Stone which will be recovered at the rate of 100% recovery upto a depth of 25 m Below ground level for the period of five years.

- It is proposed to quarry out rough stone with 5m bench height, 5m width with overall slope is 47° using Open cast Mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough Stone.
- There is no overburden anticipated during entire rough stone quarrying operation.

S.No.	Type of Detail	Description
1	Sector	1(a) Non coal mining
2	Fresh/Existing project	The applied lease area is fresh lease
3	Category	B1
4	Nature of mineral	Rough Stone
5	Production	Rough Stone – 1,62,825 m^3
6	Life	5 years
7	Waste generation and management	There is no overburden anticipated during the quarrying operation. Hence, no waste generation.
8	Bench height and width	Height and Width – 5m
9	Ultimate pit depth	25 m (BGL)
10	End use	Rough Stone will be loaded into tippers to needy buyers for producing aggregates, M-sand.

1.5 PROJECT REQUIREMENTS

The requirements of the project is given below.

S.No.	Nature of requirement	Description
1	Water requirement	Total water requirement of 7.0 KLD which will be procured from the outside agencies. 1.5 KLD drinking and domestic water requirement, green belt development is 2.5 KLD and dust suppression is 3.0 KLD.
2	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid.
3	Manpower requirement	Permanent employees – 8, temporary employees – 16
4	Financial requirement	Total EMP Cost for 5 years is 19.93 lakhs (This amount will be subjected to change after public hearing) i.e., 9.05 Lakhs of Capital Cost + 10.88 Lakhs of Recurring cost (For 5 Years)
5	Funds for Socio economic development	INR 3 Lakhs is allocated for CER activities.

1.6 DESCRIPTION OF LEASE AREA

The features in the study area is given below.

Description of the lease area		
S.No.	**Areas**	**Distance from project site**
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	Nil within 15km radius
2	Areas which are important or sensitive for ecological reasons	
A	Wetlands, water courses or other water bodies,	**Core Zone** – NIL **Buffer Zone** • Odai 1 - 140 m (W) • Odai 2 - 250 m (E) • Odai 3 - 380 m (E) • Odai 4 - 550 m (W) • Kottagudi River - 1.15 km (S)

		• Tank - 2.21 km (SW) • Meenakshipuram Tank - 3.64 km (W) • Valai Ar - 3.0 km (NE) • Bodipuram Lake - 5.55 km (E) • Karupasamy Temple Dam - 7.25 km (SE) • Veerapandi River - 6.85 km (SE) • Veerapandi Check Dam - 6.00 km (SE)
B	Coastal zone, biospheres,	Nil within 10km radius
C	Mountains, forests	Agamalai R.F – 180 m (N) Perumalkovil karadu R.F. – 8.0 km (E) Bodi Hill West Forest-9.20 km-West
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	NIL within 10 km radius
4	Inland, coastal, marine or underground waters	Nil within 10 km radius
5	State, National boundaries	Nil within 10km radius
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Nil within 10 km radius
7	Defense installations	Nil within 10km radius
8	Nearest Village	Durairajapuram – 1.8 km (SW)
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Theni – 7.3 km E
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	Nil

11	Areas already subjected to pollution or environmental damage. (those where existing legal environmental standards are exceeded)	Nil
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earth quakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions) similar effects	No. The area is not prone to earthquakes, floods, etc.

The baseline data collection for meteorology, air, water, noise and soil environments have been carried out during March to May 2025.

Air, water, noise and soil samples are collected and analyzed through NABL accredited lab.

1.7 AIR ENVIRONMENT

The air monitoring have been carried out in 7 locations and the results are given below.

Details Of Ambient Air Quality Monitoring Locations				
S. No.	**Station Code**	**Locations**	**Distance & Direction**	**Coordinates**
1	AAQ 1	Within Mine Lease area	Core Zone	10° 0'46.73"N & 77°24'10.07"E
2	AAQ 2	Durairajapuram	2.09 km, SW	10° 0'12.78"N & 77°23'12.01"E
3	AAQ 3	Bodinayakanur	5.53 km, W	10° 0'42.10"N & 77°21'8.11"E
4	AAQ 4	Boothipuram	5.0, E	10° 0'34.85"N & 77°26'56.06"E
5	AAQ 5	Kodangipatti	3.97 Km, SE	9°59'33.04"N & 77°25'59.91"E
6	AAQ6	Kamarajapuram	4.17 Km, S	9°58'25.93"N & 77°24'17.74"E
7	AAQ7	Vishvaspuram	4.67 Km, SW	9°58'32.82"N & 77°22'45.33"E

Results of Air sampling Analysis in 7 locations			
Station ID	**Min**	**Max**	**Avg.**
Particulate matter PM-$_{2.5}$ ($\mu g/m^3$)			
AAQ-1	23.60	34.90	29.80
AAQ-2	21.90	31.10	25.90
AAQ-3	20.60	29.30	24.20
AAQ-4	18.26	26.80	22.20
AAQ-5	21.71	29.60	25.10
AAQ-6	19.12	24.48	21.82
AAQ-7	23.92	28.24	26.08
CPCB NAAQS 2009 for PM $_{2.5}$ - 60 $\mu g/m^3$			
Particulate matter PM-$_{10}$ ($\mu g/m^3$)			
AAQ-1	51.70	72.80	64.24
AAQ-2	49.20	69.70	56.90
AAQ-3	44.80	63.80	52.60
AAQ-4	39.70	55.60	48.0
AAQ-5	47.20	64.40	54.60
AAQ-6	40.70	52.10	46.44
AAQ-7	50.90	60.10	55.50
CPCB NAAQS 2009 for PM $_{10}$ - 100 $\mu g/m^3$			
Sulphur Di-oxide as SO_2 ($\mu g/m^3$)			
AAQ-1	5.70	8.60	6.80
AAQ-2	5.20	7.50	6.40
AAQ-3	4.80	6.90	5.90
AAQ-4	4.60	6.90	5.80

AAQ-5	5.10	7.20	6.20
AAQ-6	4.10	5.80	5.02
AAQ-7	4.50	6.80	5.65
CPCB NAAQS 2009 for SO_2 – 80 µg/m^3			
Oxide of Nitrogen as NO_2 (µg/m^3)			
AAQ-1	7.80	12.50	9.83
AAQ-2	7.50	10.60	9.10
AAQ-3	7.20	10.20	8.60
AAQ-4	6.40	8.70	7.60
AAQ-5	6.70	8.80	7.90
AAQ-6	5.70	9.20	7.04
AAQ-7	7.60	11.20	8.92
CPCB NAAQS 2009 for NO_2 – 80 µg/m^3			

All the values of pollutant concentrations were found to be within the NAAQs Standards.

1.8 WATER ENVIRONMENT

Results of Ground Water sampling Analysis in 5 locations								**Standards as Per IS 10500: 2012**	
	W1	W2	W3	W4	W5	W6	W7	**Acceptable Limits**	**Permissible Limits**
Odour	AGREEABLE	AGREEABLE	Agreeable	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	Agreeable	Agreeable
Turbidity	<1	<1	<1	<1	<1	<1	<1	1	5
pH at 25 °C	6.92	7.22	7.27	7.74	7.49	7.66	7.88	6.5-8.5	No Relaxation
Electrical Conductivity	788.2	1456	1124	686.4	1048	972.2	1132	-	-
Total Dissolved Solids	472	908	696	420	639	583	691	500	2000
Total hardness as CaCO3	283	516	393	204	268	232	282	200	600
Calcium as Ca	60.8	105	96.8	47.2	67.6	72.4	69.6	75	200
Magnesium as Mg	31.9	61.5	36.2	20.6	23.8	12.2	25.9	30.0	100
Calcium as CaCO3	152	263	242	118	169	181	174	-	-

Magnesium as CaCO3	131	253	151	86.0	99.0	51.0	108	-	-
Total alkalinity as CaCO3	194	259	259	172	218	192	204	200	600
Chloride as Cl-	97.5	272	214	168	185	178	198	250	1000
Free Residual chlorine as Cl-	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	BDL (D.L - 0.2)	0.2	1
Sulphates as SO42-	71.8	169	91.3	56.9	123	96.3	129	200	400
Iron as Fe	BDL (D.L - 0.01)	0.04	0.06	0.03	0.05	0.04	0.07	0.3	No Relaxation
Nitrate as NO3	2.79	3.84	3.04	2.67	3.67	3.41	3.78	45	No Relaxation
Fluoride as F	0.47	0.52	0.49	0.35	0.54	0.49	0.55	1	1.5
Manganese as Mn	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	BDL (D.L - 0.05)	0.1	0.3

Surface Water Analysis Results

Sr.No	Parameter	Unit	SW1	SW2	Surface water standard s (IS 2296 Class-A)
1	Odour	-	Agreeable	Agreeable	-
2	Turbidity	NTU	<1.0	<1.0	1
3	pH at 25 °C	-	7.92	7.85	6.5-8.5
4	Electrical Conductivity	µs/cm	145.6	120.2	-
5	Total Dissolved Solids	mg/l	90	72	500
6	Total hardness as CaCO3	mg/l	28.2	21.1	-
7	Calcium as Ca	mg/l	7.56	4.68	300
8	Magnesium as Mg	mg/l	2.23	2.26	-
9	Calcium as CaCO3	mg/l	18.9	11.7	-
10	Magnesium as CaCO3	mg/l	9.3	9.4	-
11	Total alkalinity as CaCO3	mg/l	35.6	26.3	-
12	Chloride as Cl-	mg/l	23.5	25.1	-
13	Free Residual chlorine as Cl-	mg/l	BDL (D.L - 0.2)	BDL (D.L - 0.2)	250
14	Sulphates as SO42-	mg/l	21.3	12.6	400
15	Iron as Fe	mg/l	BDL (D.L - 0.01)	0.04	1.0
16	Nitrate as NO3	mg/l	2.14	1.84	20
17	Fluoride as F	mg/l	0.45	0.41	1.5
18	Manganese as Mn	mg/l	BDL (D.L - 0.05)	BDL (D.L - 0.05)	0.5
19	COD	mg/l	BDL (D.L - 4.0)	BDL (D.L - 4.0)	-
20	BOD	mg/l	BDL (D.L - 2.0)	BDL (D.L - 2.0)	-
21	TSS	mg/l	BDL (D.L - 5.0)	BDL (D.L - 5.0)	-
22	DO	Mg/l	6.2	6.4	-

1.9 NOISE ENVIRONMENT

Noise levels were measured in 7 locations and the results are given below.

Monitoring Location	N1	N2	N3	N4	N5	N6	N7
DAY EQUIVALENT	49.3	52.4	50.3	49.4	48.2	45.4	49.8
NIGHT EQUIVALENT	39.6	39.9	38.6	42.2	41.4	37.9	43.5
DAY & NIGHT EQUIVALENT	47.7	50.8	48.7	48.0	46.8	44.0	48.5
Limits as per MoEF&CC							
Day equivalent - 55 dB (A); Night equivalent - 45 dB (A); Work zone Exposure in 8 hr - 90 dB (A)							

1.10 SOIL ENVIRONMENT

Soil samples are collected from 7 locations and the results are given below.

S. No	Parameter	Unit	S1	S2	S3	S4	S5	S6	S7
1	pH at 25 °C	-	6.46	6.82	6.71	7.02	6.83	6.59	7.14
2	Electrical Conductivity	µmhos/cm	46.92	90.41	69.4	112.3	59.24	87.18	127.5
3	Dry matter content	%	94.18	94.68	96.93	97.18	95.44	96.39	97.36
4	Water Content	%	5.82	5.32	3.07	2.82	4.56	3.61	2.64
5	Organic Matter	%	1.04	1.48	1.29	1.57	1.62	1.89	1.41
6	Soil texture	-	SILT LOAM	SANDY CLAY	SILT LOAM	SILT LOAM	SILT LOAM	SILT LOAM	SILT LOAM
7	Grain Size Distribution i. Sand	%	29.48	53.89	32.58	31.67	32.18	31.82	31.39
8	ii. Silt	%	52.08	26.82	50.34	50.42	50.75	50.38	50.68
9	iii. Clay	%	18.44	19.29	17.08	17.91	17.07	17.80	17.93
10	Phosphorous as P	mg/kg	2.32	1.68	1.89	2.49	1.82	2.08	1.89
11	Sodium as Na	mg/kg	532	466	602	669	704	624	718
12	Potassium as K	mg/kg	389	274	354	378	418	356	419

13	Nitrogen and Nitregenous Compounds	mg/kg	118	96.6	189	139	159	118	152
14	Total Sulphur	%	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)	BDL(D.L.0.02)
15	Porosity	%	19.6	20.2	19.6	18.9	20.1	19.7	20.6
16	Water Holding Cabacity	Inches/foot	42	44	40	42	40	42	38

1.11 BIOLOGICAL ENVIRONMENT

FLORA

For measuring the extent of flora present in the study area, the area is divided in to 4 quadrants. The flora population in each quadrant is summed up for the total population in the study area. Field survey is done. Erukku, Aavarai and Nayuruvi are found in lease area. In the buffer zone, common trees like Neem, papaya, mango, teak, etc and shrubs like Avarai, Aloe vera, etc, climbers like Kovai,jasmine etc are found.

FAUNA

In the study area, commonly found animals like dogs, cats, bush rat, cows, birds like crow, Myna, Sparrow, etc were found.

1.12 LAND USE

The land use land cover data is found using the LANDSAT – 9 satellite imagery. The number of bands used are 11. The land use pattern is given below:

Major Land Use Units of the Study Area in Percentage

Sl.No.	LAND USE / LAND COVER	Area in Sq.Km	Area in Percentage
1	Built-up land	15.53	4.85
2	Crop land	50.61	15.87
3	Fallow land	26.21	8.20
4	Hill and Forest	99.9	31.25

5	Land with scrub	42.65	13.34
6	Land without scrub	10.05	3.14
7	Plantations	66.31	20.74
8	Water bodies	8.37	2.61
	Total Area	319.63	100.00

1.13 SOCIO ECONOMIC ENVIRONMENT

The socio economic environment of the study area is studied by conducting primary sites through site visits and conducting sample surveys. The secondary data obtained from Census 2011 is also used.

The following data area collected from secondary data.

- Demographic pattern.
- Health pattern
- Occupational structure.
- Amenities available.

The expert visited 6 villages in the study area Durairajapuram, Bodinayakanur, Boothipuram, Kodangipatti, Kamarajapuram and Vishvaspuram Villages. Discussions were held with the people from nearby locality to study the social and economic conditions prevailing in the area. The expert also visited nearby hospitals, primary health centres and Nalmukkal. The following observations were made.

The following observations were made.

Primary and higher secondary schools are available in many villages. For hospital facilities, people in the locality have to go to hospital within 5 km from the project site.

1.14 HYDROGEOLOGY OF THE LEASE AREA

There is seasonal odai passing on west side of the area and is 140m away from the area, another two seasonal odai passing on east side of the area and is 250m, 380m

away from the area. There are four tanks within 1 km radius and Kottagudi River is located at 1.15 km (S). The other major water bodies in buffer are given below.

- Tank - 2.21 km (SW)
- Meenakshipuram Tank - 3.64 km (W)
- Valai Ar - 3.0 km (NE)
- Bodipuram Lake - 5.55 km (E)
- Karupasamy Temple Dam - 7.25 km (SE)
- Veerapandi River - 6.85 km (SE)
- Veerapandi Check Dam - 6.00 km (SE)

The quarrying activity will not intersect ground water table as quarrying is proposed upto a depth of 25 m bgl and water table is found at a depth of 70 m BGL.

1.15 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Environmental impacts on the following environments are identified.

- Land environment
- Water environment
- Vegetation
- Fauna
- Air environment
- Noise environment
- Socio-economic impacts

1.16 LAND ENVIRONMENT: IMPACT AND MITIGATION MEASURES

The major impact due to this project on land environment is the change in land use. Since this quarry is a small one and the production is less, mining activity will be carried out upto 25 m BGL. Other than quarrying of minerals, no other change will be done since there is no dumping. To prevent soil erosion during

monsoon season, garland drain will be constructed with silt traps. At the mine closure stage, 1.27.00 Ha of lease area will be left as rain water harvesting pond. 0.40.0 Ha will be developed with green belt. For this, plants like Pongamia pinnata, Syzigium cumini, Albizia lebbeck, Thespesia populnea, Bauhinia racemose, Cassia siamea, Azadirachta indiaca are selected. A total of 400 trees are planned to be planted. Spacing will be 3m x 3m.

1.17 WATER ENVIRONMENT: IMPACT AND MITIGATION MEASURES

There is seasonal odai passing on west side of the area and is 140m away from the area, another two seasonal odai passing on east side of the area and is 250m, 380m away from the area. There are four tanks within 1 km radius and Kottagudi River is located at 1.15 km (S). The rainfall over the area is moderate, the rainwater storage in open wells, trenches is in practice over the area and the stored water acts as source of freshwater.

Since the mining operation will be limited upto depth of 25 m (BGL), there will not be any seepage. However, the rain water percolation and collection of water from seepage shall be less than 300lpm and it shall be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5H.P.Motor. The quality of water is expected to be potable. Hence, water stored in the quarry pit will be pumped into the adjacent agricultural fields. Further the water can also be used for plantation purposes

Since these water bodies are located outside the lease area and there is no discharge of effluent or any untreated water from the mines will be made in to these water bodies, there is no major impact. The proponent will restrict the mining operation only within the lease and no other work will be carried out near the water bodies or any area outside the lease.

It is planned to carryout appropriate rainwater harvesting schemes and artificial recharge schemes in the area.

- Rain water falling in the quarry will be collected efficiently through garland drains.

- Water thus collected will be passed through collection tank with silt traps. This water can be used by the proponent for water sprinkling and for green belt purposes.
- Excess water after desiltation will be provided to downstream users, if any

1.18 BIOLOGICAL ENVIRONMENT: IMPACT AND MITIGATION MEASURES

Impacts

- Fauna is affected due to noise and vibration.
- Dust generation due to mining activities
- Change in land use of the lease area
- Accidental falling of animals

Mitigation measures

- Sirens will be blown before blasting in the mines. To reduce noise levels, plantation will be done. Blasting will be carried out only in the allotted time.
- To reduce dust generation, mist sprayers will be used. During transportation, the material will be covered with tarpaulin. Water sprinkling will be done to reduce generation of pollutants
- After the mine closure stage, the mine pit will be left as rain water collecting tank, which can attract bird population in the nearby areas.
- To prevent entry of animals, the mining area will be properly fenced.

1.19 AIR ENVIRONMENT: IMPACT AND MITIGATION MEASURES

The major air pollutants due to mining operations are fugitive emissions like PM_{10}, $PM_{2.5}$. Other than these pollutants, gaseous emissions of sulfur dioxide (SO_2) and oxides of nitrogen (NO_x) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

The major impacts are Dust emission due to drilling, blasting and transportation. The major mitigation measures include Using Wet drilling methods, Allowing drilling only with PPE, Carrying out blasting only during specified times, Avoiding blasting during unfavourable weather conditions, Using explosives of good quality, Using mist sprayers Regular wetting of transport, Covering the materials carried in tippers with

tarpaulin, Proper maintenance of vehicles used for transportation, Conducting regular emission tests for vehicles used for transport Development of greenbelt is proposed in the safety zone of 7.5m barriers in the lease area.

The anticipated data is calculated using AERMOD software and the projected values are found to be within limits.

1.20 NOISE ENVIRONMENT: IMPACT AND MITIGATION MEASURES

Impacts

- Noise generation in mining is due to operation like drilling, blasting and transportation of minerals within and outside the lease area.
- As per DGMS (Directorate General of Mines Safety) and OSHA (Occupational Safety and Health Administration) limits, the acceptable noise level is 90 dB(A) for an exposure period of 8 hours.
- Exposure to loud noise can also cause high blood pressure, heart disease, sleep disturbances, and stress. Noise pollution also impacts the health and well-being of wildlife.
- Noise exceeding prescribed limits may cause impairment like abnormal loudness perception, tinnitus, which causes a persistent high-pitched ringing in the ears, paracusis or distorted hearing

Mitigation measures

- As the distance between the source and receptor increases, the noise level also decreases. Hence, there will be a natural attenuation
- The proposed has planned to develop green belt in the periphery of the lease area, which diminishes sound volume by dampening them.
- All the equipment/machinery/trucks involved will be properly maintained to control noise generation
- Conducting regular health checkups for employees involved
- Employees will be made to work on shifts to reduce their exposure time
- Providing earplugs to all employees

By adopting these measures, the noise levels will be maintained well within MoEF & CC limits since the baseline value is low.

VIBRATION: IMPACT AND MITIGATION MEASURES

Impacts

- Though vibration will be only felt by the people working inside the lease area, it is usually undesired.
- Vibration may also cause flyrocks
- It may frighten the birds and small insects in the lease area. However, it will be felt only for a short period

Mitigation measures

- Carrying out blasting on limited scale, only from 12:00 PM to 2:00 PM
- Control of fly rock and vibration by maintaining peak particle velocity with in standard as prescribed by the DGMS and MOEF & CC.
- Shallow depths jackhammer drilling and blasting is proposed to be carried out with minimum use of explosive
- Supervising blasting by competent and statutory foreman/ mines manager

1.21 SOCIO ECONOMIC ENVIRONMENT

Impact and Mitigation measures

No land is acquired from anyone. No rehabilitation is needed. Hence, there is no negative impact. The proponent has planned to spend INR 3,00,000 for CER activities. This amount will be subjected to change after public hearing.

1.22 OCCUPATIONAL HEALTH

Impacts

Dust generation due to drilling and blasting, Noise generation due to drilling and blasting, unexpected accidents. Continuous exposure to dust causes Pneumonia, Tuberculosis, Rhematic arthritis and Segmental Vibration, Short term impact will be lack of sleep, high blood pressure and heart ailments. Long term exposure may lead to partial or permanent deafness, Risks include fly rocks, cracks or fissures due to

improper mining methods

Mitigation measures

- Using dust suppression measures like water spraying on roads to reduce rise of air pollutants
- Providing green belt for air pollutant and noise attenuation
- Ensuring slope stability
- Employing only trained professionals for blasting
- Conducting Pre-Medical Examination for employees before inducting
- Conducting periodical Medical Examination once in 6 months.
- Making all first aid kits available in mines office
- Keeping fire extinguisher in place
- Educating the employees about how to handle unexpected happenings
- Posting information containing emergency contact numbers in mines office
- By adopting all these measures, the safety of the employees working in the quarry will be ensured.

1.23 ENVIRONMENTAL MONITORING PROGRAMME

Monitoring is done to measure the efficiency of control measures implemented. Regular monitoring of various environmental parameters like air, water, noise and soil environments is needed to assess the status of environment during the project operation. A schedule is framed with timeline to monitor various parameters during the operation of the project. To evaluate the effectiveness of environmental management programme, regular monitoring of the important environmental parameters will be taken up. Air monitoring will be carried out once in 3 months, water sample will be collected once in a season, noise will be monitored once in 3 months, soil samples will be analyzed once per season. For EMP, a budget of INR

19.93 Lakhs (5 years) is allocated.

1.24 PROJECT BENEFITS

Financial benefits

- This project will contribute financially through payment of taxes like royalty, GST, etc.,
- The project will also contribute via CSR.
- The demands of people during public hearing will also be considered by the project proponent

Social benefits

- This project provides employment to 24 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 3,00,000 is allocated.
- Based on the demand of the people during public hearing, further funds will be allocated, if necessary.
- Various aspects of mining activities were considered and related impacts were evaluated. Considering all the possible ways to mitigate the environmental concerns Environmental Management Plan was prepared and 19.93 lakhs for the five years has been allocated as EMP cost. The EMP is dynamic, flexible and subjected to periodic review. For project where the major environmental impacts are associated, EMP will be under regular review. Thus, the proper steps will be taken to accomplish all the goals mentioned in the EMP and the project will bring the positive impact in the study area.

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ANNEXURE-1

Annexure I

MINING PLAN APPROVED
ASST. DIRECTOR GEOLOGY & MINING, THENI
ASST. DIRECTOR (GEOM), THENI

அனுப்புநர்
சோ.கிருஷ்ணமோகன்,
உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
தேனி.

பெறுநர்:
திரு.மு.சூரியச்செல்வன்,
த/பெ.மு.முருகேசன்,
எண்.5-3-79-1இ 3வது தெரு,
துரைராஜபுரம்,
அணைக்கரைப்பட்டி,
போடிநாயக்கனூர் வட்டம்.
தேனி மாவட்டம் - 625582.

ந.க.எண்.60/கனிமம்/2025, நாள்: 03.03.2025.

அய்யா,

பொருள்: கனிமங்களும், குவாரிகளும் - சிறுவகைக் கனிமம் - சாதாரண கற்கள் - தேனி மாவட்டம் - அரசு புறம்போக்கு நிலங்களில் உள்ள பழைய மற்றும் புதிய கல்குவாரிகளை - 1959-ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகளின்படி - மின்னணு டெண்டர் மற்றும் மின்னணு ஏலம் (E-Auction) முறையில் - பொது ஏலத்திற்கு கொண்டு வர மாவட்ட அரசிதழ் சிறப்பு வெளியீடு செய்யப்பட்டது - மின்னணு ஏல விண்ணப்பங்கள் வரவேற்கப்பட்டது - தேனி மாவட்டம் - போடிநாயக்கனூர் வட்டம் - கோடாங்கிபட்டி கிராமம் - அரசு புறம்போக்கு புல எண்.3/1 - விஸ்தீரணம் 1.69.00 ஹெக்டேர் பரப்பில் திரு.மு.சூரியச்செல்வன், த/பெ.மு.முருகேசன் விண்ணப்பித்தது - மின்னணு ஏலத்தில் 3,33,00,000/-க்கு அதிகபடியாககோரி வெற்றிப் பெற்ற ஏலதாரராக தேர்வு செய்யப்பட்டது - ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் ஒப்புதல் பெற்று சமர்பிக்க கோருதல் - தொடர்பாக.

பார்வை:

1. வருவாய் கோட்டாட்சியர், உத்தமபாளையம் கடிதம் ந.க.எண்.5699/2023/அ4, நாள்:17.11.2023.
2. மாவட்ட வன அலுவலர், தேனி, தேனி வனக்கோட்டம், தேனி. கடிதம் எண்.12122/2023/டி, நாள்:05.01.2024.
3. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, தேனி அவர்களின் புலத்தணிக்கை அறிக்கை நாள்:08.01.2024.
4. தேனி மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண்.5, நாள்:12.12.2024.
5. நேரடி மற்றும் பொது மின்னணு ஏலம் (E-auction) நாள்:22.01.2025.
6. இவ்வலுவலக குறிப்பாணை ந.க.எண்.943/கனிமம்/2024, நாள்:23.01.2025.

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பார்வை 1, 2 மற்றும் 3-ல் காணும் பரிந்துரை அறிக்கையின்படி, பார்வை 4-ல் காணும் தேனி மாவட்ட அரசிதழ் சிறப்பு வெளியீடு எண்.5, நாள்:12.12.2024-ல் தேனி

மாவட்டம், போடிநாயக்கனூர் வட்டம், கோடாங்கிபட்டி கிராமம், அரசு புறம்போக்கு புல எண்.3/1-ன் பரப்பு 1.69.00 ஹெக்டேர் பரப்பில் குவாரி குத்தகை உரிமம் வழங்க விண்ணப்பங்கள் வரவேற்கப்பட்டது. அதனை தொடர்ந்து, பார்வை 5-ல் காணும் திரு.மு.சூரியச்செல்வன், த/பெ.மு.முருகேசன் என்பவர் தேனி மாவட்டம், போடிநாயக்கனூர் வட்டம், கோடாங்கிபட்டி கிராமம், அரசு புறம்போக்கு புல எண்.3/1-ன் பரப்பு 1.69.00 ஹெக்டேர் பரப்பு கல்குவாரிக்கு ரூ.3,33,00,000/-க்கு ஏலம் கோரி வெற்றி பெற்ற ஏலதாரராக தேர்வு செய்யப்பட்டார்.

அதனை தொடர்ந்து, பார்வை 6-ல் காணும் குறிப்பாணையில், 1959-ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.8 (16) (ii) (H)-ன்படி மேற்படி ஏலத்தொகைக்கு 90% தொகை ரூ.2,89,70,000/-ஐ (2,99,70,000 - EMD தொகை 10,00,000/-) ஒரு மாத காலத்திற்குள் மின்னணு கட்டண சேவை, ESC (Electronic Clearance Service) மூலம் அரசு கணக்கு தலைப்பில் செலுத்தி அசல் சலானை சமர்ப்பிக்குமாறு கேட்டுக் கொள்ளப்பட்டது. அதனை தொடர்ந்து, ரூ.2,89,70,000/-ஐ இணையதள சலான எண்.20250219013248, நாள்:29.01.2025-ன்படி செலுத்தி சலான் சமர்ப்பித்துள்ளார்.

எனவே, வருவாய் கோட்டாட்சியர், உத்தமபாளையம், மாவட்ட வன அலுவலர், தேனி மற்றும் உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, தேனி ஆகியோர்களின் பரிந்துரை அறிக்கையின் அடிப்படையில், விண்ணப்பதாரர் திரு.மு.சூரியச்செல்வன், த/பெ.மு.முருகேசன் என்பவருக்கு தேனி மாவட்டம், போடிநாயக்கனூர் வட்டம், கோடாங்கிபட்டி கிராமம், அரசு புறம்போக்கு புல எண்.3/1-ன் பரப்பு 1.69.00 ஹெக்டேர் சாதாரண உடைகற்கள் வெட்டியெடுத்து குவாரிப்பணி செய்ய தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959-ன் விதி 8(6)(c)-ன்படி 5 (ஐந்து) ஆண்டுகளுக்கு கற்குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதி குவாரி உரிமம் வழங்க ஏதுவாக 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம விதிகள், விதி எண்.41-ன்படி ஏற்பளிக்கப்பட்ட சுரங்கத் திட்டத்தினை 90 தினங்களுக்குள்ளும் அதனை தொடர்ந்து, 1959-ம் வருடத்திய தமிழ்நாடு சிறுகனிம விதிகள், விதி எண்.42-ன்படி மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினையும் பெற்று சமர்பிக்க வேண்டும்.

நிபந்தனைகள்:

- அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டரும், அரசு புறம்போக்கு நிலங்களுக்கு 10 மீட்டரும் பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி மேற்கொள்ள வேண்டும்.

- அருகிலுள்ள பட்டாதாரர்களுக்கு எவ்வித இடையூறுமின்றி / அருகிலுள்ள பட்டா மற்றும் அரசு புலங்களில் எவ்வித ஆக்கிரமிப்பும் இன்றி குவாரிப்பணி மேற்கொள்ள வேண்டும்.

- கற்குவாரி குத்தகை உரிமம் பெறுவதற்கு முன்பாக ஆணையர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை அவர்களின் கடிதம் ந.க.எண்.2921/எம்.எம்.4/2016, நாள்:09.03.2021-ல் தெரிவிக்கப் பட்டுள்ளவாறு குத்தகைதாரர் குவாரிபணி தொடங்குவதற்கு முன்னர் உரிமம் வழங்கப்பட்ட எல்லைகளை DGPS முறையில் அளவீடு செய்து குறுந்தட்டில் பதிவு செய்து அறிக்கையாக சமர்ப்பிக்க வேண்டும்.

உதவி இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
தேனி.

ANNEXURE-2

From
Thiru.S.Krishna Mohan,
Assistant Director,
Dept.of Geology and Mining,
Theni.

To,
Thiru.M.Suriyachelvan,
S/o.Murugesan,
No.5-3-79-1, 3rd Street,
Durairajapuram, Anaikaraipatti,
Bodinayakkanur Taluk,
Theni District – 625582.

Rc. No.60/Mines/2025, dated. 09.06.2025

Sir,

Sub: Mines and Minerals Theni District Rough Stone e-Tender cum auction conducted for Roughstone quarries in Government lands Thiru.M.Suriyachelvan, S/o.Murugesan quoted highest Bid amount (H1) For the quarry in S.F.No.3/1, over an extent of 1.69.00 hectares in Kodangipatty Village, Bodinayakkanur Taluk Declared as HI bidder H1 Bid Amount remitted Precise Area Communicated Draft Mining Plan submitted for approval Approved - Reg.

Ref:
1. Theni District Gazette Extraordinary Notification, No.5, dated:12.12.2024.
2. Notice Issued by the Assistant Director of Geology and Mining, Theni in Re.No.60/Mines/2025, dated:03.03.2025
3. Assistant Director, Geology and Mining, Theni Precise area communication letter Roc No. Rc.No.60/Mines/2025, Dated:03.03.2025.
4. Mining Plan submitted by Thiru.M.Suriyachelvan on 04.03.2025.

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As per rule 8 of the Tamil Nadu Minor Mineral Concession Rules, 1959, E-Auction for the grant of quarry lease for Roughstone quarries in Government lands were notified vide reference 1st cited in Theni District Extraordinary Gazette Notification No.5, dated12.12.2024 and Thiru.M.Suriyachelvan, S/o.Murugesan vide reference 2nd cited has been declared as the Highest Bidder for the rough stone quarry in S.F.No.3/1, to an extent of 1.69.00 hectares in Kodangipatty Village, Bodinayakkanur Taluk, Theni District.

2) The precise area communication letter was issued by the Assistant Director, Geology and Mining, Theni, vide reference 3rd cited and the highest bidder Thiru.M.Suriyachelvan, has submitted the draft Mining Plan prepared by the Recognised Qualified Person for five years and has submitted the same for approval vide reference 4th cited.

3) The draft Mining Plan submitted in respect of the precise area communication has been examined with reference to the provisions of Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959 and the followings are observed.

i) The boundary of Co-ordinates (GPS readings) for the entire boundary pillars of the area have been incorporated and shown in the mining plan.

ii) All the conditions stipulated in the Assistant Director, Geology and Mining, Theni letter Rc.No. 60/Mines/2025, Dated: 03.03.2025 have been incorporated in the mining plan.

iii) The available geological and mineable resources in the precisea area restricted to a depth of 25m for a period of 5 years is as follows:

Depth in mts.,	**Geological reserves (in MT)**
25m	Roughstone – 10,85,562.5

iv) The Recoverable reserves estimated for 5 years on the mining plan for quarrying roughstone to a depth of 25m below ground level is as follows:

Depth in mts.,	**Mineable reserves (in MT)**
25m	Roughstone – 4,47,768.75

4) In light of the above, in exercise of the powers conferred under Rule 41(7) of Tamil Nadu Minor Mineral Concession Rules, 1959, the mining plan in respect of Rough stone quarry in Government Poramboke lands of Thiru.M.Suriyachelvan, S/o.Murugesan, is approved subject to the following conditions:

i. The mining plan is approved without prejudice to any other order or direction from any court of contempt jurisdiction.

ii. 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.

iii. The approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Act 1957, or any other connected laws including Forest (Conservation) Act, 1980, Forest Conservation Rules, 1981, Environment Protection Act, 1980, Indian Explosives Act, 1884 (Central Act IV of 1884) and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.

iv. The applicant is entitled for production of 4,47,768.75 Metric Ton of Rough stone for a period of 5 years as per Mining plan.

v. Quarrying operations should be carried out in accordance with the Approved Mining Plan.

vi. A safety distance of 7.5 meters should be provided to the adjoining patta lands.

vii. A safety distance of 10 meters should be provided to the adjoining Government poramboke lands.

viii. No hindrance shall be caused to the adjacent pattadars lands, Government poramboke odai and public while carrying out quarrying operations.

ix. Environmental Clearance should be obtained from the State Level Environment Impact Assessment Authority, Chennai.

Encl: Approved Mining plan.

09-06-2025

Assistant Director,
Geology and Mining,
Theni.

09/06/2025

ANNEXURE-3

From
Assistant Director,
Dept. of Geology and Mining,
Theni.

To
The Chairman,
State level Environment
Impact Assessment Authority,
3rd floor, Panagal Maligai,
No.1, Jeenis Road,
Saidapet,Chennai.

Roc. No.60/Mines/2025, dated.19.06.2025

Sir,

Sub: Mines and Minerals - Minor Mineral - Rough Stone - Theni District – Bodinayakkanur Taluk - Kodangipatty Village - Govt. land – quoted highest Bid Amount (H1) for the quarry in in S.F. Nos. 3/1 - Over an extent of 1.69.00 Hects – Thiru.M.Suriyachelvan – Precise area communicated – Draft Mining Plan submitted - Approval accorded – 500 meter radius quarry details –Requested - Regarding.

Ref:
1. Theni District Gazette Extraordinary Notification, No.5, dated: 12.12.2024
2. Notice Issued by the Assistant Director of Geology and Mining, Theni dated: 03.03.2025 in Rc.No.60/Mines/2025, dated:03.03.2025.
3. Assistant Director, Geology and Mining, Theni Precise area communication letter Rc.No.60/Mines/2025, Dated:03.03.2025
4. Mining Plan submitted by Thiru.M. Suriyachelvan on 04.03.2025.

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As per rule 8 of the Tamil Nadu Minor Mineral Concession Rules, 1959, E-Auction for the grant of quarry lease for Roughstone quarries in Government lands were notified vide reference 1st cited in Theni District Extraordinary Gazette Notification No.5, dated 12.12.2024 and Thiru. M.Suriyachelvan, S/o.Murugesan vide reference 2nd cited has been declared as the Highest Bidder for the rough stone quarry in S.F.No.3/1, to an extent of 1.69.00 hectares in Kodangipatty Village, Bodinayakkanur Taluk, Theni District.

2) The precise area communication letter was issued by the Assistant Director, Geology and Mining, Theni, vide reference 3rd cited and the highest bidder Thiru.M.Suriyachelvan, has submitted the draft Mining Plan prepared by the Recognised Qualified Person for five years and has submitted the same for approval vide reference 4th cited.

Accordingly, Thiru.M.Suriyachelvan has submitted the draft Mining Plan and the same has been approved on 09.06.2025. In this connection the applicant has requested to furnish the details of quarry lease situated within 500 mts radius from the subject quarry for obtaining Environmental Clearance from the State Level Environment Impact Assessment Authority.

In this connection it is informed that the following existing and abandoned quarries are located within 500 radius distance from the proposed area for clearance.

A. Existing Quarries

S. No.	Name of the owner	Village and Taluk	S.F.No.	Extent (in Hects)	Collector's Proc No.& Date.	Lease Period
1.	Nil					

B. Abandoned/Expired Quarries

S. No.	Name of the owner	Village and Taluk	S.F. No.	Extent (in Hects)	Collector's Proc No.& Date.	Lease Period
1.	R.Subburaj, S/o.Rama subbu, No.D1/252-A, Green Park Apartment, P.T.Rajan Road, Visalatchipuram, Thallakulam, Madurai.	Kodangipatty Village - Bodi nayakkanur Taluk	2/2, 2/4, 2/5, 3/2, 10/2C	4.36.5	Rc.No.37/ Mines/2016, date: 28.09.2017.	28.09.2017 to 27.09.2022

C.Present Proposed Quarries

Sl. No.	Name of the owner	Village and Taluk	S.F.No.	Extent (in Hects)
1.	Thiru.M.Suriyachelvan, S/o.Murugesan, No.5-3-79-1, 3rd Street, Durairajapuram, Anaikaraipatti, Bodinayakkanur Taluk, Theni District – 625582	Kodangipatty Village - Bodinayakkanur Taluk	3/1	1.69.00
2.	R.Subburaj, S/o.Ramasubbu, No.D1/252-A, Green Park Apartment, P.T.Rajan Road, Visalatchipuram, Thallakulam, Madurai.	Kodangipatty Village - Bodinayakkanur Taluk	10/2A, 17/1, 17/3	4.72.00

15.06.2016

Assistant Director,
Geology and Mining,
Theni.

19/06/2016