DRAFT EXECUTIVE SUMMARY FOR PROPOSED ROUGH STONE AND GRAVEL QUARRY CATEGORY – B1 (CLUSTER)

(Public Hearing Upgraded after Terms of Reference (ToR) as per the provisions of EIA Notification 2006 & amendments thereof)

TOR IDENTIFICATION NO. TO25B0108TN5967367N DATED: 13/05/2025

PROPOSED QUARRY LEASE DETAILS	
SURVEY NO	39/4
VILLAGE	KAGANAM
TALUK	VEMBAKKAM
DISTRICT	THIRUVANNAMALAI
EXTENT	2.06.5 Ha
CLUSTER EXTENT	15.52.0 Ha
PROPOSED PRODUCTION QUANTITY FOR FIVE YEARS	2,71,250 m^3 of ROUGH STONE, 31,476m^3 of GRAVEL & PEAK PRODUCTION OF ROUGH STONE -54,550 m^3
LAND	PATTA LAND

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

Category of the Project: B1 Cluster Mining, Total Cluster Area – 15.52.0 Ha

Baseline Monitoring Period – Dec 2024 to Feb 2025

APPLICANT

TVL.SSS MINES
PARTNER THIRU.M.SIVA,
S.F.NO.39/4, 40/2A2 & 129/4B1B, KAGANAM VILLAGE,
VEMBAKKAM TALUK, TIRUVANNAMALAI DISTRICT.

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 up to: 04.01.2026* 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 up to: 29.09.2025* #416/15, Dhargas Road, Perungalathur, West Tambaram, Chennai, Tamil Nadu, India.

JUNE - 2025

EXECUTIVE SUMMARY

OVER ALL JUSTIFICATION FOR IMPLEMENTATION OF THE PROJECT

INTRODUCTION

Tvl. SSS Mines has obtained Precise Area communication letter from the assistant Director, Geology and Mining, Tiruvannamalai letter vide Rc. No. 263/Kanimam/2024, dated 08.01.2025 to quarry out 2,71,250m3 of Rough Stone and 31,476m3 of Gravel over an extent of 2.06.5 ha., S.F.No.39/4, Kaganam Village, Vembakkam Taluk, Tiruvannamalai District, Tamil Nadu State.

As per EIA notification, 2006 and its subsequent amendments the proposed "Rough Stone and Gravel Quarry of Tvl. SSS Mines cluster falls under Schedule 1(a) of EIA Notification and its subsequent amendments the project comes under Category B1. The ToR for preparation of EIA/EMP report of the project was approved vide ToR Identification No: T025B0108TN5967367N, Dated: 13.05.2025. This report has been prepared in line with the approved TOR for production of maximum excavation of 2,71,250m^3 of Rough Stone and 31,476m^3 of Gravel

Sl. No.	Description	Status/Remarks
1.	Sector	Non-coal mining
2.	Category of the project	B1
3.	Proposed mineral	Rough Stone and Gravel
4.	Type of Lease	New quarry
5.	Extent of the lease	2.06.5 Ha
6.	Proposed depth of mining	37m BGL
7.	Method of mining	Opencast method of mechanized.
8.	Proposed lease period	5 Years
9.	Proposed Environmental Clearance	5 Years
10.	Proposed production quantity for five years	2,71,250m^3 of Rough Stone 31,476m^3 of Gravel
11.	Peak Production	54550 m^3 of Rough Stone

The proposed lessee Tvl. SSS Mines is with sound experience in the identification of quarry, operation and marketing in the field of Rough Stone and Gravel quarry. The proposed land is Patta land, please refer **Annexure no –6.**

LOCATION

Kaganam Village, Vembakkam Taluk, Tiruvannamalai District, Tamil Nadu State and its Latitude: 12°44'44.41"N to 12°44'51.65"N and Longitude: 79°34'59.03"E to 79°35'03.47"E with Survey of India Topo Sheet No. 57- P/10. 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. December 2024 to February 2025)

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 $N45^0E$ – $S45^0W$ with vertical dipping.

PROJECT DESCRIPTION

This is a proposed Rough Stone and Quarry quarry by opencast Mechanized mining method. The quarrying is restricted up to a depth 37m BGL for the period of first five year. The geological reserves are estimated to be 7,21,000 m3 of Rough Stone & 41,200 m3 of Gravel. The mineable reserve calculated by deducting 7.5m safety distance and bench loss. The mineable reserves are 2,71,250 m3 of Rough Stone & 31,476 m3 of Gravel and the proposed production for the first five is 2,71,250 m3 of Rough Stone & 31,476 m3 of Gravel, which will be recovered at the rate of 100% recovery upto a depth of 30m above ground level for the period of five years.

- It is proposed to quarry out rough stone with 5m bench height, 5m width with 60° slope using conventional 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	New quarry
3	Category	B1
4	Nature of mineral	Minor mineral
5	Life of the mine	05 years
6	Production Quantity for five years	2,71,250 m^3 of Rough Stone & 31,476 m^3 of Gravel
7	Waste generation and management	Nil
8	Bench height and width	Proposed bench height & width is 5.0m respectively and number of proposed benches is 6 Nos.
9	Ultimate pit depth	37m BGL
10	End use	The excavated Rough Stone is used for construction industries for Government & Public sector projects besides catering domestic housing and infrastructure projects in and around the district.

PROJECT REQUIREMENTS

The requirements of the project is given below.7

S.No.	Nature of requirement	Description
1	Water requirement	Total water requirement of 4.5 KLD which will be procured from the outside agencies. Out of 1.0 KLD drinking water requirement, Green belt development 1.5 KLD and dust suppression is 2.0 KLD.
2	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid. Total Fuel requirement is 2,22,246 litres for entire life of the project.
3	Manpower requirement	Permanent employees – 15, temporary employees – 12.

4	Financial requirement	The total project cost as per PFR will be INR 249.30 Lakhs including Operational cost, Fixed Asset cost and EMP cost
5	Funds for Socio economic development	INR 5,00,000 is allocated. In addition, any demand raised by people during public hearing will also be met.

DESCRIPTION OF LEASE AREA

The features in the study area is given below.

Table 3.1 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,	Tank 180m (SE) Tank 1.1 km (NE) Tank 2.5km (NE) Tank 2.7km (W) Mamandur Tank 4.9km (E) Permanthangal Tank 6.1km (NW) Palar River 8.9km (NE)
B	Coastal zone, biospheres,	Nil within 10km radius
C	Mountains, forests	Tandappantangal R.F. 6.6km (NW) Pullavakkam Block R.F. 9.7km (W)
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, overwintering, migration	Nil within 10km radius

4	Inland, coastal, marine or underground waters	Nil within 10km 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 10km radius
7	Defense installations	Nil within 10km radius
8	Densely populated or built-up area	Tiruvannamalai – 9.86 Km - W
9	Areas occupied by sensitive man-made land uses (hospitals, schools, places of worship, community facilities)	Tiruvannamalai – 9.86 Km - W
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 December 2024 – February 2025.

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

EXPLANATION OF HOW ADVERSE EFFECTS HAVE BEEN MITIGATED

AIR ENVIRONMENT

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

S. No.	Station Code	Locations	Distance & Direction	Coordinates
1	AAQ 1	Near by the Proposed Mine Site	Core Zone	12°15'42.59"N 79°09'51.24"E
2	AAQ 2	Vadapoondipattu	2.34 km	12°43'31.85"N, 79°35'26.22"E
3	AAQ 3	Sumangali	1.95 km	12°45'6.57"N, 79°33'56.45"E
4	AAQ 4	Karandai	1.64 km	12°45'43.44"N, 79°35'14.11"E
5	AAQ 5	kelneli	2.55 km	12°45'13.45"N, 79°36'22.38"E
6	AAQ6	Mariyanallur	2.47 km	12°43'24.72"N, 79°34'46.57"E
7	AAQ7	Perumpandi	2.78km	12°44'0.36"N, 79°33'39.97"E

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

Station ID	Min	Max	Avg.
Particulate matter PM-$_{10}$ (µg/m^3)			
AAQ-1	63.6	51.5	58.8
AAQ-2	55.1	44.9	45.2
AAQ-3	51.4	40.1	50.2
AAQ-4	58.1	43.5	50.2
AAQ-5	58.2	44.1	48.9
AAQ-6	54.5	43.3	49.7
AAQ-7	55.1	44.9	49.1
CPCB NAAQS 2009 for PM $_{10}$ - 100 µg/m^3			
Particulate matter PM-$_{2.5}$ (µg/m^3)			
AAQ-1	30	23.6	23.5
AAQ-2	26.6	20.4	23.3
AAQ-3	27.6	18.2	24.1
AAQ-4	29.2	20.6	24.1
AAQ-5	26.6	20.3	22.5
AAQ-6	24.3	19.7	22.3
AAQ-7	26.6	20.4	23.55
CPCB NAAQS 2009 for PM $_{2.5}$ - 60 µg/m^3			
Sulphur Di-oxide as SO_2 (µg/m^3)			
AAQ-1	6.7	4.4	5.1
AAQ-2	7.1	4.4	5.3
AAQ-3	6.7	4.3	5.1
AAQ-4	9.1	4.5	6.4
AAQ-5	8.1	4.7	5.9
AAQ-6	6.8	4.4	5.0
AAQ-7	9.1	4.5	6.5
CPCB NAAQS 2009 for SO_2 – 80 µg/m^3			
Oxide of Nitrogen as NO_2 (µg/m^3)			
AAQ-1	11.8	9.3	10.2
AAQ-2	9.7	7.9	8.8
AAQ-3	9.1	6.8	8.0
AAQ-4	13.1	8.8	10.5
AAQ-5	10.8	8.3	9.5
AAQ-6	10.1	7	7.9

Station ID	Min	Max	Avg.
AAQ-7	13.1	8.8	10.5
CPCB NAAQS 2009 for NO_2 – 80 µg/m^3			

WATER ENVIRONMENT

Results of Ground Water sampling Analysis in 7 locations								Specification/ Limit As per IS:10500: 2012	
Parameters	W1	W2	W3	W4	W5	W6	W7	Desirable	Permissible
PH	7.59	7.32	7.42	7.22	7.66	7.54	7.27	Agreeable	Agreeable
EC	783.2	1208	2106	1248	922.6	2006	1123	Agreeable	Agreeable
TURBIDITY	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.5 - 8.5	No Relaxation
ODOUR	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	AGREEABLE	1	5
T.HARDNESS	293	426	315	498	319	231	402	500	2000
C.HARDNESS	155	275	180	323	199	76.0	143	1	15
M.HARDNESS	137	151	135	175	120	155	259	200	600
CALCIUM	62.0	110	72.0	129	79.6	30.4	57.2	200	600
MAGNESIUM	32.9	36.2	32.4	42.0	28.8	37.2	62.2	75	200
T.ALKALNITY	279	256	289	286	261	531	329		
CHLORIDE	96.9	212	534	230	165	370	186		
SULPHATE	64.5	169	342	152	76.5	320	138	250	1000
MANGENESE	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	BDL(DL-0.05)	30	100
IRON	0.05	0.07	0.06	0.06	0.02	0.07	0.03	45	No Relaxation
NITRATE	2.75	3.11	3.45	2.78	2.47	5.90	5.64	200	400
FLUORIDE	0.35	0.58	0.42	0.49	0.49	0.64	0.55	1	No Relaxation
TDS	470	726	1265	750	555	1210	676	0.1	0.3
FRC	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	Not Specified	Not Specified

All the values were found to be within permissible limits

NOISE ENVIRONMENT

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

S. No	Location	Day equivalent	Night equivalent	Day equivalent limits by CPCB	Night equivalent limits by CPCB
1	Within Mine Lease Area	45.1	37.8	75	70
2	Vadapoondipattu Village	47.4	38.2		
3	Sumangali Village	46.3	39.1		
4	Karandai Village	45.3	37.6		
5	Kelneli Village	48.8	38.8		
6	Mariyanallur Village	48.0	38.8		
7	Perumpandi Village	45.7	38.5		

SOIL ENVIRONMENT

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

Results of Soil Sample Analysis								
Parameter	**Unit**	**S1**	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**
pH at 25 °C	-	6.20	7.86	5.26	7.67	7.24	8.76	7.98
Electrical Conductivity	µmhos/cm	66.69	184.3	209.2	220.9	334.4	993.2	1327.0
Dry matter content	%	91.60	91.90	97.60	86.40	90.00	85.70	85.80
Water Content	%	8.40	8.11	2.14	13.60	10.00	14.30	14.20
Organic Matter	%	0.65	0.76	0.36	0.54	0.24	0.47	0.24
Soil texture	-	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)
Grain Size Distribution i. Sand	%	CLAY 8.98	CLAY 11.16	SILTY CLAY 7.52	CLAY 8.80	SILTY CLAY LOAM 9.91	CLAY 5.96	CLAY 9.40
ii. Silt	%	34.48	40.30	48.00	36.57	48.21	54.31	48.34
iii. Clay	%	56.54	48.54	43.58	54.63	41.89	39.73	42.25
Phosphorous as P	mg/kg	120	79	240	156	142	56	112
Sodium as Na	mg/kg	1.06	0.92	0.76	1.32	1.15	0.67	0.79
Potassium as K	mg/kg	109	261	181	578	140	132	421
Nitrogen and Nitregenous Compounds	mg/kg	247	927	368	772	338	2065	812
Total Soluble Sulphate	%	38.0	39.0	40.0	36.0	38.0	40.0	42.0
Porosity	%	23	25	27	22	30	22	18

Water Holding Cabacity	Inches/foot	6.20	7.86	5.26	7.67	7.24	8.76	7.98

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.

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

S. No	1st Level Classification	Area in (sq.km)	Percentage (%)	2nd Level Classification	Area in (sq.km)	Percentage (%)
1	Built-up or habitation	10.79	3.40	Residential	10.79	3.40
				Commercial/Industrial	0.31	0.10
2	Agriculture	221.9	72.99	Crop/fallow land	180.33	56.3
3	Water bodies	58.24	18.19	Reservoir/Lake /Pond	58.24	18.19
				River/Stram		
4	Waste Land	10.66	3.33	Open without scrub	5.29	1.65
				Open with scrub	6.81	2.12
5	Mines	1.9	0.6	Mines	1.9	0.6

6	Forest	4.45	1.49	Forest	4.45	1.49
	Total	**320**	**100**	**Total**	**320**	**100**

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 5 villages in the study area namely Vadapoondipattu, Sumangali, Karandai, Kelineli and Mariyanallur 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 centers and Tiruvannamalai. The following observations were made.

Primary schools are available in many villages. For hospital facilities, people in the locality have to go to hospital in Tiruvannamalai which is about 10.0 km from the lease area. Major schools with higher secondary and senior secondary schools are located in Tiruvannamalai. The major Kaganam village located in the area is Tiruvannamalai. Facilities like petrol pump stations, ATM facility are available in Tiruvannamalai.

HYDROGEOLOGY OF THE LEASE AREA

There is Palar River is located at a distance of 8.9 km (NE) direction of lease area. The hydrological and hydrogeological pattern of the study area is studied in detail using satellite imagery.

There are many tanks located in the study area, which are mostly dry throughout the year. These tanks get water only during monsoons. The factors may be monsoon failure, insufficient rainfall, poor rain water management and water consuming patterns.

GROUND WATER STUDY

For Ground water study, satellite imagery is used. Water levels from monitoring levels are collected through imaging. The pre-monsoon and post-monsoon data are collected and the results are analyzed.

During field visit, it is observed that water is available in wells only after monsoon. The yield is obtained at deep levels only.

As far as the mining lease area is considered, the area is rocky and no major seepage is envisaged. The production quantity is very less and the depth proposed is 37m BGL. Hence, there will not be any major impact due to mining on water levels or ground water levels in the area.

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

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 37m 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 1.58.0 Ha of lease area will be left as rain water harvesting pond. 0.46.5 Ha will be developed with green belt. For this, plants like Neem/Pungan are selected. A total of 465 trees are planned to be planted. Spacing will be 3m x 3m.

WATER ENVIRONMENT: IMPACT AND MITIGATION MEASURES

There is no water body present inside the lease area. The entire water requirement for the project is 4.5 KLD which will be sourced from outside agencies. Negligible sewage will be generated, for which a septic tank with soak pit will be set up.

During monsoon season, the excess rain water, if any, will be led through garland drain of 0.6m width and 0.3 m depth to the collection pond with silt traps.

Since the mining operation will be limited upto depth of 37m 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 7.5 HP 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

The major water bodies found in the buffer zone are.

Water bodies	Distance and Direction
Tank	180m (SE)
Tank	1.1km (NE)
Tank	2.5km (NE)
Tank	2.7km (W)
Mamandur Tank	4.9km (E)
Permanthangal Tank	6.1km (NW)
Palar River	8.9km (NE)

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. For the canal, adequate safety distance is left. The proponent will restrict the mining operation only within the lease and no other work will be carried out near the canal 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

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.

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.

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

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 5,00,000 for CER activities. This amount will be subjected to change after public hearing.

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.

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 139.28 Lakhs is allocated.

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 27 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 5,00,000 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 139.28 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 5

ந.க.எண்.263/கனிமம்/2024

• தமிழ் இயக்குநர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
திருவண்ணாமலை-4.
நாள் 08.01.2025

புவியியல் மற்றும் சுரங்கத்துறை இயக்குநர் அலுவலகம் திருவண்ணாமலை

அறிவிக்கை

பொருள் கனிமங்களும் சுவாரிகளும் - சிறுகனிமம் - திருவண்ணாமலை மாவட்டம், வெம்பாக்கம் வட்டம், காகனம் கிராமம், புல எண்.39/4-ல் 2.06.5 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க - குவாரி குத்தகை உரிமம் வழங்கக்கோரி தி/ள்.SSS Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.M.சிவா என்பவர் விண்ணப்பம் செய்தது - பரிந்துரை அறிக்கை வரப்பெற்றது - சுரங்கத் திட்டம் (Mining plan) தயார் செய்து சமர்ப்பிக்க கோருவது - தொடர்பாக.

பார்வை

1. தி/ள்.SSS Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.M.சிவா, புல எண் 39/4, 40/2A2, & 129/4B1B, காகனம் கிராமம், வெம்பாக்கம் வட்டம் என்பவரின் விண்ணப்ப நாள்.09.08.2024
2. இவ்வலுவலக கடித ந.க.எண்.263/கனிமம்/2024 நாள்.09.08.2024.
3. வெம்பாக்கம் வட்டாட்சியர் அவர்களின் கடித ந.க.ஆ1/1581/2024 நாள்.25.09.2024.
4. சார் ஆட்சியர், செய்யார் அவர்களின் கடித ந.க.அ5/4095/2024 நாள்.03.12.2024.
5. உதவி புவியியலாளர் மற்றும் தனி வருவாய் ஆய்வாளர் புவியியல் மற்றும் சுரங்கத்துறை திருவண்ணாமலை அவர்களின் புலத்தணிக்கை நாள்.19.12.2024.
6. தொடர்புடைய ஆவணங்கள்.

◆◆◆◆◆◆

திருவண்ணாமலை மாவட்டம், வெம்பாக்கம் வட்டம், காகனம் கிராமம், புல எண். 39/4-ல் 2.06.5 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க 5 ஆண்டுகளுக்கு குவாரி குத்தகை உரிமம் வழங்கக்கோரி தி/ள்.SSS Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.M.சிவா, என்பவரின் பார்வை 1-ல் காணும் விண்ணப்பம் தொடர்பாக பார்வை 2-ல் காணும் இவ்வலுவலக கடிதம் மூலம் சார் ஆட்சியர், செய்யார் அவர்களின் அறிக்கை கோரப்பட்டது.

அலுவலக கோப்பு [illegible] 3 மற்றும் 4-ல் காணும் வெம்பாக்கம் வட்டாட்சியர் மற்றும் [illegible] 5-ல் காணும் திருவண்ணாமலை மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் மற்றும் [illegible] வருவாய் ஆய்வாளர் ஆகியோரின் பரிந்துரை அறிக்கைகள் பரிசீலிக்கப்பட்டது.

மேற்காணும் பரிந்துரை அறிக்கைகளின்படி திருவண்ணாமலை மாவட்டம், வெம்பாக்கம் வட்டம், காகனம் கிராமம், புல எண் 39/4-ல் 2.06.5 ஹெக்டேர் பரப்பில் 5 ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959, விதி 19(1), 20 மற்றும் 22-ன்படி விண்ணப்பதாரர் தி/ள்.SSS Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.M.சிவா, என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்யப்பட்ட 2.06.5 ஹெக்டேர் பரப்பினை கற்குவாரி செய்ய உகந்த புலம் (Precise Area) என தீர்மானித்து கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அறிவிப்பு செய்யப்படுகிறது.

நிபந்தனைகள்

1 விண்ணப்ப புலத்தின் மேற்கே வடக்கு-தெற்காக செல்லும் தாழ்வழுத்த மின்கம்பிக்கு 50மீ பாதுகாப்பு இடைவெளி விட வேண்டும் (அல்லது) சம்மந்தப்பட்ட துறை அலுவலரின் எழுத்துப்பூர்வ ஒப்புதலும் அதில் பரிந்துரைக்கப்படும் வழிமுறைகள், கட்டுப்பாடுகள் மற்றும் நிபந்தனைகளுக்கு உட்பட்டு செயல்பட வேண்டும் (அல்லது) தாழ்வழுத்த மின்கம்பிகளை விண்ணப்ப புலத்திலிருந்து 50மீ தொலைவில் மாற்றி அமைக்க வேண்டும்.

2. விண்ணப்ப வடக்கே கிழக்கு-மேற்காக செல்லும் தாழ்வழுத்த மின்கம்பிக்கு 50மீ பாதுகாப்பு இடைவெளி விட வேண்டும் (அல்லது) சம்மந்தப்பட்ட துறை அலுவலரின் எழுத்துப்பூர்வ ஒப்புதலும் அதில் பரிந்துரைக்கப்படும் வழிமுறைகள், கட்டுப்பாடுகள் மற்றும் நிபந்தனைகளுக்கு உட்பட்டு செயல்பட வேண்டும் (அல்லது) தாழ்வழுத்த மின்கம்பிகளை விண்ணப்ப புலத்திலிருந்து 50மீ தொலைவில் மாற்றி அமைக்க வேண்டும்.

3. அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5மீ மற்றும் அரசு நிலங்களுக்கு 10மீ பாதுகாப்பு இடைவெளி விடவேண்டும்.

4. பொதுமக்களுக்கும் அருகிலுள்ள நிலங்களுக்கும் எவ்வித பாதிப்பும் ஏற்படுத்தக்கூடாது.

5 குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள் கம்பிவேலி அமைத்து குவாரிப்பணி தொடங்க வேண்டும்.

6 முறைப்படியும், விஞ்ஞானபூர்வமாகவும் குவாரிப்பணி செய்ய வேண்டும்.

7 சான்றிதழ் பெறப்பட்ட போர்மேன், வெடிப்பாளர் மற்றும் சுரங்க மேலாளர் மூலம் முறையே குவாரிப்பணி செய்யப்பட வேண்டும்.

8 குவாரிப் பணி தொடங்குவதற்கு முன் சுரங்க பாதுகாப்பு இயக்குநர், சென்னை அவர்களுக்கு தகவல் தெரிவிக்கப்பட வேண்டும்.

9 பாறைகளைத் தகர்க்க தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி 36 (1-A)(b)-ல் தெரிவிக்கப்பட்டுள்ள வழிமுறைகளை பின்பற்றி குவாரி பணி செய்ய வேண்டும்.

தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதிகள் 41 மற்றும் 42-ன்படி சாதாரண கற்கள் மற்றும் இதர சிறு கனிமங்களுக்கு குவாரி குத்தகை உரிமம் வழங்கும் முன்பு ஒப்புதல் பெறப்பட்ட சுரங்கத்திட்ட அறிக்கை மற்றும் மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மை சான்று பெறப்பட வேண்டும் என வரையறுக்கப்பட்டுள்ளது.

எனவே, தி/ள்.SSS Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.M.சிவா, என்பவர் ஒப்புதல் பெறப்பட்ட சுரங்கத்திட்ட அறிக்கை மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மை சான்றினை பெற்று சமர்ப்பிக்கும் பட்சத்தில் திருவண்ணாமலை மாவட்டம், வெம்பாக்கம் வட்டம், காகனம் கிராமம் பட்டா புல எண்.39/4-ல் 2.06.5 ஹெக்டேர் பரப்பில் 5 ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி எண் 19(1) மற்றும் 20-ன் கீழ் குத்தகை உரிமம் வழங்க உரிய நடவடிக்கை மேற்கொள்ளப்படும் என்ற விவரம் தெரிவிக்கப்படுகிறது.

மேலும், இவ்வறிப்பு கிடைக்கபெற்ற 90 நாட்களுக்குள் மேற்சொன்ன நிபந்தனைகளையும் குறிக்கும் வகையில் வரைவு சுரங்கத்திட்ட அறிக்கை தயார் செய்து இணை இயக்குநர் (கூ.பொ), புவியியல் மற்றும் சுரங்கத்துறை திருவண்ணாமலை அவர்களிடம் ஒப்புதல் பெற சமர்ப்பிக்குமாறு அறிவுறுத்தப்படுகிறது.

இணை இயக்குநர் (கூ.பொ),
உதவி இயக்குநர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
திருவண்ணாமலை.

பெறுநர்:

தி/ள்.SSS Mines என்ற நிறுவனத்தின்
பங்குதாரர் திரு.M.சிவா,
புல எண் 39/4, 40/2A2, & 129/4B1B,
காகனம் கிராமம்,
வெம்பாக்கம் வட்டம்,
திருவண்ணாமலை.

ANNEXURE-2

From
Thiru.A.Arumuganainar, M.Sc.,
Joint Director (Addl., Ch.),
O/o. Assistant Director,
Geology and Mining,
Tiruvannamalai - 4.

To
Tvl.SSS Mines,
Partner Thiru.M.Siva,
S.F.No.39/4, 40/2A2 & 129/4B1B,
Kaganam Village,
Vembakkam Taluk,
Tiruvannamalai District.

Rc.No.263/Kanimam/2024, dated:24.01.2025.

Sir,

Sub: Quarries and Minerals – Minor Mineral - Rough stone and Gravel - Tiruvannamalai District – Vembakkam Taluk – Kaganam village Patta Land in SF.Nos.39/4 over an extent of 2.06.5 hects., – Application preferred by **Tvl.SSS Mines, Partner Thiru.M.Siva - Precise area communicated – Submission of three copies of draft Mining Plan for approval** - Approval accorded - regarding.

Ref: 1. Application from Tvl.SSS Mines, Partner Thiru.M.Siva, Kaganam Village, Vembakkam Taluk, Tiruvannamalai District dated:09.08.2024.

2. Precise Area Communication Notice Rc.No.263/ Kanimam/2024, dated 08.01.2025.

3. Mining Plan submitted by Tvl.SSS Mines, Partner Thiru.M.Siva, Tiruvannamalai District dated.21.01.2025

****

Tvl.SSS Mines, Partner Thiru.M.Siva, has preferred an application for the grant of Rough Stone and Gravel quarry lease over an extent of 2.06.5 hects., of Patta land in SF.No.39/4 of Kaganam Village, Vembakkam Taluk, Tiruvannamalai District for a period of 5 years vide the reference 1st cited and the precise area has been communicated to the applicant vide the reference 2nd cited with a direction to submit the approved mining plan and Environmental Clearance.

2. As directed, the applicant has submitted three copies of mining plan for approval vide the reference 3rd cited. The Mining Plan has been verified in detail and found that it has been prepared in

accordance with the guidelines / instructions issued by the Commissioner of Geology and Mining in letter RC. No. 3868 / LC / 2012 dated 19.11.2012.

i) The reserves estimated in the mining plan is

Depth in Mts.	**37m (2m Gravel + 35m Rough Stone)**
Geological Resources	**Rough Stone : 7,21,000** **Gravel : 41,200**
Mineable Reserve	**Rough Stone : 2,71,250** **Gravel : 31,476**

3. Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, the mining plan is hereby approved, subject to the following conditions:

i. 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 convey the approval of the Government in terms or 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, Explosives Act, 1884 (Central Act IV of 1884) Minor Mineral Concession and Development Rules, 2010 and the Rules made there under and the Tamil Nadu Minor Mineral Concession Rules, 1959.

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

iv. The validity of the mining plan is co-terminus with the lease period.

v. Quarrying shall be done in accordance with the approved Mining Plan.

vi. If anything is found to be concealed in the contents of the mining plan which are required by the mines act or if any proposed for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

vii. The applicant should leave 50m safety distance for low tension power line passing on Western side of lease area in

North-South direction or with the previous written permission of the officers authorised by the State Government in this behalf and subjected to the instruction, restriction and condition prescribed therein or Low tension power line should be shifted 50m away from the lease applied area.

viii. The applicant should leave 50m safety distance for low tension power line passing on Northern side of lease area in East-West direction or with the previous written permission of the officers authorised by the State Government in this behalf and subjected to the instruction, restriction and condition prescribed therein or Low tension power line should be shifted 50m away from the lease applied area.

ix. The safety distance of 7.5m to the adjacent patta lands and 10m to the Government lands should be provided.

x. The applicant should not cause any hindrance to adjacent lands and public while quarrying operation.

xi. Barbed wire fencing should be erected all along the boundary of the lease granted area before quarrying operation.

xii. The quarry operation should be carried out by systematic and scientific manner.

xiii. The quarry operation should be carried out with the certified Mine Manager, Foreman and Blaster.

xiv. The applicant should inform to the Director of Mine Safety, Chennai before commencement of quarry operation vide opening notice.

xv. The applicant should follow the guidelines under Rules 36(1-A)(b) of Tamil Nadu Minor Mineral Concession Rules, 1959 for removing the Rocks.

4. Further, other quarries situated within 500m radial distance are as follows.

i) Existing Quarries

Sl. No.	Name of the Owner	Village & S.F. Nos.	Extent in Hects.	Lease Period	Remarks
1.	Thiru.R.Kathirvelu, No.19C, Villakkadi Koil Thoppu Street, Kancheepuram.	Kaganam 58/1A ,1B,2A , 2B , 3 , 6 , 7 , 8A , 8B, 59/2A , 61/1B, 2A , 2B, 3 , 4A , 5A & 6	4.42.0	10-06-2024 to 09-06-2029	Rough Stone quarry

2	Thiru.S.Vadivel, S/o. Subramani, No.1 Amman kula st, Sumangali village & Post, Vembakkam	Kaganam 38/1, 2, 39/5, 6, 7 48/17,18, 19, 20, 426/2 & 426/3	4.18.0	20-09-2021 to 19-09-2031	Rough Stone quarry

ii) Abandoned quarries

Sl. No.	Name of the Owner	Village & S.F. Nos.	Extent in Hects.	Lease Period	Remarks
1	Thiru.S.SRIDHAR, S/o. T. Sivaprakasam, Managing Director,' SKT MINES, No.19C, Villakkadi Koil Thoppu Street, Kancheepuram- 635 501.	Kaganam 44/11,58/7,5A,60 /2,58/5B,59/1A,1 B,2B,60/3,5,6 & 7	3.96.5	17-09-2018 to 16-09-2023	Rough Stone Expired quarry

iii)Present Proposed Quarries

Sl. No	Name of the Owner	Village & S.F. Nos.	Extent in Hects.
1	Tvl.SSS Mines, Partner Thiru.M.Siva, S.F.No.39/4, 40/2A2 & 129/4B1B, Kaganam Village, Vembakkam Taluk, Tiruvannamalai District.	Kaganam 39/4	2.06.5
2.	Tvl.SKT Mines, Partner of Thiru.G.Dhamotharan, No.333, Guberan Street, Neervallur, Kancheepuram District.	Kaganam 44/13A, 56/1A, 56/2A, 56/2B, 56/3, 56/4, 56/5, 56/6, 56/7, 57/1, 58/9, 58/10, 61/4B1, 61/4B2, 61/5B, 61/7, 62, 63/1 & 63/2	4.85.5

Encl: 2 Copies of Approved Mining Plan.

Joint Director (Addl. Ch.),
Geology and Mining,
Tiruvannamalai.

Copy submitted to:

1. The Chairman, SEIAA,
   Tamil Nadu, 3rd Floor, Panagal Maaligai,
   No.1, Jeenis Road, Saidapet, Chennai-15.
2. The Commissioner of Geology and Mining, Chennai-32.
3. The District Collector, Tiruvannamalai.