DRAFT EXECUTIVE SUMMARY
FOR PROPOSED ROUGH STONE QUARRY
CATEGORY – B1

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

ToR Identification No. TO24B0108TN5815892N dated 22.10.2024

PROPOSED QUARRY LEASE DETAILS	
SURVEY NO	91 (Part-2)
VILLAGE	ARIYANAYAGIPURAM
TALUK	KADAYANALLUR
DISTRICT	TENKASI
EXTENT	3.00.00 Ha
PROPOSED PRODUCTION FOR THREE YEARS	3,77,765 m^3 OF ROUGH STONE
LAND	GOVERNMENT LAND

(Sector No. 1(a) Sector No.1 as per NABET)
Category of the Project: B1 Cluster Mining, Total Cluster Area – 7.90.0 Ha
Baseline Monitoring Period – October to December 2024

APPLICANT

THIRU.V.M.SUNDARAIAH,
S/O.MUTHAIAH THEVAR,
NO.4/111D, SUNDARESAPURAM BLOCK-IV,
POGANALLUR VILLAGE, KADAYANALLUR TALUK,
TENKASI DISTRICT.

ORGANIZATION

M/s. GLOBAL MINING SOLUTIONS
(NABET ACCREDITED & ISO 9001 CERTIFIED CONSULTANT)
PLOT NO. 6, SF NO. 13/2, A2, VS CITY, RC CHETTYPATTY,
KOTTAMETTUPATTY, OMALUR, SALEM, TAMIL NADU – 636 455
NABET ACCREDITATION NO – NABET/EIA/2326/IA 0110
CONTACT: 97502 23535, 94446 54520
Email: infoglobalmining@gmail.com: globalminingsolutionssalem@gmail.com

Global Mining Solutions

MARCH - 2025

NABET

EXECUTIVE SUMMARY

1.1 INTRODUCTION

Thiru. V. M. Sundaraiah has obtained Precise Area Communication Letter from District Collector, Tenkasi vide Letter No. Rc. No. M1/30292/2021 dated 04.08.2023 to quarry out 3,77,765 m3 of Rough Stone for the period of five years from an extent of 3.00.0 Ha located in S.F.No.91 (Part-2), Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District, Tamil Nadu.

Thiru V. M. Sundaraiah proposes to establish a Rough Stone Quarry at S.F.No.91 (Part-2) over an extent of 3.00.0 Ha in Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District, Tamil Nadu State. Though the area of the proposed mine is 3.00.0 Ha, the cluster area within 500 m radius calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016 is 7.90.0 Ha> 5.00 Ha. In this regard, Form-I and Pre-Feasibility Report has been submitted on 27.05.24 and the ToR was granted by the SEIAA vide ToR Identification No. TO24B0108TN5815892N. The copy of the ToR is enclosed as Annexure - 1.

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>1.</td><td>Proponent Name</td><td>Thiru. V. M. Sundaraiah</td></tr>
<tr><td>2.</td><td>Proposed project</td><td>Rough Stone Quarry of Thiru. V. M. Sundaraiah</td></tr>
<tr><td>3.</td><td>Extent</td><td>3.00.0 Ha and the cluster area within 500 m radius including the proposed mine is 7.90.0 Ha > 5 Ha</td></tr>
<tr><td>4.</td><td>Location</td><td>S.F.No.91 (Part-2) over an extent of 3.00.0 Ha in Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District, Tamil Nadu</td></tr>
<tr><td>5.</td><td>Co-ordinates of the project site</td><td><table><tr><td>S. No.</td><td>Latitude</td><td>Longitude</td></tr><tr><td>1.</td><td>09°05’50.04” N</td><td>77°23’24.04” E</td></tr><tr><td>2.</td><td>09°05’52.99” N</td><td>77°23’24.22” E</td></tr><tr><td>3.</td><td>09°05’52.27” N</td><td>77°23’35.00” E</td></tr><tr><td>4.</td><td>09°05’49.31” N</td><td>77°23’34.80” E</td></tr></table></td></tr>
<tr><td>6.</td><td>Topography</td><td>Hilly Terrain</td></tr>
<tr><td>7.</td><td>Site Elevation above MSL</td><td>≃ 276 m from above MSL</td></tr>
<tr><td>8.</td><td>Topo Sheet No.</td><td>58 G/08</td></tr>
<tr><td>9.</td><td>Minerals of Mine</td><td>Rough Stone</td></tr>
<tr><td>10.</td><td>Proposed production in m^3</td><td>3,77,765</td></tr>
<tr><td>11.</td><td>Ultimate Depth of mining</td><td>40m (AGL)</td></tr>
<tr><td>12.</td><td>Method of Mining</td><td>Opencast, Semi-Mechanized Mining with a bench height of 5m and bench width of 5m is proposed</td></tr>
<tr><td>13.</td><td>Drilling/Blasting</td><td>Drilling and controlled Blasting is proposed</td></tr>
<tr><td>14.</td><td>No. of Working days</td><td>300 Days</td></tr>
<tr><td>15.</td><td>Water requirement & Source</td><td>6.8 kLD and will be sourced from local vendors</td></tr>
<tr><td>16.</td><td>Manpower</td><td>30 Nos.</td></tr>
</table>

17.	Project Cost	Rs. 442.29 lakhs
18.	Mining Plan Approval	Mining Plan approved by Joint Director / Assistant Director (i/c), Dept. of Geology & Mining, Tenkasi vide Rc.No. ML/30292/2021 dated 06.11.2023
19.	Safety Zone	0.97.5 Ha will be maintained as safety zone and tree saplings will be planted in this area
20.	Ground water level	58 m BGL

The proposed project area is classified as a Government Poramboke land and the applicant has obtained tender from the Government. The copy of the Precise area communication Letter received from the District Collector enclosed as Annexure - 2 and Adangal & A-Register enclosed as Annexure - 6.

1.2 LOCATION

The proposed quarry is located at S.F.No.91 (Part-2) over an extent of 3.00.0 Ha in Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District, Tamil Nadu State. The mining area is located in 09°05'49.31"N to 09°05'52.99"N & 77°23'24.02"E to 77°23'35.00"E. 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.

1.3 GEOLOGY

The geology map of the study area reveals that the area is predominately covered with Charnockite, which falls under Charnockite group and the remaining area is covered with Fluvial (Silt/Clay/kankar/Sand), Quartzite (Khondalite group) and Hornblende biotite gnesis (Migmatite Group). No exploration was carried out. Massive Rough stone formation visible from the existing pits in thenearby quarry operations and dry open wells.

1.4 PROJECT DESCRIPTION

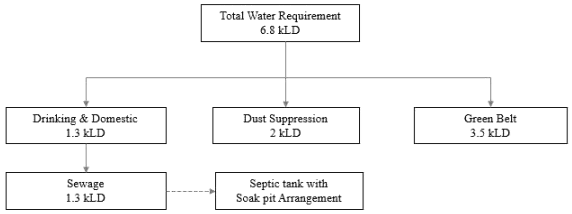
This is a proposed Rough Stone quarry by Opencast Mechanized mining method with drilling and blasting. The quarrying is restricted up to a depth of 40m above ground level. The geological reserves are estimated to be 8,28,065 m3 of Rough Stone. The mineable reserve calculated by deducting 10m safety distance and bench loss. The mineable reserves are 3,77,765 m3 of Rough Stone which will be recovered at the rate of 100% recovery upto a depth of 40m above ground level for the period of five years.

- It is proposed to quarry out rough stone with 5m bench height, 5m width with 80° slope using conventional Open cast Semi-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.	Particulars	Details
1.	Method of mining	Open Cast Semi-mechanized
2.	Geological Reserves	8,28,065 Cu.m of Rough Stone
3.	Mineable Reserves	3,77,765 Cu.m of Rough Stone
4.	Proposed Production	3,77,765 Cu.m of Rough Stone
5.	Bench Details	Bench Height of 5m and Bench Width of 5m is proposed.

1.5 PROJECT REQUIREMENTS

The requirements of the project is given below.

S. No.	Nature of requirement	Description
1.	Water requirement	The total water requirement would be 6.8 kLD, which will be sourced from Local vendors. Out of 6.8 kLD, 1.3 kLD will be used for Drinking and Domestic purpose, 2 kLD will be used for Dust Suppression and remaining 3.5 kLD will be used for Green Belt. The water balance chart is shown below: 
2.	Power requirement	No electricity is needed for mining operations, for office demands, it will be met from the state grid.
3.	Manpower requirement	30 Nos.
4.	Project Cost	Rs. 442.29 lakhs
5.	CER Cost	Rs. 8,00, 000/-

1.6 DESCRIPTION OF LEASE AREA

The features in the study area is given below.

S. No.	Particulars	Details
1.	Nearest Highway	NH 744 (Kollam – Thirumangalam Road) – 4 km, NW
2.	Interstate Boundary	Kerala – Tamilnadu - 15.9 km, W
3.	Nearest Railway Station	Kadayanalluir - 3.23km, W
4.	Nearest Airport	Tuticorin - 80 km, SE
5.	Nearest Port	Tuticorin - 94 km, SE
6.	Nearest Village	Sundaresapuram – 310m, N

7.	Water bodies	Small Kuttai - 400m (SE) Seasonal Odai - 460 m (SE) Pappan Channel - 2.1km (SW) Karuppu Nadi - 7.5 km (W)
8.	Reserved Forest	Chokkampatti RF - 6 km (NW) Krishnapuram RF Varaivankulam RF
9.	Eco Sensitive Zone and Wildlife Sanctuary (Notified)	Nellai Wildlife Sanctuary - 5.8 km (NW)
10.	Archaeological important places	Nil within 10 km radius
11.	Defense Installations	Nil within 10 km radius
12.	Nearest Port	Nil within 10 km radius
13.	Seismic Zone	Nil within 10 km radius

The baseline data collection for meteorology, air, water, noise and soil environments have been carried out during October to December 2024. Air, water, noise and soil samples are collected and analyzed through NABL accredited lab M/s. Shrient Analytical & Research Labs Private Limited, Chennai.

1.7 BASELINE STATUS

Ground water analysis in the project site reveals that the value of pH is 7.60, Turbidity is <1 NTU, TDS is 1130 mg/L, calcium is 57.2 mg/L, Magnesium is 24.7 mg/L, Chloride is 499 mg/L and hardness is 246 mg/L.The baseline value of air environment reveals that the maximum value of PM10, PM2.5, Sox and NOx is observed in Mine Lease Area with values 69.1µg/m3, 33.9 1µg/m3, 6.9 1µg/m3and 11.5 1µg/m3 respectively. The day noise value lies in the range of 47.1 dB(A) to 53.7 dB(A) and night noise value lies in the range of 39.6 dB(A) to 43.9 dB(A). The bulk density of the soil in the study area ranged between 0.99 to 1.36 g/cc which indicates favourable physical condition for plant growth. The water holding capacity was found in the range of 7.89 % to 12.4%. The value of the pH is acidic and alkaline and it ranges from 5.01 to 7.63. The organic matter varies from 0.19% to 0.89%, which indicates the soil is slightly fertile.

FLORA

For measuring the extent of flora present in the study area, the area is divided in to 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.

1.10 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:

Classification	Area in Sq.km	Percentage
Built – up Land	25.5	7.35
Crusher	0.2	0.05
Existing Quarry	0.23	0.06
Forest	18.56	3.5
Land with Scrub	185.9	53.63
Land without Scrub	31.57	9.10
Plantation	35.57	10.30
Structural hill	24.7	7.12
Water body	24.22	6.98

The land use pattern of the project site is shown below:

Sl. No.	Land Use	Present Area (Ha)	Area in use during the quarrying period (Ha)
1.	Quarrying Pit	0.38.0	2.00.5
2.	Infrastructure	Nil	0.01.0
3.	Roads	0.01.0	0.01.0
4.	Green Belt	Nil	0.97.5
5.	Unutilized	2.61.0	Nil
	Total =	**3.00.0**	**3.00.0**

1.11 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.

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 55 villages, 5 villages (9%) were surveyed for which selection criteria is based on proximity to the project site and area with dense and scarce populations were chosen. The chosen villages for the study include: Sundaresapuram, Meenatchipuram, Boganallur, Kadayanallur, Periyasamipuram

S. No	Indicator	Percentage/Nos.
1	People below age 18	38
2	People age limit above 18	62
3	Literates	75
4	Illiterates	25
5	% of people employed in company	50
6	% of people self employed	43
7	% of people seasonally employed	3
8	% of people unemployed	4
9	% of houses covered with LPG Cooking gas	80
10	% of houses covered with toilet facility	70
11	% of houses covered with piped water supply	60

HYDROGEOLOGY OF THE LEASE AREA

The district is underlain by both porous and fissured formations. The important aquifer systems in the district are constituted by i) Weathered and fractured hard rock formations of Archaean age. ii) Porous sedimentary formations ranging in age from Tertiary and Recent. The porous formations are found as small patch in the southeastern part of the district and include sandstones, Limestones, Laterite and Clays from Tertiary to Quaternary. Isolated occurrence of calcareous sandstone and

fossiliferous limestone are seen in coastal area on the southeastern side. The fossiliferous limestone is found south west of Kudankulam covering an area of 3 sq.km. Laterites are exposed as patches along Radhapuram-Edakkadu, Vijayanarayanam-Kumarapuram, Ittamoli, Nanguneri and Uramozi area.

Beach sand occurs as a patch along the coast with a width varying from 50-250m in Idindakarai-Ovari Belt. The river alluvium is found along the river courses and the thickness of alluvium is restricted to 5-6m. The exploration in sedimentary tract has revealed that the depth to basement occurs at a depth of 120m bgl and granular zones are encountered between the depths of 20 to 92 m bgl. The yield of bore wells varies from 1-4.5 lps. The aquifer at the shallow depth is under unconfined condition and aquifer at depth is under semi-confined to confined condition. The shallow aquifer is developed through dug wells and deeper aquifer through tube wells. The dug well can sustain a pumping of 4 to 6 hours while the tube wells can sustain a pumping of 6-8 hours.

The water-bearing properties of crystalline formations, which lack primary porosity, depend on the extent of development of secondary intergranular porosity. These aquifers are highly heterogeneous in nature due to variation in lithology, texture and structural features even within short distances. Ground water generally occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fissured and fractured zones at deeper levels. The thickness of weathered zone in the district is in the ranges up to 30m bgl. The yield of large diameter wells in the district, tapping the weathered mantle of crystalline rocks ranges from 50 to 250 lpm and are able to sustain pumping for 3 to 5 hours per day. The Specific capacity of large diameter wells tested in crystalline rocks ranges from 25 to 300 lpm / m. of drawdown. The yield characteristics of wells vary considerably depending on the topographic set-up, lithology and nature of weathering. The groundwater exploration in the district down to a depth of 200m bgl has revealed that in the western part of the district potential fractures are encountered beyond 100m bgl while in the rest of the area, potential fractures are restricted to 100m bgl. The yield of the wells varies from 1 to 3.6 lps. In general, the wells drilled by various State agencies mainly for domestic purposes have yield in the range of 63 to 270 lpm. The depth to water level in the district varied between 1.19 to 13.35 m bgl during premonsoon depth to water level (May 2006) and varied between 0.18 to 7.97 m bgl during post monsoon depth to water level (Jan 2007). The seasonal fluctuation shows a fall in water level, which ranges from –0.12 to –2.14 m bgl, and rise in water level, which ranges from 0.33 to 11.24 m bgl. The piezometric head varied between 1.72 to 13.65 m bgl (May 2006) during pre monsoon and 0.47 to 13.25 m bgl during post monsoon.

Source: District Groundwater Brochure Tirunelveli District, Tamil Nadu

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 40m above ground level as per approved ToR & Approved Mining Plan. 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

1.12 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 40m AGL. 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, 3.00.0 Ha of lease area will be left as rain water harvesting pond. 3.00.0 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 1500 trees are planned to be planted. Spacing will be 3m x 3m.

1.13 WATER ENVIRONMENT: IMPACT AND MITIGATION MEASURES

There is no water body present inside the lease area. The entire water requirement for the project is 6.8 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 40m (AGL), 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.

- Small Kuttai - 400m (SE)
- Seasonal Odai - 460 m (SE)
- Pappan Channel - 2.1km (SW)
- Karuppu Nadi - 7.5 km (W)

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 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

1.14 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.

1.15 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 10m and 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.

1.16 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.

1.17 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

1.18 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 8,00,000 for CER activities. This amount will be subjected to change after public hearing.

1.19 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.

1.20 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 **270.3 Lakhs** is allocated.

1.21 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 18 people directly. Local people will be hired for unskilled labour.
- Through CSR, nearby schools, hospitals will be benefitted.
- For CSR, INR 8,00,000 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 INR 270.3 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.

1.22 CONCLUSION

Various aspects of mining activities were considered, and related impacts were evaluated. Considering all the possible ways to mitigate the Environmental concerns, an Environmental Management Plan was prepared and INR 260.3 Lakhs has been allocated for the same. The EMP is dynamic, flexible, and subjected to periodic review. For projects where 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 have a positive impact on the study area.

****

ANNEXURE-1

ANNEXURE 1

MINING PLAN APPROVED By Assistant Director (i/c) of Geology & Mining Tenkasi Dist.

From

Thiru.D.Ravichandran, I.A.S.,
District Collector,
Tenkasi.

To

Thiru.V.M.Sundaraiah,
S/o.Muthaiah Thevar,
4/111D, Sundaresampuram Block,
Poganallur Village,
Kadayanallur Taluk,
Tenkasi District.

Rc.No.M1/30292/2021 Dated.24.08.2023

Sir,

Sub: **Mines and Minerals** - Minor Mineral - Rough stone quarry lease - Tenkasi District - formerly Sankarankovil Taluk now Kadayanallur Taluk - lease granted to Thiru.V.M.Sundaraiah - over an extent of 3.00.0 hetares in Government Poromboke SF.o. 91 (part-2) - extension of lease for a period of 5 years as per the orders of the Hon'ble Madurai Bench of Madras High Court in WP (MD) No. 8883 of 2021 and the Commissioner of Geology and Mining, Chennai - Precise area communicated - regarding.

Ref:
1. Proceedings of the District Collector, Tirunelveli in Rc. No. M2/32470/1999, dated. 02.06.1999.

2. The Hon'ble Madurai Bench of Madras High Court order in W.P. (MD) No. 8883 of 2021, dated. 18.06.2021.

3. Proceedings of the Commissioner of Geology and Mining, Chennai in Rc. No. 786/MM6/2023, dated. 12.05.2023.

4. District Collector, Tenkasi Letter No M1/30292/2021, dated: 05.06.2023.

5. Representation of Thiru.V.M.Sundaraiah dated 03.08.2023.

******

A roughstone quarry lease had been granted to Thiru.V.M.Sundaraiah over an extent of 3.00.0 hectares in government poromboke SF. No. 91(part-2) in Ariyanayagipuram village, Kadayanallur Taluk of Tenkasi District for a period of 5 years from 12.07.1999 to 11.07.2004 through Tender Cum Action and the lease was expired on 11.07.2004.

2. The Government of Tamil Nadu in G.O (Ms) No. 391, Industries, dated. 17.11.2000 amended the Rule 8(8) of the Tamil Nadu Minor Mineral Concession Rules, 1959 to the effect that the period of lease for quarrying stones in respect of the virgin area which have not been subjected to quarrying so far, shall be 10 years. Since the area is notified for grant of lease for the first time by the Tirunelveli District Gazette Extra - ordinary issue No.14, dated. 23.04.1999 and the area is virgin area then, he is entitled for the grant of lease for a period of 10 years in view of Rule 8(8) of the Tamil Nadu Minor Mineral Concession Rules, 1959.

3. Thiru.V.M.Sundaraiah has filed writ petition in W.P (MD).No. 8883/2021 before the Hon'ble Madurai Bench of Madras High Court with a prayer to issue a writ of mandamus to call for the records of the respondent i.e., the District Collector in Na.Ka.No.M3/30292/2021, dated. 23.10.2021, quash the same, directing the respondent to consider and grant lease for quanying roughstone and jelly from the land bearing SF. No.91 (part-2) admeasuring 3.00.0 hectares in Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District for the balance period of 5 years for completing ten years lease period as virgin quarry within time frame fixed by the Court.

4. The Hon'ble Madural Bench of Madras High Court in its order dated. 18.06.2023 in W.P (MD) No. 8883 of 2021 has set aside the orders passed by the District Collector, Tenkasi dated. 18.06.2023 and directed the respondent to issue appropriate orders.

MINING PLAN APPROVED
By
Assistant Director (i/c)
of Geology & Mining
Tenkasi Dist.

MINING PLAN APPROVED By Assistant Director (i/c) of Geology & Mining Tenkasi Dist.

5. At this juncture, Thiru.V.M.Sundaraiah has preferred an appeal before the Commissioner of Geology and Mining, Chennai and requested to grant extension of lease period for another five years since the said quarry is a virgin quarry based on the orders passed by the Hon'ble Madurai Bench of Madras High Court order dated. 18.06.2023 in W.P (MD) No. 8883 of 2021

6. The Commissioner of Geology and Mining, Chennai vide reference 3th cited, has passed an order as follows;

> *"In view of the above, without going to the merits of the appeal, the appellant Thiru.V.M.Sundaraiah is directed to prefer an appeal before the District Collector, Tenkasi for getting remedy in respect of grant of extension of lease period for further period of five years in S.F.No.91 (Part-2) of Ariyanayagipuram village, Kadayanallur Taluk, Tenkasi District".*

7. Based on the orders of Hon'ble Madurai Bench of Madras High Court in WP (MD) No. 8883 of 2021 dated. 18.06.2021, orders of Commissioner of Geology and Mining, Chennai and appeal preferred by the applicant, Thiru.V.M.Sundaraiah was directed to pay the lease amount,security amount and area assessment in the Government account.

8. The applicant has remitted the lease amount Rs.1,06,49,333/-, security deposit Rs.21,29,867/- and Area Assessment Rs.3,000/- vide challan nos. 20230721008937, 20230814003446 & 20230721009130 respectively and submitted the original challans in this office.

9. The quarry lease area comes under Hill Village as per G.O (Ms) No.49, Housing and Urban Development (UD2.2) Department, dated. 24.03.2003, clearance of HACA Committee is mandatory to process the application.

MINING PLAN APPROVED
By
Assistant Director (i/c)
of Geology & Mining
Tenkasi Dist.

10. In view of the above, based on the above circumstances, the area granted under quarry lease in favour of Thiru.V.M.Sundaraiah for quarrying roughstone over an extent of 3.00.0 hectares of Government pormaboke land in SF No.91 (Part-2) of Ariyanayagipuram village, Kadayanallur Taluk, Tenkasi District is hereby considered and communicated as precise area under Rule 8(8) Tamil Nadu Minor Mineral Concession Rules, 1959 for a period of further 5 years and the applicant is directed to produce approved mining plan ,Environmental Clearance obtained from the State Level Environmental Impact Assessment Authority, Chennai and the clearance obtained from the Hill Area Conservation Authority so as to proceed further in this regard.

26/6/23.

District Collector,
Tenkasi.

Copy to:

The Chairman,
State Level Environment Impact Assessment Authority,
Chennai.

ANNEXURE-2

From

Thiru.L.Suresh., M.Sc.,
Joint Director/
Assistant Director(i/c),
Geology and Mining,
Tenkasi.

To

Thiru.V.M.Sundaraiah,
S/o. Muthiah Thevar,
4/222, Main Road,
Sundaresapuram,
Kadayanallur Taluk,
Tenkasi District.

Rc.No.M1/30292/2021 dated.06.11.2023

Sir,

Sub: **Mines and Minerals** - Minor Minerals - Tenkasi District - Quarry lease application preferred by Thiru.V.M.Sundaraiah for quarrying and transportation of Roughstone - over an extent of 3.00.0 hectares of Government poramboke land in SF. No. 91(part-2) of Ariyanayagipuram Village, Kadayanallur Taluk - precise area communicated - Mining plan submitted - Approval accorded - Reg.

Ref :

1. Proceedings of the District Collector, Tirunelveli in Rc. No.M2/32470/1999, dated. 02.06.1999.
2. The Hon'ble Madurai Bench of Madras High Court order in WP (MD) No. 8883 of 2021, dated. 18.06.2021.
3. Proceedings of the Commissioner of Geology and Mining, Chennai in Rc. No. 786/MM6/2023, dated. 12.05.2023.
4. District Collector, Tenkasi letter No. M1/30292/2021, dated. 05.06.2023.
5. Precise area communication letter in Rc. No.M1/30292/2021, dated. 24.08.2023.
6. Letter dated.30.10.2023 received from the applicant.

*****

A roughstone quarry lease had been granted to Thiru.V.M.Sundaraiah over an extent of 3.00.0 hectares in Government poramboke land in SF. No. 91(Part-II) in Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District for a period of 5 years from 12.07.1999 to 11.07.2004 through Tender Cum Auction and the lease was expired on 11.07.2004.

2. Based facts on the case, the area granted under quarry lease in favour of Thiru.V.M.Sundaraiah for quarrying roughstone over an extent of 3.00.0 hectares of Government pormaboke land in SF. No. 91(Part-II) of Ariyanayagipuram village, Kadayanallur Taluk, Tenkasi District was hereby considered and communicated as precise area under Rule 8(8) Tamil Nadu Minor Mineral Concession Rules, 1959 for a period of further 5 years vide reference 5th cited.

3. In response to the precise area communicated, the applicant has submitted three copies of draft Mining Plan duly prepared by a Qualified Person and requested for approval of the same vide reference 6th cited.

4. The draft Mining Plan submitted in respect of the precise area communicated have been verified with reference to field conditions. All the conditions stipulated in the precise area communicated have been incorporated in the Mining Plan. The required safety distance of

7.5 meters to the adjacent patta lands have been clearly demarcated.

5. In exercise of the powers vested under sub rule (2) and (5) of Rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959, I hereby approve the mining plan 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. Quarrying operations should be carried out in accordance with the Approved Mining Plan.

v. The applicant is entitled for production of 3,77,765 cbm of Roughstone upto a depth of 40 meters for a period of 5 years as per the Mining Plan.

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

vii. No hindrance shall be caused to the adjoining pattadars' lands while carrying out quarrying operations.

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

6. As directed by the District Collector, Tenkasi in the reference 5th cited, you are hereby requested to produce Environmental Clearance obtained from the State Level Environment Impact Assessment Authority (SEIAA), Chennai as applicable under Rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 for grant of quarry lease, in respect of the precise area communicated.

Encl: Approved Mining plan.

Joint Director/
Assistant Director(i/c),
Geology and Mining,
Tenkasi.

ANNEXURE-3

From

Thiru.L.Suresh., M.Sc.,
Joint Director/
Assistant Director(i/c),
Geology and Mining,
Tenkasi.

To

Thiru.V.M.Sundaraiah,
S/o. Muthiah Thevar,
4/222, Main Road,
Sundaresapuram,
Kadayanallur Taluk,
Tenkasi District.

Rc.No.M1/30292/2021, dated.06.11.2023

Sir,

Sub: **Mines and Minerals** - Minor Minerals - Tenkasi District - Quarry lease application preferred by Thiru.V.M.Sundaraiah for quarrying and transportation of Roughstone - over an extent of 3.00.0 hectares of Government poramboke land in SF. No. 91(part-2) of Ariyanayagipuram Village, Kadayanallur Taluk - Certain Particulars requested - for obtaining Environmental Clearance - furnished - reg.

Ref:

1. Proceedings of the District Collector, Tirunelveli in Rc. No.M2/32470/1999, dated. 02.06.1999.

2. The Hon'ble Madurai Bench of Madras High Court order in WP (MD) No. 8883 of 2021, dated. 18.06.2021.

3. Proceedings of the Commissioner of Geology and Mining, Chennai in Rc. No. 786/MM6/2023, dated. 12.05.2023.

4. District Collector, Tenkasi letter No. M1/30292/2021, dated. 05.06.2023.

5. Precise area communication letter in Rc. No.M1/30292/2021, dated. 24.08.2023.

6. Letter dated.30.10.2023 received from the applicant.

7. Mining plan approved letter in Rc. No.M1/30292/2021, dated. 06.11.2023.

*****

A roughstone quarry lease had been granted to Thiru.V.M.Sundaraiah over an extent of 3.00.0 hectares in Government poramboke land in SF. No. 91(Part-II) in Ariyanayagipuram Village, Kadayanallur Taluk, Tenkasi District for a period of 5 years from 12.07.1999 to 11.07.2004 through Tender Cum Auction and the lease was expired on 11.07.2004.

2. Based facts on the case, the area granted under quarry lease in favour of Thiru.V.M.Sundaraiah for quarrying roughstone over an extent of 3.00.0 hectares of Government pormaboke land in SF. No. 91(Part-II) of Ariyanayagipuram village, Kadayanallur Taluk, Tenkasi District was hereby considered and communicated as precise area under Rule 8(8) Tamil Nadu Minor Mineral Concession Rules, 1959 for a period of further 5 years vide reference 5th cited.

3. The Mining Plan submitted by the lessee, Thiru.V.M.Sundaraiah for quarrying roughstone has been approved vide this office letter No.M1/30292/2021, dated.06.11.2023 for obtaining Environmental Clearance as per Rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959.

4. In the reference 4th cited, Thiru.V.M.Sundaraiah has requested to furnish certain particulars such as existing / proposed / abandoned

mines within a radial distance of 500 meters from the periphery of the existing mining lease hold area for obtaining environmental clearance from the State Level Environment Impact Assessment Authority, Chennai.

5. The details of quarry leases falling within a radial distance of 500 meters from the subject leasehold area are furnished below:-

Sl. No	Name of the Lessee	Village & SF. No.	Extent - Hects	Lease status
a. Details of Abandoned Quarries				
Nil				
b. Details of Existing Quarries				
1.	M.Kalyanasundaram, S/o.Malaiyappan, 38, Kozhumbhu Street, Kadayanallur Taluk, Tenkasi District.	Ariyanayagipuram (V) & SF. Nos. 108/2(P), 108/3(P), 108/4(P), 108/5(P), 109/2, 109/3, 109/4, 109/5 & 109/6	3.10.0	Proceeding No. M1/37557/2020, dt: 20.06.2023 for a period 5 years from 20.06.2023 to 19.06.2028
2.	Thiru.V.M.Sundariah, S/o.Muthiah Thevar, 4/222, Main Road, Sundaresapuram, Kadayanallur Taluk, Tenkasi Taluk.	Ariyanayagipuram (V) & SF. Nos. 94/1(P), 94/2(P), 94/3A(P), 92(P), 93/1(P), 93/2(P) & 93/3(P)	1.80.0	Proceeding No. M1/25664/2014, dt: 24.05.2023 for a period 5 years from 24.05.2023 to 23.05.2028
c. Details of Expired Quarries				
1.	S.Arunachalam, S/o.Subbiah Chettiar, 295, Main Road, Krishnapuram, Kadayanallur Taluk, Tenkasi District.	Ariyanayagipuram (V) & SF. No. 729(Part-I)	2.00.0	Lease granted vide Proceedings No. M3/67787/2004, dt. 19.01.2016 for a period of 5 years from 08.02.2016 to 07.02.2021

2.	S.Arunachalam, S/o.Subbiah Chettiar, 295, Main Road, Krishnapuram, Kadayanallur Taluk, Tenkasi District.	Ariyanayagipuram (V) & SF. No. 729(Part-II)	3.00.0	Lease granted vide Proceedings No. M3/67787/2004, dt. 19.01.2016 for a period of 5 years from 08.02.2016 to 07.02.2021
d. Present Proposed Quarries				
1.	Thiru.V.M.Sundaraiah S/o. Muthiah Thevar, 4/222, Main Road, Sundaresapuram, Kadayanallur Taluk, Tenkasi District.	Ariyanayagipuram (V) & SF. No. 91(Part-II)	3.00.0	Instant proposal

Joint Director/
Assistant Director(i/c),
Geology and Mining,
Tenkasi.

6/11/23