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

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

TOR Identification No.TO24B0108TN5594899N Dated 27/12/2024

PROPOSED QUARRY LEASE DETAILS	
SURVEY NOS	98/2, 98/3, 98/4, 98/7, 100/1, 100/2, 101/2, 101/3, 101/4, 105/1, 105/3, 105/7, 105/8 AND 105/11
VILLAGE	MELNARMA
TALUK	CHEYYAR
DISTRICT	TIRUVANNAMALAI
EXTENT	7.44.00 HA
PROPOSED PRODUCTION QUANTITY FOR FIRST FIVE YEARS	8,68,060 m^3 OF ROUGH STONE 1,00,452 m^3 of GRAVEL FORMATION
LAND	CONSENT PATTA LAND

(Sector No. 1(a) (Sector no.1 as per NABET)
Category of the Project: B1 Cluster Mining, Total Cluster Area – 11.91.0 Ha
Baseline Monitoring Period – October to December 2024

APPLICANT

TVL.JCK MINES,
THIRU.J.K. VETTRIVELAN (PARTNER)
NO.782, MARIAMMAN KOVIL STREET
JAMBODAI VILLAGE, AZHIVIDAITHANGI POST
VEMBAKKAM TALUK, TIRUVANNAMALAI DISTRICT - 604 402

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 - 2024

NABET

EXECUTIVE SUMMARY

1.1 INTRODUCTION

Tvl. JCK Mines, Thiru. J. K. Vetrivelan (Partner) has obtained Precise Area Communication Letter from Joint Director (A/c), O/o. Assistant Director, Department of Geology and Mining, Tiruvannamalai vide Rc.No. 549/Kanimam/2024 dated 28.08.2024 to quarry out 8,68,060m3 of Rough Stone and 1,04,452m3 of gravel for the period of five years from an extent of 7.44.0 Ha located in S. F. Nos. 98/2, 98/3,98/4,98/7, 100/1, 100/2, 101/2, 101/3,101/4,105/1, 105/3, 105/7,105/8 and 105/11 of Melnarma Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu.

Tvl. JCK Mines, Thiru. J. K. Vetrivelan (Partner) proposes to establish a Rough Stone and Gravel Quarry at S. F. Nos. 98/2, 98/3,98/4,98/7, 100/1, 100/2, 101/2, 101/3,101/4,105/1, 105/3, 105/7,105/8 and 105/11 over an extent of 7.44.o Ha in Melnarma Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu. The area of the proposed mine is 7.44.0 Ha> 5.00 Ha. In this regard, Form-I and Pre-Feasibility Report has been submitted on 13.11.2024 and the ToR was granted by the SEIAA vide ToR Identification No. TO24B0108TN5594899N. 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>Tvl. JCK Mines represented by Thiru. J. K. Vettrivelan (Partner)</td></tr>
<tr><td>2.</td><td>Proposed project</td><td>Rough Stone & Gravel Quarry of Tvl. JCK Mines</td></tr>
<tr><td>3.</td><td>Extent</td><td>7.44.0 Ha and the cluster area within 500 m radius including the proposed mine is 11.91.0 Ha > 5 Ha</td></tr>
<tr><td>4.</td><td>Location</td><td>S.F. Nos. 98/2, 98/3,98/4,98/7, 100/1, 100/2, 101/2, 101/3,101/4,105/1, 105/3, 105/7,105/8 and 105/11 of Melnarma Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu</td></tr>
<tr><td>5.</td><td>Co-ordinates of the project site</td><td>
<table>
<tr><th rowspan="2">Corners</th><th colspan="2">Co- ordinates</th></tr>
<tr><th>Latitude</th><th>Longitude</th></tr>
<tr><td>1</td><td>12° 34' 47.32"N</td><td>79° 39' 39.29"E</td></tr>
<tr><td>2</td><td>12° 34' 50.95"N</td><td>79° 39' 39.78"E</td></tr>
<tr><td>3</td><td>12° 34' 50.89"N</td><td>79° 39' 39.93"E</td></tr>
<tr><td>4</td><td>12° 34' 54.82"N</td><td>79° 39' 41.21"E</td></tr>
<tr><td>5</td><td>12° 34' 54.20"N</td><td>79° 39' 43.80"E</td></tr>
<tr><td>6</td><td>12° 34' 54.86"N</td><td>79° 39' 45.03"E</td></tr>
<tr><td>7</td><td>12° 34' 58.88"N</td><td>79° 39' 45.75"E</td></tr>
<tr><td>8</td><td>12° 34' 58.82"N</td><td>79° 39' 40.79"E</td></tr>
<tr><td>9</td><td>12° 35' 00.84"N</td><td>79° 39' 41.23"E</td></tr>
<tr><td>10</td><td>12° 35' 04.08"N</td><td>79° 39' 41.66"E</td></tr>
</table>
</td></tr>
</table>

			11	12° 35' 03.51"N	79° 39' 44.74"E
			12	12° 35' 03.09"N	79° 39' 47.03"E
			13	12° 34' 58.87"N	79° 39' 46.01"E
			14	12° 34' 58.83"N	79° 39' 46.81"E
			15	12° 34' 58.33"N	79° 39' 50.78"E
			16	12° 34' 56.30"N	79° 39' 50.11"E
			17	12° 34' 56.56"N	79° 39' 48.10"E
			18	12° 34' 56.43"N	79° 39' 48.05"E
			19	12° 34' 56.64"N	79° 39' 46.15"E
			20	12° 34' 52.85"N	79° 39' 45.00"E
			21	12° 34' 49.46"N	79° 39' 43.30"E
			22	12° 34' 49.70"N	79° 39' 49.67"E
			23	12° 34' 48.23"N	79° 39' 49.83"E
			24	12° 34' 47.92"N	79° 39' 47.22"E
			25	12° 34' 47.79"N	79° 39' 47.22"E
			26	12° 34' 47.51"N	79° 39' 44.76"E
			27	12° 34' 47.09"N	79° 39' 44.71"E
			28	12° 34' 47.55"N	79° 39' 42.60"E
			29	12° 34' 46.23"N	79° 39' 42.12"E
6.	Topography	Plain Terrain			
7.	Site Elevation above MSL	≃ 93 m from above MSL			
8.	Topo Sheet No.	57 P/10			
9.	Minerals of Mine	Rough Stone & Gravel			
10.	Proposed production in m^3	100452 Cu.m of Gravel and 868060 Cu.m of Rough Stone			
11.	Ultimate Depth of mining	57m (AGL)			
12.	Method of Mining	Opencast, Semi-Mechanized Mining with a bench height of 5m and bench width of 5m is proposed			
13.	Drilling/Blasting	Drilling and controlled Blasting is proposed			
14.	No. of Working days	300 Days			
15.	Water requirement & Source	9.5 kLD and will be sourced from local vendors			
16.	Manpower	35 Nos.			
17.	Project Cost	Rs. 509.346 lakhs			
18.	Mining Plan Approval	Joint Director (A/c), O/o. Assistant Director, Dept. of Geology & Mining, Tiruvannamalai vide Rc.No. 549/Kanimam/2024 dated 23.09.2024.			
19.	Safety Zone	2.44.00 Ha will be maintained as safety zone and tree saplings will be planted in this area			
20.	Ground water level	68 m BGL			

The proposed project area is a Patta land in the name of Tmt. Santhi, Thiru. Sudhakaran, Thiru. Seenivasan, Thiru. Gopalan, Thiru. Boopalan, Thiru. Vettrivelan, Tmt. Sowmiya and Tmt. Parvathi vide Patta Nos. 515, 557, 612, 623 and 641. The Pattadars has given the consent to Thiru.J.K. Vettrivelan (Applicant), Partner of Tvl. JCK. Mines and the same has been registered. The copy of the Patta, Adangal, A-Register and consent registration document are enclosed as Annexure - 6.

1.2 LOCATION

The proposed quarry is located at S.F. Nos. 98/2, 98/3,98/4,98/7, 100/1, 100/2, 101/2, 101/3,101/4,105/1, 105/3, 105/7,105/8 and 105/11 over an extent of 7.44.0 Ha in Melnarma Village, Cheyyar Taluk, Tiruvannamalai District, Tamil Nadu. The mining area is located in 12°34'46.23"N to 12°35'04.08"N & 79°39' 39.29" E to 79°39'50.78"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 [284.77 Sq.km], which falls under Charnockite group and the remaining area is covered with gnesis (Migmatite Group) [44.45 Sq.km]. No exploration was carried out. Massive Rough stone formation visible from the existing pits in the nearby 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 57m BGL The geological reserves are estimated to be 40,89,195 m3 of rough stone and 1,48,698 m3 of gravel. The mineable reserve calculated by deducting 10m safety distance and bench loss. The mineable reserves are 8,68,060 m3 of Rough Stone and 1,00,452 m3 of Gravel upto a depth of 57m BGL for the period of five years.

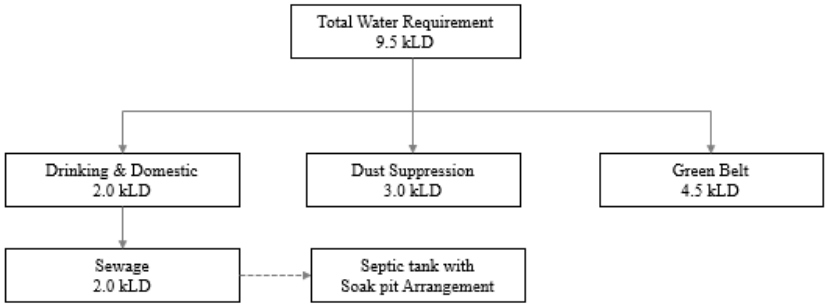
- It is proposed to quarry out rough stone with 5m bench height, 5m width with 80° slope using conventional Open cast Semi-Mechanized method. The quarry operation involves shallow jack hammer drilling, slurry blasting, excavation, Loading and transportation of Rough Stone.
- There is no overburden anticipated during entire rough stone quarrying operation.

S. No.	Particulars	Details
1.	Method of mining	Open Cast Semi-mechanized
2.	Geological Reserves	40,89,195 Cu.m of Rough Stone and 1,48,698 Cu.m of Gravel
3.	Mineable Reserves	8,68,060 m3 of Rough Stone and 1,00,452 m3 of Gravel

4.	Proposed Production	8,68,060 m3 of Rough Stone and 1,00,452 m3 of Gravel
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 9.5 kLD, which will be sourced from Local vendors. Out of 9.5 kLD, 2 kLD will be used for Drinking and Domestic purpose, 3.0 kLD will be used for Dust Suppression and remaining 4.5 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	35 Nos.
4.	Project Cost	Rs. 509.346 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 179B (Tiruvannamalai – Chennai) – 24 km, SE SH -116 (Kanchipuram-Vandavasi) Road - 3.8 km, W.
2.	Nearest Railway Station	Pakkam – 24 km, SE
3.	Nearest Airport	Chennai - 72 km, NE
4.	Nearest Port	Chennai - 85 km, NE
5.	Nearest Village	Vachanur – 680m, N
6.	Water bodies	• Odai – 560m (NE) • Kuttai – 435m (W)

		• Kulam – 550m (NE) • Melnarma Tank – 270m (S) • Thukkuvadi Tank – 420m (SE) • Thuraiyur Tank – 1.0km (SW) • Vachanur Tank- 930m (NW) • Alathur Chitheri – 980m (NE) • Uthiramerur Lake – 7.2km (NE) • Cheyyar River – 8.7km (N) Subam River - 7.2km (SE)
7.	Reserved Forest	Venkunam RF – 7.3 km (SW)
8.	Eco Sensitive Zone and Wildlife Sanctuary (Notified)	Nil within 10km Radius Karikili Bird Sanctuary – 19.0 km (E)
9.	Archaeological important places	Nil within 10 km radius
10.	Defense Installations	Nil within 10 km radius
11.	Nearest Port	Nil within 10 km radius
12.	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 7.32, Turbidity is <1 NTU, TDS is 612 mg/L, calcium is 206 mg/L, Magnesium is 54.2 mg/L, Chloride is 81.3 mg/L and hardness is 432 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 70µg/m3, 33 1µg/m3, 8.9 1µg/m3and 12.4 1µg/m3 respectively. The day noise value lies in the range of 44.4 dB(A) to 49.8 dB(A) and night noise value lies in the range of 37.1 dB(A) to 40.1 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 92.15 inches/foot to 99.54 inches/foot. The value of the pH is nuetral and it ranges from 6.9 to 7.58. The organic matter varies from 0.48% to 1.21%, 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	17.41	5.36
Crop land	198.89	60.24
Fallow Land	18.61	5.75
Land with Scrub	10.24	3.11
Land without Scrub	5.85	1.77
Plantation	25.34	7.70
River	4.25	1.30
Water body	48.64	14.77
Built – up Land	17.41	5.36

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	Nil	4.95.0
2.	Infrastructure	Nil	0.02.0
3.	Roads	Nil	0.03.0
4.	Green Belt	Nil	2.44.0
5.	Unutilized	7.44.0	Nil
	Total =	**7.44.0**	**7.44.0**

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 40 villages, 5 villages (13%) 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: Vachanur, Alathurai, Thiraiyur, Ayyavadi and Veerambakkam

S. No	Indicator	Percentage/Nos.
1	People below age 18	28
2	People age limit above 18	75
3	Literates	90
4	Illiterates	15
5	% of people employed in company	45
6	% of people self employed	32
7	% of people seasonally employed	4
8	% of people unemployed	12
9	% of houses covered with LPG Cooking gas	92
10	% of houses covered with toilet facility	85
11	% of houses covered with piped water supply	59

HYDROGEOLOGY OF THE LEASE AREA

The entire district is underlain by rocks belonging to hard crystalline rock masses of Archaean age. The archaean rocks in this area are represented by rocks of eastern Ghat complex comprising charnockite, migmatite complex of composite gneiss. The district is covered by metamorphic crystalline rocks of charnockite, composite gneiss of Archaean age. These rocks are highly metamorphosed and have been subjected to sever folding, crushing and faulting. Charnockite group is occupied by North and Southern part of the basin. The other rock type is encountered by composite granitic gneiss of Epidote of the

basin. Charnockite group occupies the high ground as well as plain and it is poorly weathered and jointed. They are generally black grey to dark grey in colour medium to coarse grained texture and generally massive and un-foliated. A gneissic rock occurred as linear bands of granites, pegmatites, quartz veins the rock is well foliated. The Hornblende biotite gneiss forms the country rock of the area and epidote hornblende gneiss (Proterozic age) occurs as small isolated outcrops. The crystalline formations are charnockite, granitic

gneiss of Archean age have been intruding by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting. The crystalline rocks are subjected to technic activities under various orogenic cycles resulting in the intensity of weathering various from place. Highly weathered zones and granitic rock occurs in masses are around some of the villages like Ariyanallur, Mukkunam, Kaarunkulu, Tondur, Vedal, Melolakkur, Pennagar, Chinnaagram (57P/7). The general geological sequence of formation is given below: -.

Age	Stage	Lithology
Archaean	Migmatite Complex	Biotite Gneiss, Epidote, Hornblende gneiss
	Charnockite Group	Magnetite

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 57m BGL as per 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 57m 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, 7.44.0 Ha of lease area will be left as rain water harvesting pond. 7.44.0Ha 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 9.5 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 57m (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.

- Odai – 560m (NE)
- Kuttai – 435m (W)
- Kulam – 550m (NE)
- Melnarma Tank – 270m (S)
- Thukkuvadi Tank – 420m (SE)
- Thuraiyur Tank – 1.0km (SW)
- Vachanur Tank- 930m (NW)

- Alathur Chitheri – 980m (NE)
- Uthiramerur Lake – 7.2km (NE)
- Cheyyar River – 8.7km (N)
- Subam River - 7.2km (SE)

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 **266.13 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 266.13 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 266.13 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

ந.க.எண்.549/கனிமம்/2024

உதவி இயக்குநர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
திருவண்ணாமலை-4.
நாள். 28.08.2024.

அறிவிக்கை

பொருள் கனிமங்களும் குவாரிகளும் - சிறுகனிமம் - திருவண்ணாமலை மாவட்டம் - செய்யார் வட்டம் - மேல்நர்மா கிராமம் - புல எண்கள். 98/2 (0.62.0), 98/3 (0.59.5), 98/4 (0.54.5), 98/7 (0.57.0), 100/1 (0.40.5), 100/2 (0.40.0), 101/2 (0.33.0), 101/3 (0.87.5), 101/4 (0.84.5), 105/1 (0.40.5), 105/3 (0.65.0), 105/7 (0.42.0), 105/8 (0.40.5) மற்றும் 105/11 (0.37.5) ஆகியவற்றின் மொத்தப்பரப்பு 7.44.0 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க - குவாரி குத்தகை உரிமம் வழங்கக்கோரி Tvl.JCK Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.J.K.வெற்றிவேலன் என்பவர் விண்ணப்பம் செய்தது - பரிந்துரை அறிக்கை வரப்பெற்றது - சுரங்கத் திட்டம் (Mining plan) தயார் செய்து சமர்ப்பிக்க கோருவது - தொடர்பாக.

பார்வை

1. Tvl.JCK Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.J.K.வெற்றிவேலன் என்பவர் வெம்பாக்கம் வட்டம் விண்ணப்ப நாள்.21.12.2023.

2. இவ்வலுவலக கடித ந.க.எண்.549/கனிமம்/2023 நாள்.26.12.2023

3. வட்டாட்சியர், செய்யார் அவர்களின் கடித ந.க.எண்.ஆ1/1109/2024 நாள்.12.03.2024

4. சார் ஆட்சியர், செய்யார் அவர்களின் கடித ந.க.எண்.அ1/50/2024 நாள்.22.07.2024.

5. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை திருவண்ணாமலை அவர்களின் புலத்தணிக்கை நாள். 27.08.2024

6. தொடர்புடைய ஆவணங்கள்.

❖❖❖❖❖❖

திருவண்ணாமலை மாவட்டம், செய்யார் வட்டம், மேல்நர்மா கிராமம் புல எண்கள். 98/2 (0.62.0), 98/3 (0.59.5), 98/4 (0.54.5), 98/7 (0.57.0), 100/1 (0.40.5), 100/2 (0.40.0), 101/2 (0.33.0), 101/3 (0.87.5), 101/4 (0.84.5), 105/1 (0.40.5), 105/3 (0.65.0), 105/7 (0.42.0), 105/8 (0.40.5) மற்றும் 105/11 (0.37.5) ஆகியவற்றின் மொத்தப்பரப்பு 7.44.0 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க 5 ஆண்டுகளுக்கு குவாரி குத்தகை உரிமம் வழங்கக்கோரி Tvl.JCK Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.J.K.வெற்றிவேலன் என்பவர் அளித்த பார்வை 1-ல்

காணும் விண்ணப்பம் மீது பார்வை 2-ல் காணும் இவ்வலுவலக கடிதம் மூலம் சார் ஆட்சியர், செய்யார் அவர்களின் அறிக்கை கோரப்பட்டது.

அதனைத்தொடர்ந்து பார்வை 4-ல் காணும் சார் ஆட்சியர், செய்யார் மற்றும் பார்வை 5-ல் காணும் திருவண்ணாமலை மாவட்ட புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளர் ஆகியோரின் அறிக்கைகள் பரிசீலிக்கப்பட்டது.

மேற்காணும் பரிந்துரை அறிக்கைகளின்படி திருவண்ணாமலை மாவட்டம், செய்யார் வட்டம், மேல்நர்மா கிராமம் புல எண்கள். 98/2 (0.62.0), 98/3 (0.59.5), 98/4 (0.54.5), 98/7 (0.57.0), 100/1 (0.40.5), 100/2 (0.40.0), 101/2 (0.33.0), 101/3 (0.87.5), 101/4 (0.84.5), 105/1 (0.40.5), 105/3 (0.65.0), 105/7 (0.42.0), 105/8 (0.40.5) மற்றும் 105/11 (0.37.5) ஆகியவற்றின் மொத்தப்பரப்பு 7.44.0 ஹெக்டேர் பரப்பளவில் புல எண் 105/2-ல் உள்ள அரசு ஏரி புறம்போக்குக்கு 50மீட்டர் பாதுகாப்பு இடைவெளி அமைக்க புல எண்கள் 105/1, 105/3, 101/4, 101/3 ஆகிய புலங்களின் மேற்கு பகுதியில் பாதுகாப்பு இடைவெளி அமைத்து 5 ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959, விதி 19(1), 20 மற்றும் 22-ன்படி விண்ணப்பதாரர் Tvl.JCK Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.J.K.வெற்றிவேலன், என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்யப்பட்ட 7.44.0 ஹெக்டேர் பரப்பின் கற்குவாரி செய்ய உகந்த புலம் (Precise Area) என தீர்மானித்து கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அறிவிப்பு செய்யப்படுகிறது.

நிபந்தனைகள்

1. ஏரி புறம்போக்கான புல எண் 105/2-ற்க்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட ஏதுவாக புல எண்கள் 105/1, 105/3, 101/3, 101/4 ஆகியவற்றின் மேற்கு பகுதியில் பாதுகாப்பு இடைவெளி அமைத்து 50 மீட்டருக்குள் ஏரி புறம்போக்கு புல எண் 105/2 வராத வண்ணம் சுரங்கதிட்டத்தினை தயார் செய்ய வேண்டும்.

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

3. பொதுமக்களுக்கும் அருகிலுள்ள நிலங்களுக்கும் எவ்வித பாதிப்பும் ஏற்படுத்தக்கூடாது.

4. குவாரிப்பணி தொடங்குவதற்கு முன்பாக குவாரியை சுற்றி முள் கம்பிவேலி அமைத்து குவாரிப்பணி தொடங்க 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 சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மை சான்று பெறப்பட வேண்டும் என வரையறுக்கப்பட்டுள்ளது.

எனவே, Tvl.JCK Mines என்ற நிறுவனத்தின் பங்குதாரர் திரு.J.K.வெற்றிவேலன் என்பவர் ஒப்புதல் பெறப்பட்ட சுரங்கத்திட்ட அறிக்கை மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய தடையின்மை சான்றினை பெற்று சமர்ப்பிக்கும் பட்சத்தில் திருவண்ணாமலை மாவட்டம், செய்யார் வட்டம், மேல்நர்மா கிராமம் புல எண்கள். 98/2 (0.62.0), 98/3 (0.59.5), 98/4 (0.54.5), 98/7 (0.57.0), 100/1 (0.40.5), 100/2 (0.40.0), 101/2 (0.33.0), 101/3 (0.87.5), 101/4 (0.84.5), 105/1 (0.40.5), 105/3 (0.65.0), 105/7 (0.42.0), 105/8 (0.40.5) மற்றும் 105/11 (0.37.5) ஆகியவற்றின் மொத்தப்பரப்பு 7.44.0 ஆகியவற்றின் ஹெக்டேரில் புல எண் 105/2-ல் உள்ள அரசு ஏரி புறம்போக்குக்கு 50மீட்டர் பாதுகாப்பு இடைவெளி அமைக்க புல எண்கள் 105/1, 105/3, 101/4, 101/3 மேற்கு பகுதியில் பாதுகாப்பு இடைவெளி அமைத்து 5 ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959 விதி எண் 19(1) மற்றும் 20-ன் கீழ் 5 ஆண்டுகளுக்கு 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.

280824

பெறுநர்:

Tvl.JCK Mines,
பங்குதாரர் திரு.J.K.வெற்றிவேலன்
எண்.782 மாரியம்மன் கோவில் தெரு,
ஜம்போடை கிராமம், அழிவிடைதாங்கி அஞ்சல்,
வெம்பாக்கம் வட்டம், திருவண்ணாமலை மாவட்டம்.

ANNEXURE-2

From

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

To

Tvl.JCK Mines,
Partner Thiru.J.K.Vettrivelan,
No.782 Mariamman Kovil Street,
Jambodai Village, Azhividaithangi Post,
Tiruvannamalai District.

Rc.No.549/Kanimam/2024, dated: 23.09.2024.

Sir,

Sub: Quarries and Minerals – Minor Mineral - Rough stone and Gravel - Tiruvannamalai District – Cheyyar Taluk – Melnarma village Patta Land in SF.Nos.98/2, 98/3, 98/4, 98/7, 100/1, 100/2, 101/2, 101/3, 101/4, 105/1, 105/3, 105/7, 105/8 and 105/11 over an extent of 7.44.0 Hectare – Application preferred by **Tvl.JCK Mines - Precise area communicated – Submission of three copies of draft Mining Plan for approval** - Approval accorded - regarding.

Ref:
1. Application from Tvl.JCK Mines, Partner Thiru. J.K.Vettrivelan, No.782 Mariamman Kovil Street, Jambodai Village, Azhividaithangi Post, Tiruvannamalai District dated 21.12.2023.
2. Precise Area Communication Notice Rc.No.549/ Kanimam/2024, dated 28.08.2024.
3. Mining Plan submitted by Tvl.JCK Mines, Partner Thiru. J.K.Vettrivelan, Chengalpattu District dated. 12.09.2024

******

Tvl.JCK Mines, Partner Thiru. J.K.Vettrivelan has preferred an application for the grant of Rough Stone and Gravel quarry lease over an extent of 7.44.0 Hectare of Patta land in SF.Nos. 98/2 (0.62.0), 98/3 (0.59.5), 98/4 (0.54.5), 98/7 (0.57.0), 100/1 (0.40.5), 100/2 (0.40.0), 101/2 (0.33.0), 101/3 (0.87.5), 101/4 (0.84.5), 105/1 (0.40.5), 105/3 (0.65.0), 105/7 (0.42.0), 105/8 (0.40.5) and 105/11 (0.37.5) of Melnarma Village, Cheyyar 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.	Geological Resources in Cu.m	Mineable Reserves in Cu.m
57m below ground level	Rough Stone : 40,89,195 Gravel : 1,48,698	Rough Stone : 8,68,060 Gravel : 1,00,452

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. A safety distance of 7.5m and 10m should be provided to the adjoining patta and Poramboke lands respectively.

viii. A safety distance of 50m should be provided to the permanent structures (Water bodies, Highways, Electrical lines and Railway tracks).

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

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

xi. The applicant should use jackhammer and mild explosive during blasting in quarry.

xii. Quarrying operation should be done proper scientific method only.

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 Hect.	Lease Period	Remarks
1	Tvl.JCK Mines No.782, Mariyamman Koil Street, Jambodai Village, Azhividaithangal Post, Vembakkam Taluk.	Melnarma 100/3, 100/5, 100/6, 100/7, 100/8, 100/9, 100/10, 100/11, 100/12 & 100/13	4.47.0	15-07-2020 to 14-07-2025	Existing quarry

ii) Abandoned quarries

Sl. No.	Name of the Owner	Village & S.F. Nos.	Extent in Hect.	Lease Period	Remarks
...Nil...					

iii)Present Proposed Quarries

Sl. No	Name of the Owner	Village & S.F. Nos.	Extent in Hect.
1	Tvl.JCK Mines, Partner Thiru.J.K.Vettrivelan, No.782 Mariamman Kovil Street, Jambodai Village, Azhividaithangi Post, Tiruvannamalai District.	Melnarma 98/2, 98/3, 98/4, 98/7, 100/1, 100/2, 101/2, 101/3, 101/4, 105/1, 105/3, 105/7, 105/8 and 105/11	7.44.0

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.