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**DRAFT ENVIRONMENTAL IMPACT ASSESSMENT**  
**&**  
**ENVIRONMENT MANAGEMENT PLAN**

**“B1” CATEGORY – MINOR MINERAL –CLUSTER–NON-FOREST LAND-PATTA LAND**

**MORATTUPALAYAM ROUGH STONE AND GRAVEL CLUSTER QUARRIES**

**At**

**Morattupalayam Village, Uthukuli Taluk, Tiruppur District**

**For Obtaining**

**Environmental Clearance under EIA Notification – 2006**  
**Schedule Sl. No. 1 (a) (i): Mining Project**

**IN CLUSTER OVER AN EXTENT OF 21.64.52 Ha**

**NAME OF PROPOSED PROJECT PROPONENTS APPLYING IN CLUSTER**

<b>Code</b>	<b>Proponent Name</b>	<b>S.F No</b>	<b>Village &amp; Taluk</b>	<b>Extent (Ha)</b>
P1	Tmt.V. Revathi	209/1A(P), 209/1B(P) & 209/2 (P)	Morattupalayam Village, Uthukuli Taluk	2.25.5
P2	Thiru.U. Prabhakaran	389/1C2,		0.68.8
P3	Thiru.S.Rajasekar	382/2A (P),		2.48.5

1. Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 - P1
2. Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021 - P2
3. Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024- P3

**Environmental Consultant**

**GEO EXPLORATION AND MINING SOLUTIONS**



Old No. 260-B, New No. 17,

Advaitha Ashram Road, Alagapuram,  
Salem – 636 004, Tamil Nadu, India



**Accredited for sector 1 Category ‘A’, sector 31 Category ‘B’ & 38 Category ‘B’**  
Certificate No : NABET/EIA/2225/RA 0276 Dated: 20.02.2023



Phone: 0427-2431989,

Email: ifthiahmed@gmail.com, geothagam@gmail.com

Web: [www.gemssalem.com](http://www.gemssalem.com)

**ENVIRONMENTAL LAB**

**KGS ENVIRO LABORATORY PRIVATE LIMITED**

NABL Accredited Testing Laboratory (Approved by ISO/IEC 17025:2017)

16, F1, Bharathi Flats, Bharathiar street, Thirumullaivoyal, Chennai – 600 062, Tamil Nadu, India.

**Baseline Monitoring Season – Mar 2022 to May 2022**

**NOVEMBER -2023**

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For the easy representation the proposed, existing, abandoned and expired quarries are designated as below –

<b>*PROPOSED QUARRIES</b>				
<b>CODE</b>	<b>Name of the Proponent and Address</b>	<b>S.F. Nos &amp; Village</b>	<b>Extent in Ha</b>	<b>Status</b>
<b>P1</b>	<b>Tmt.V. Revathi</b>	209/1A(P), 209/1B(P) & 209/2 (P) Morattupalayam Village,	2.25.5 Ha	Obtained ToR vide, Lr No. SEIAA- TN/F.No.9731/2023/SEAC/ToR- 1566/2023 Dated: 20.09.2023.
<b>P2</b>	<b>Thiru.U. Prabhakaran</b>	389/1C2, Morattupalayam Village,	0.68.8 Ha	Obtained ToR vide, Lr No. SEIAA- TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021
<b>P3</b>	<b>Thiru.S. Rajasekar</b>	382/2A (P), Morattupalayam Village	2.48.50Ha	Obtained ToR vide, Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024
<b>P4</b>	<b>Thiru.N. Ayyadurai</b>	392(Part)	0.99.50Ha	Under process
<b>P5</b>	<b>Thiru.M. Thangaraj</b>	383/2B2, Morattupalayam Village	0.84.5 Ha	EC Granted
	<b>Total</b>		<b>7.26.8 Ha</b>	
<b>*EXISTING QUARRIES</b>				
<b>CODE</b>	<b>Name of the Proponent and Address</b>	<b>S.F.Nos , Village &amp; Taluk</b>	<b>Extent in Ha</b>	<b>Lease Period</b>
<b>E-1</b>	<b>Thiru.N. Chithambaram</b>	209/1A (P), Morattupalayam Village	0.79.0	20.06.2022 to 19.06.2027
<b>E-2</b>	<b>Thiru.N. Ayyadurai</b>	392 (P), Morattupalayam Village	2.02.5	28.09.2018 to 27.09.2023
<b>E-3</b>	<b>Thiru.T.S. Udhayakumar</b>	388 (P-A), Morattupalayam Village	1.26.5	06.04.2018 to 05.04.2023
<b>E-4</b>	<b>Thiru.S. Raju</b>	388 (P) (Bit-B) (Old pit B & C) Morattupalayam Village	1.58.0	09.04.2018 to 08.04.2023
<b>E-5</b>	<b>Thiru. K. Senthil kumar</b>	383/1, 383/2A2A1, Morattupalayam Village,	0.71.5 Ha	13.04.2023 to 12.04.2028
<b>E-6</b>	<b>Thiru.Thangamuthusamy</b>	383/2A1, 382/2B, Morattupalayam Village	2.63.0 Ha	12.04.2023 to 11.04.2028
<b>E-7</b>	<b>Thiru.T. Thangaraj</b>	383/2A2B, 383/2A 2A2A2 Morattupalayam Village	1.88.72 Ha	09.11.2022 to 08.11.2027
<b>E-8</b>	<b>Thiru.M. Thangaraju</b>	389/1B1A,1B1B,1B2	2.19.50 Ha	09.11.2022 to 08.11.2027
<b>E-9</b>	<b>Thiru, M. Devaraj</b>	389/1A	1.29.0 Ha	25.08.2022 to 24.08.2027
	<b>Total</b>		<b>14.37.72Ha</b>	
<b>ABANDONED/EXPIRED QUARRIES</b>				
<b>CODE</b>	<b>Name of the Proponent and Address</b>	<b>S.F. Nos, Village &amp; Taluk</b>	<b>Extent in Ha</b>	<b>Lease Period</b>
<b>A-1</b>	<b>Thiru.N. Ayyadurai</b>	392 (P), Morattupalayam Village	3.52.0	23.09.2016 to 22.09.2021
<b>A-2</b>	<b>Thiru.A.A. Kumaresan</b>	377/1, Morattupalayam Village	2.10.5	21.09.2016 to 20.09.2021
<b>A-4</b>	<b>Thiru.M. Palanisamy</b>	385/2(P), Morattupalayam Village	0.59.5	21.01.2016 to 20.01.2021 Lease expired
	<b>Total</b>		<b>6.22.0Ha</b>	
<b>*TOTAL CLUSTER EXTENT</b>			<b>21.64.52 Ha</b>	

Note:-

- Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016

As per above notification S.O.2269(E) dated : 01.07.2016 in para (b) in Appendix XI,- (ii)(5): The lease not operative for three years or more and leases which have got environmental clearance as on 15th January, 2016 shall not be counted for calculating the area of cluster, but shall be included in the Environment Management Plan and the Regional Environmental Management Plan”



## TERMS OF REFERENCE (ToR) COMPLIANCE

Tmt.V.Revathi

**“ToR issued vide Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023”**

SPECIFIC CONDITIONS		
1	The Proponent shall justify the selection of the site for carrying out the stone quarrying with the total volume arrived for the excavation & production adequate details such as lithology of the deposit, reserve estimation, place for waste dump/mined mineral storage, end-use of mined materials, identified potential customers/end-users and travel path.	Previous obtained Environmental Clearance SEIAA-TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016. existing quarry pit Pit I: 66m (L) x 57m (W) x 20m(D) Pit II: 140m (L) x 93m (W) x 18m(D) <b>1,41,283m<sup>3</sup>-Roughstone</b> <b>4,860 m<sup>3</sup>-Gravel</b>
2	The proponent is requested to carry out a detailed survey, detailed study and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Noted, 80m NW-Labour shed, 160m-NW cotton godown, 200m-W Soap Godown, 270m-NE Engineering company, grindstone manufactures 280m-W-Bakery, 230m-W-Abandoned school.
3	As the structures are located within a radial distance of 500 m. the PP shall furnish a Model simulating the conditions describing the level of ground vibrations and fly rock caused due to the blasting operation in the proposed quarry.	Ground vibration study in chapter-4
4	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc located within 1km of the proposed quarry.	Enclosed detailed hydrological report as annexure
5	The Proponent shall carry out Bio diversity study through Department of Ecology and Environmental Sciences, Pondicherry University and the same shall be included in EIA Report.	Detailed Bio diversity study report at Chapter -3
6	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	Details of EMP is in Chapter – 10.
Annexure-1		
1	In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following: (i) Original pit dimension (ii) Quantity achieved Vs EC Approved Quantity (iii) Balance Quantity as per Mineable Reserve calculated. (iv) Mined out Depth as on date Vs EC Permitted depth (v) Details of illegal/illicit mining	Noted, Enclosed Approved mining plan as annexure

	(vi) Violation in the quarry during the past working. (vii) Quantity of material mined out outside the mine lease area (viii) Condition of Safety zonelbenches (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	
2	Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.	VAO letter stating the details of habitations, temples etc., is enclosed as Annexure
3	The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Noted, 80m NW-Labour shed, 160m-NW cotton godown, 200m-W Soap Godown, 270m-NE Engineering company, grindstone manufactures 280m-W-Bakery, 230m-W-Abandoned school.
4	The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the water bodies like lake, water tanks, etc are located within 1 km of the proposed quarry.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 3.
5	The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	Detailed Bio diversity study report at Chapter 3
6	The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	O.M No13382/2022/F Date 20.12.2022
7	In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, n-IRM/Bangalore. Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal. and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.	Not Applicable, It is a Existing Lease
8	However, in case of the fresh virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the	Noted, Slope Stability plan will be obtained when the depth reaches 30m bgl after obtaining the Environmental Clearance

	appraisal while obtaining the EC. when the depth of the working is extended beyond 30 m below ground level.	
9	The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	Proponent given affidavit stating that the blasting operation will be carried out under the supervision of Competent person.
10	The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	It will be submitted controlled blasting operation
11	The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	There is no quarry in the name of the project proponent.
12	If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,	It is a fresh lease application. But The quarry lease was previously granted in the favour of Thiru.P.K. Krishnasamy & Thiru.K. Muthusamy, over an extent of 2.25.5 hectares, obtained Environmental Clearance from the State Level Environment Impact Assessment Authority vide Letter No. SEIAA-TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016.
13	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	last work permit issued SEIAA-TN/F.No.5470/1(a)/EC. No:3292/2016 Dated:11.07.2016.
14	Quantify of minerals mined out. <ul style="list-style-type: none"> <li>• Highest production achieved in any one year</li> <li>• Detail of approved depth of mining.</li> <li>• Actual depth of the mining achieved earlier.</li> <li>• Name of the person already mined in that leases area.</li> <li>• If EC and CTO already obtained, the copy of the same shall be submitted.</li> <li>• Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.</li> </ul>	30m (2m Gravel + 28m Rough Stone) Bgl. 121m (L) x 169m (W) x 30m (D) Max for P1  36m (1m Gravel + 35m Rough stone) below ground level 94m (L) x 42m (W) x 36m Bgl (D) Max for P2
15	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet. Topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Noted and agreed. Project area boundary coordinates superimposed on Toposheet – Figure No. 1.3.
16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc..	The drone video of the project site has been taken covering Cluster quarries, plantation and fencing etc
17	The proponent shall furnish photographs of adequate fencing, green belt along the periphery	Greenbelt development and Fencing photographs furnished

	including replantation of existing trees & safety distance between the adjacent quaries & water bodies nearby provided as per the approved mining plan.	The Barbed Wire fencing has been erected all around the boundary. No trees within the project site, hence transplantation not required.
18	The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.	Noted and agreed. Discussed under Chapter 2 Total Mineable Reserves – 141283 upto the depth of 30 m bgl
19	The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	Organization chart indicating Proposal for the appointment of Statutory officials is given in the Chapter No.7
20	The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) alongwith the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 3.
21	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic vehicular movement study.	Baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality, & flora/fauna including traffic/vehicular movement study to assess the cumulative impact of the proposed project on the environment is prepared as a Draft EIA EMP and will be finalized after public consultation and will be submitted as Final EIA EMP Report.
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts- Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Cumulative impact study results related to air pollution, water pollution, & health impacts have been given in chapter VII. Based on the results, environmental management plan has been prepared and given in Chapter No.7
23	Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	Detailed discussed in chapter 3.
24	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water	Land use and land cover of the study area is discussed in Chapter No. 3,

	bodies, human settlements and Cother ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No.2,
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use. R&R issues, if any. should be provided.	Not applicable No waste is anticipated in the lease area.
26	Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required. clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided	The lower part of the mine pit will be utilized as rain water harvesting structure (Temporary) and the water will be used for the water sprinkling on haul roads and Greenbelt development purpose. Rainwater harvesting structure will be constructed near the mine office.
28	Impact on local transport infrastructure due to the Project should be indicated.	Traffic density survey was carried out to analyse the impact of transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details have been provided in Chapter No.2.
29	A tree survey study shall be carried out (nos., name of the species, age, diameter etc..) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	Greenbelt details in Chapter-4. It is proposed to plant 1750 trees along boundary and panchayat roads.
30	A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	After the completion of mining operation, the quarried-out land will be utilized as temporary storage reservoir. The details are given in the Chapter No.4
31	As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	The Flora and Fauna Study has been carried out along with educating local School students by the Functional Area Experts in Ecology and Biodiversity
32	The purpose of green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO. State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin	Species are proposed to plant in the safety barrier as mentioned in the ToR appendix. Proposed species are given in the Chapter No 4  Noted & agreed. It is proposed to plant 1750 Nos of trees in the 7.5m safety barrier and approach & Village roads

	should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	
33	Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner	The proposed project is Existing lease. around 1750 trees are proposed to plant.
34	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Disaster management Plan details in Chapter-7
35	A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.	A Risk Assessment and management Plan Chapter-7
36	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health impacts chapter- 10
37	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	It is explained in Chapter -3
38	The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	It is explained in Chapter -3
39	Details of litigation pending against the project, if any, with direction. /Order passed by any Court of Law against the Project should be given.	No Litigation is pending
40	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Employment benefits are Detailed in chapter3 and 10.
41	If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC. Regional Office, Chennai (or) the concerned DEE/TNPCB.	It is an Existing Lease
42	The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	Noted & agreed.

43	Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.	Noted & agreed.
<b>ADDITIONAL CONDITIONS-Annexure-B</b>		
<b><i>Cluster Management committee</i></b>		
1.	Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	Details chapter 7 salient features of quarry with existing quarry.
2	The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc..	Noted & agreed
3	The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	Noted & agreed
4	Detailed operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	Transport details in chapter-2
5	The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan	Noted & agreed
6	The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Noted & agreed
7	The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	Noted & agreed
8	The committee shall furnish the Emergency Management plan within the cluster.	Details discussed in chapter 7.
9	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	Details discussed in chapter 10.
10	The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.	Noted & agreed
11	The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.	Detailed discussed in chapter 7.
<b><i>Impact study of mining</i></b>		
12	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per	Species Recommended for Plantation in chapter 3&10.

	<p>precise area communication order issued from reputed research institutions on the following</p> <p>a) Soil health &amp; bio-diversity</p> <p>b) Climate change leading to Droughts, Floods etc.</p> <p>c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature' &amp; Livelihood of the local people.</p> <p>d) Possibilities of water contamination and impact on aquatic ecosystem health'</p> <p>e) Agriculture, Forestry &amp; Traditional practices.</p> <p>1) Hydrothermal/Geothermal effect due to destruction in the Environment'</p> <p>g) Bio-geochemical processes and its foot prints including environmental stress'</p> <p>h) Sediment geochemistry in the surface streams.</p>	
<b><i>Agriculture &amp; Agro-Biodiversity</i></b>		
13	Impact on surrounding agricultural fields around the proposed mining Area.	Detailed discussed in chapter 4.
14	Impact on soil flora & vegetation around the project site.	Detailed discussed in chapter 4.
15	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	Details in Chapter 2,3 and 7
16	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora. fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	Details in Chapter 3
17	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	Noted & agreed
18	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands. Horticulture, Agriculture and livestock.	The project area is bounded by Existing quarries on the all direction. Proponent proposed to erect green mesh along with fencing on the South side besides, Budgetary allocation given in the Chapter No. 10.
<b><i>Forest</i></b>		
19	The project proponent shall detail study on impact of mining on Reserve forests free ranging wildlife.	Noted and agreed, there is no reserve forest and wildlife in the buffer zone. No 13382/2022 dated 20.12.2022 DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone
20	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	Ecology and Biodiversity environment deals in Chapter-3
21	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	Ecology and Biodiversity environment deals in Chapter-3
22	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	Anticipated Environment Impact and Mitigation measures are detailed in Chapter No.4
<b><i>Water Environment</i></b>		



23	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	Hydro-geological study considering the contour map of the water table detailing Chapter-3
24	Erosion Control measures.	Noted & agreed
25	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby villages, water-bodies/ Rivers. & any ecological fragile areas.	Detailed EIA study has been carried out considering the impact to the water bodies and eco system of the area. Details are covered in the Chapter No.3 and 4.
26	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Impact on the aquatic animals and mitigation measures are detailed in the Chapter No.3.
27	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment by the activities.	Noted & agreed
28	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Noted & agreed. Detailed under Chapter 3.
29	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil, physical, chemical components and microbial components.	Details in Chapter 3 Soil environment.
30	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	Nearest agriculture activity is coconut plantation located North side of the project area. Proponent erected fencing in the previous lease period. The same will be reconstructed around the quarry pits
<b>Energy</b>		
31	The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.	Details in Chapter 3 environmental monitoring details.
<b>Climate Change</b>		
32	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	Details of carbon emission and mitigation activities are given in the Chapter No.4
33	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	Details in Chapter-3 for meteorological and climate/weather data representation of graphs.
<b>Mine Closure Plan</b>		
34	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Detailed mine closure plan has been attached with the approved mining plan report in Annexure III.
<b>EMP</b>		

35	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Detailed under Chapter 10
36	The Environmental Impact Assessment should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	Details in Green belt development in chapter 4
<b><i>Risk Assessment</i></b>		
37	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	Detailed under Chapter 7
<b><i>Disaster Management Plan</i></b>		
38	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Details in Study 7.3 Disaster Management Plan in Chapter -7
<b><i>Others</i></b>		
39	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations. schools. Archaeological sites. Structures. railway lines, roads. Water bodies such as streams, odai, vaari, canal, channel. river, lake pond, tank etc.	Noted & agreed. Detailed under Chapter3 & 4
40	As per the MoEF& CC office memorandum tr.No.22-65/2017-1A.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted and agreed
41	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	Details of carbon emission and mitigation activities are given int the Chapter No.4

### **TERMS OF REFERENCE (ToR) COMPLIANCE**

**P-2 – Thiru.U. Prabhakaran**

**“ToR issued vide Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021”**

<b>SPECIFIC CONDITIONS</b>		
1	A detailed study of the lithology of the mining lease area shall be furnished.	Noted and agreed
2	The proponent shall form the proper benches as per the approved mining plan during the operation of the quarry considering the hydro-geological regime of the surrounding area as well as for safe mining.	Noted and agreed

3	The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees, & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	Greenbelt development and Fencing photographs furnished. The Barbed Wire fencing has been erected all around the boundary. No trees within the project site, hence transplantation not required.
4	The Project Proponent shall conduct the hydro-geological study to assess the impact considering the contour map of the ground water table detailing the number of ground water pumping & open wells, and surface water bodies such as Rivers, tanks, canals, ponds etc. within 1 km (Radius) and individual the water levels for both monsoon and nonmonsoon seasons from the PWD / TWAD.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 3.
5	The Proponent shall carry out the Cumulatively impact study due to mining from all the mines on the environment in terms of air pollution, water pollution, & health impacts, accordingly, the Environment Management plan should be prepared.	Detailed chapter 3 and 10 Environment Management plan.
6	The Socio-economic studies should be carried out within a 10 km buffer zone from the mines.	Detailed Socioeconomic studies in chapter-3
7	A tree survey study shall be carried out (nos., name of the species, age etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	There are no trees inside the lease area. There are few trees in buffer zone of 300 m from the proposed lease area and it shall not be cut down or have any impact due to the mining activities and project proponent ensures to carrying out activities like watering for preserving the green cover around 300m from proposed project site.
8	The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality, & flora/fauna including traffic/vehicular movement study to assess the cumulative impact of the proposed project on the environment and in order to propose Environment management plan including CER activities proposed with implementation and cost estimation details, considering the requirement raised during public hearing by the local habitants in regard to as per Office Memorandum of MoEF&CC accordingly.	Explained baseline data for the environmental and ecological parameters in chapter-3 And traffic/vehicular movement study chapter -2 Chapter-10 Environment Management plan including CER activities.
9	Fugitive emission measurements should be carried out during the mining operation and the report on the same may be submitted to SEIAA once in six months.	Noted and agreed
10	The proponent shall submit waste/reject handling and management /mode of disposal for the proposed mining activity.	Noted and agreed
11	A detailed mining closure plan for the proposed project shall be submitted.	A detailed mining closure plan chapter-2
12	A detail report on the safety and health aspects of the workers and for the surrounding habitations during opencast of mining for drilling and blasting shall be submitted.	A detailed opencast of mining for drilling and blasting chapter-2

13	The Ambient silica analysis needs to be carried out once in six months and repon the same to SEIAA.	Noted and agreed
14	The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1 182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).	Noted and agreed
15	The project proponent shall furnish the details of the existing green belt area earmarked with GPS coordinates and list of trees planted/to be planted with a copy of photos/documents of the existing green belt and be included in the EIA Report.	Detailed Ecology and Bio diversiry studies in chapter-3
16	The project proponent should provide a detailed plan regarding the green belt area surrounding the mining area at least with a width of 3m.	Noted and agreed
<b>NORMAL CONDITIONS</b>		
1.	As per the MoEF& CP qffice memorandum F.No.22-65/2017.,IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted, this is only Draft EIA report to submit PCB. Then after PH will be furnished this final EIA report.
<b>STANDARD TERMS OF REFERENCE</b>		
1	Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.	<b>Not applicable.</b> This is Not a violation category project. This proposal falls under B1 Category
2	A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.	The applied land for quarrying is a Patta Land. Document is enclosed along with Approved Mining Plan as Annexure Volume 1.
3	All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.	<b>Noted &amp; agreed.</b>
4	All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).	Map showing – Project area is with adjacent quarries details is enclosed in Figure No1.1 Project area boundary coordinates superimposed on Toposheet – Figure No. 1.1A Toposheet of the project area covering 10km radius – Figure No. 1.2 Geology map of the project area covering 10km radius - Figure No. 2.11
5	Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological	<b>Map showing –</b>

	map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.	Geology map of the project area covering 10km radius - Figure No. 2.11 Geomorphological features are incorporated in the Toposheet map covering 10km radius around the project area Figure No. 2.12
6	Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.	The applied area was inspected by the officers of Department of Geology along with revenue officials and found that the land is fit for quarrying under the policy of State Government.
7	It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.	The proponent has framed their Environmental Policy and the same is discussed in the Chapter No 10.1.
8	Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.	It is an opencast quarrying operation proposed to operate in Mechanized method. The rough stone formation is a hard, compact and homogeneous body. The height and width of the bench will be maintained as 5m with 90° bench angles. Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate. Necessary permissions will be obtained from DGMS after obtaining Environmental Clearance.
9	The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc., should be for the life of the mine / lease period.	<b>Noted &amp; agreed.</b> The study area considered for this study is 10 km radius and all data contained in the EIA report such as waste generation etc., is for the Life of the Mine / lease period.
10	Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2, Table No 2.3  Land use and land cover of the study area is discussed in Chapter No. 3.
11	Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given	<b>Not Applicable.</b> There is no waste anticipated during this quarry operation. The entire quarried out Rough stone will be transported to the needy customers.

		No Dumps is proposed outside the lease area.
12	A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.	<p><b>Not Applicable.</b> There is no Forest Land involved in the proposed project area. The proposed project area is a Patta land. Approved Mining Plan is enclosed as Annexure Volume 1.</p> <p>No 13382/2022 dated 20.12.2022 DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone</p>
13	Status of forestry clearance for the broken-up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.	<p><b>Not Applicable.</b> The proposed project area does not involve any Forest Land.</p>
14	Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.	<p><b>Not Applicable.</b> The project doesn't attract Recognition of Forest Rights Act, 2006.</p>
15	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	<p>No Reserve Forest within the Study Area. No 13382/2022 dated 20.12.2022 DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone</p>
16	A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.	<p><b>Not Applicable.</b> There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.</p>
17	Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves (existing as well as proposed), if any, within 10 KM of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished	<p><b>Not Applicable.</b> There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.</p>
18	A detailed biological study of the study area core zone and buffer zone (10 KM radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions	<p>Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3.</p> <p>There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN.</p> <p>There is no endangered red list species found in the study area.</p>

	for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.	
19	Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravalli Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.	<b>Not Applicable.</b> Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range'.
20	Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).	<b>Not Applicable.</b> The project doesn't attract The C. R. Z. Notification, 2018.
21	R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need-based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.	<b>Not Applicable.</b> There are no approved habitations within a radius of 300 meters. Therefore, R&R Plan / Compensation details for the Project Affected People (PAP) is not anticipated and Not Applicable for this project.
22	One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season); December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the predominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The	Baseline Data were collected for Summer Season (March2022-May 2022) as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. 3.

	mineralogical composition of PM10, particularly for free silica, should be given.	
23	Air quality modelling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modelling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.	Air Quality Modelling for prediction of incremental GLC's of pollutant was carried out using AERMOD view 9.6.1 Model. Details in Chapter No. 4,
24	The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.	Total Water Requirement for this project is given in the chapter No 2, Table No 2.13.
25	Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.	Water for dust suppression, greenbelt development and domestic use will be obtained from accumulated rainwater/seepage water in mine pits. Drinking water will be sourced from the approved water vendors, No 2, Table No 2.13.
26	Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The rain water collected in the pits after spell of rain will be used for greenbelt development and dust suppression.
27	Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.	Impact Studies and Mitigation Measures of Water Quality discussed in Chapter No. 4.
28	Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.	The ground water table is at 70-65m below ground level. The ultimate depth of this projects is ultimate depth of mining is 30m BcL (2m Gravel + 2gm Rough Stone)-P1  The ground water table is at 78-73m below ground level. The ultimate depth of this projects is ultimate depth of mining is 36m (1m Gravel + 35m Rough stone) below ground level-P2
29	Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.	Highest elevation of the project area is 276m AMSL-P1 Ultimate depth of the mine is 30m. The ground water table is at 70-65m below ground Level.  Highest elevation of the project area is 260m AMSL-P2 Ultimate depth of the mine is 36m.



		The ground water table is at 78-73m below ground Level.
30	Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and BGL. A schematic diagram may also be provided for the same.	Progressive greenbelt development plan has been prepared and discussed along with Recommended Species details are given in the Chapter 4, Table No.4.9 .
31	A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.	Traffic density survey was carried out to analyse the impact of Transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no much significant impact due to the proposed transportation from the project area. Details in Chapter 2.
32	Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.	Infrastructure & other facilities will be provided to the Mine Workers after the grant of quarry lease and the same has been discussed in the Chapter No.2. .
33	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Discussed in chapter No 2.
34	Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.	Details in Chapter 10.
35	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Details in Chapter 10.
36	Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the	Details in Chapter 4,.

	proposed remedial measures should be detailed along with budgetary allocations.	
37	Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Environment Management Plan Chapter 10.
38	Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.	The outcome of public hearing will be updated in the final EIA/AMP report
39	Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.	No litigation is pending in any court against this project.
40	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	The proposed capital cost for Environmental Monitoring Programme is Rs 7,60,000/- Details in Chapter 6.
41	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.	Details in Chapter 10.
42	A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Details in Chapter 7.
43	Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Details in Chapter.8.
44	<b>Besides the above, the below mentioned general points are also to be followed: -</b>	
A	Executive Summary of the EIA/EMP Report	Encloses as separate volume
B	All documents to be properly referenced with index and continuous page numbering.	All the documents are properly referenced with index and continuous page numbering.
C	Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.	List of Tables and source of the data collected are given properly.
D	Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC / NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project	Baseline monitoring reports are enclosed
E	Where the documents provided are in a language other than English, an English translation should be provided.	Not Applicable.
F	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	Will be enclosed along with Final EIA /EMP Report.
G	While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA. II(I) Dated: 4th August,	Instructions issued by MoEF & CC O.M. No. J-11013/41/2006-IA. II (I) Dated: 4th August, 2009 are followed.

	2009, which are available on the website of this Ministry, should be followed.	
H	Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation	Noted & agreed.
I	As per the circular no. J-11011/618/2010-IA. II(I) Dated: 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.	Not applicable.
J	The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.	Surface Plan – Figure No. 2.2. Geological Plan – Figure No 2.9. Working Plan – Figure No 2.9. Closure Plan – Figure No.2.10.

## TERMS OF REFERENCE (ToR) COMPLIANCE

**P-3– Thiru.S.Rajasekar**

**Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024**

<b>1. Seiaa Specific Condititons</b>		
1.1	The Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC	Noted & agreed.
<b>2.Seac Conditions - Site Specific</b>		
2.1	1. The project proponent shall submit a Certified Compliance Report obtained from the office of the concerned DEE/TNPCB (or) IRO, MoEF & CC, Chennai as per the MoEF&CC O.M dated.08.06.2022 for the previous EC and appropriate mitigating measures for the non-compliance items, if any.	CTO: Proceeding no F.2533TPN/RS/DEE/TNPCB/TPN/W/2018 dated 11/12/2018 Previous Environmental clearance: Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018
	2. For the existing quarry, the PP shall obtain a letter from the concerned AD (Mines) which shall stipulate the following information: i. original pit dimension of the existing quarry ii. Quantity achieved Vs EC Approved Quantity iii. Balance Quantity as per Mineable Reserve calculated.	Existing Pit Dimension :Pit:1 160m (L) x 87m (W) x 30m(D) below from the existing ground profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile  EC Approved Quantity 1,70,830m <sup>3</sup> Roughstone

<p>iv. Mined out Depth as on date Vs EC Permitted depth</p> <p>v. Details of illegal/illicit mining carried out, if any</p> <p>vi. Non-compliance/Violation in the quarry during the past working.</p> <p>vii. Quantity of material mined out outside the mine lease area (or) in the adjacent quarry/land.</p> <p>viii. Existing condition of Safety zone/benches</p> <p>ix. Details of any penalties levied on the PP for any violation in the quarry operation.</p>	<p>And 5,472 m<sup>3</sup> Gravel</p> <p>EC Permitted depth 37m</p> <p>Non illegal/Violation</p>
<p>4. As it has been observed that no benches are formed in the existing quarry, for ensuring the safety of the persons employed in the quarry, the PP shall carry out the scientific studies to assess the slope stability of the existing quarry walls by determining the angle of safety for the entire quarry but 'zone-wise' to decide whether the existing slope is safer to work or otherwise enumerate the achievable mitigation measures if any, which will also helpful in designing the proposed benches, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining &amp; Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance without any deviation.</p>	<p>Noted and agreed</p>
<p>5. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m &amp; upto 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc.</p>	<p>Structure details in chapter-3 Socioeconomic studies</p>
<p>6. The Proponent shall develop greenbelt and garland drain around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal.</p>	<p>To be furnish final EIA/EMP report.</p>
<p>7. The study on impact of the proposed quarrying operations on the surrounding environment which includes reserve forest, water bodies, etc.</p>	<p>Detailed in chapter-3 surrounding environment attribute table.</p>
<p>8. The Project Proponent shall furnish the revised EMP based on the study carried out on impact of the dust &amp; other environmental impacts due to proposed quarrying operations on the nearby agricultural lands for remaining</p>	<p>Detailed in chapter-10</p>

	life of the mine in the format prescribed by the SEAC considering the cluster situation.	
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<b>SEAC STANDARD CONDITIONS</b>				
2.1	1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following	Previous Environmental clearance: Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018		
	i. original pit dimension of the existing quarry	Existing Pit Dimension : Pit:1 160m (L) x 87m (W) x 30m(D) below from the existing ground profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile		
	ii. Quantity achieved vs EC approved quantity	EC Approved Quantity 1,70,830m <sup>3</sup> Roughstone And 5,472 m <sup>3</sup> Gravel		
	iii. Balance quantity as per Mineable Reserve calculated	<table border="1" style="width: 100%;"> <tr> <td style="width: 70%;">Available Mineable Reserves of Rough Stone (Volume)</td> <td style="width: 30%; text-align: center;">1,70,830m<sup>3</sup></td> </tr> </table>	Available Mineable Reserves of Rough Stone (Volume)	1,70,830m <sup>3</sup>
	Available Mineable Reserves of Rough Stone (Volume)	1,70,830m <sup>3</sup>		
	iv. Mined out Depth as on date vs EC permitted depth	Existing depth is 22m, mining plan depth is 37m bgl(EC Permitted depth)		
	v. Details of illegal/Illicit Mining carried out, if any	Non Illegal		
	vi. Non-Compliance / violation in the quarry during the past working	Non violence		
	vii. Quantity of material mine out outside the mine lease area (or) in the adjacent quarry/field	-		
	viii. condition of safety / benches	Addressed in the Mining Plan by providing adequate safety and making bench formations.		
ix. Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.	Ultimate pit = Pit1: 65m (L) x 115m (W) x 37m Bgl (D) PitII: 163m (L) x 87m (W) x 37m Bgl (D)			
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.	The letter detailing habitations around the proposed mining is obtained from Morattupalayam Village enclosed as <b>Annexure – 3</b>			
3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.	Detailed in chapter- 3 socio economic environment			
4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1km of the proposed quarry.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 4			
5. The proponent shall carry out Bio diversity study through reputed institution and the same shall be included in EIA Report.	The Bio diversity study has been conducted by the Functional Area Expert approved by the NABET. The same has been detailed in the Chapter No.3			
6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.	Request to consider the secondary source data detailing the nearest reserve forest from Tamil Nadu Geographical Information System (TNGIS). The Nearest Reserve Forest Boluvampatti R.F – 12.8km-W			
7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the	It is a fresh lease application but, the applied area has been considered quarrying operation earlier			

working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRI/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus" The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.	
8.However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.	Proposed depth is 37m Bgl.
9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.	The PP affirms that post execution of Quarry Lease Deed the application for Notice of Opening of the Mine along with Notice of Appointment of Competent Person shall be submitted to Director General Mines Safety, Chennai as per MMR, 1961. And ensure the quarry is operated under the Competent Person Employed.
10.The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.	The details of design for carrying out controlled blasting operation involving line drilling and muffle blasting to minimize blast-induced ground vibrations and controlled fly rock travel beyond 30 m from the blast site is detailed in Chapter 4.
11.The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.	The PP has submitted self-declaration affidavit that there are no other quarries applied or existing in his name elsewhere in the state.
12.If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD mines,	Rc.No.105/Mines/2017, Dated: 29.01.2018
13.What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	-
14. Quantity of minerals mined out.	1,70,830m <sup>3</sup>
c) Highest production achieved in any one year	36,850 second year
d) Detail of approved depth of mining.	37m
e) Actual depth of the mining achieved earlier.	-
f) Name of the person already mined in that leases area.	Tvl. Tamilnadu Blue Metals Rough Stone & Gravel Quarry (Mr.Rajkumar, Managing Partner)
g) If EC and CTO already obtained, the copy of the same shall be submitted.	This is an Existing quarry
h) Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.	Existing depth is 22m, mining plan depth is 37m bgl
15.All corner coordinates of the mine lease area, superimposed on a high-resolution Imagery/Toposheet, Geomorphology, Lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and Buffer zone area).	Satellite imagery of the project area along with boundary coordinates is given in the Chapter No 2,

16.The PP shall carry out Drone video survey covering the cluster, green belt, fencing etc.,	The Drone Video of the project site is taken covering the Greenbelt and Fencing around the Project and enclosed as soft copy as CD.
17.The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.	As per the recommendations during SEAC ToR Presentation of the proposal and commitment of PP a count of 1200 Nos of trees were planted as a part of greenbelt development programme all along the periphery of the lease applied area and approach roads and village roads. As well the pp has provided wire fencing as recommended all along the boundary of the lease applied area.
18. The Project proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology justifications, with the anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same.	Details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology justifications are provided in Chapter 2.  The anticipated impacts of the mining operations on the surrounding environment and the remedial measures for the same are provided in Chapter 4.
19. The Project proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act, 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.	The Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of Mines Act, 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
20.The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers' tanks, canals, ponds etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data' it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be Provided.	The hydro-geological study was conducted to evaluate the possible impact on the ground water table. No significant impacts are anticipated on the water bodies around the project area. Details are discussed under Chapter No. 3.
21.The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quantity, air quality, soil quality & flora/fauna including Traffic/vehicular movement study.	Baseline Data were collected for Summer season March 2024to May 2022 Details in Chapter No. 3.
22.The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil, health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.	Cumulative impact study has been carried out covering proposed and existing quarries in the cluster and results related to air pollution, water pollution, & health impacts have been given in chapter No. 7, Based on the results, environmental management plan has been prepared and given in Chapter No. 10.
23.Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.	The lower part of the mine pit will be utilized as rain water harvesting structure (Temporary) and the water will be used for the water sprinkling on haul roads and Greenbelt development purpose. Rainwater harvesting structure will be constructed near the mine office.
24.Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features	Land use and land cover of the study area is discussed in Chapter No. 3.



should be indicated. Land use plan of the mine lease area should be prepared to encompass pre operational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.	Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 3, Table No 3.3
25.Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.	Not applicable
26.Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.	Not Applicable. Project area / Study area is not declared in 'Critically Polluted' Area and does not come under 'Aravalli Range.
27.Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.	The lower part of the mine pit will be utilized as rain water harvesting structure (Temporary) and the water will be used for the water sprinkling on haul roads and Greenbelt development purpose. Rainwater harvesting structure will be constructed near the mine office.
28.Impact on local transport infrastructure due to the Project should be indicated.	Traffic density survey was carried out to analyze the impact of transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details have been provided in Chapter No.2
29.A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.	As per the recommendations during SEAC ToR Presentation of the proposal and commitment of PP a count of 1000Nos of trees were planted as a part of greenbelt development programme all along the periphery of the lease applied area and approach roads and village roads.
30.A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.	Noted & agreed. Mine closure plan is detailed in Chapter:4.
31.As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.	Noted, it will submit final EIA/EMP report.
32.The purpose of green belt around the project is to capture the fugitive emissions. Carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of Small medium/tall trees alternating with shrubs should be planted in a mixed manner.	As per the recommendations during SEAC ToR Presentation of the proposal and commitment of PP a count of 1200 Nos of trees were planted as a part of greenbelt development programme all along the periphery of the lease applied area and approach roads and village roads.
33.Taller/one year old Saplings raised in appropriate size of bags; preferably eco-friendly bags should be planted as per the advice of local forest authorities / botanist / Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of	Detailed in chapter-3 Ecology biodiversity studies.

	the project site with at least 3 meters wide and in between blocks in an organized manner.	
	34.A Disaster management Plan shall be prepared and included in the EIA/EMP Report.	Disaster management Plan is detailed in Chapter-7
	35.A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report.	A Risk Assessment and management Plan Chapter- 7
	36.Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.	Occupational Health impacts are discussed in chapter- 10
	37.Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.	No Public Health Implications anticipated due to this project. Details of CER and CSR are discussed under Chapter 8.
	38.The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Details are listed in Chapter:3.
	39.Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.	No Litigation is pending
	40.Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.	Project benefit is given in the Chapter No.8.
	41.If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF & CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.	Not Applicable. The applied area is a new proposal for Environmental Clearance.
	42.The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.	Noted and agreed
	43.Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Reference besides attracting penal provisions in the Environment (Protection) Act, 1986.	Noted and agreed
<b>4. SEIAA STANDARD CONDITIONS</b>		
<b><i>Cluster Management committee</i></b>		
1.	1.Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.	Cluster Management Committee has been constituted initially with 5 proposed and 9 existing quarries
2	2.The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc..	The information will be shared to the cluster management committee during the monthly meeting.

3	3.The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.	The list of members of the committee formed will be submitted to AD/Mines before the execution of mining lease.
4	4.Detailed operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.	All the information has been discussed in Chapter No.2
5	5.The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan	The risk management plan and disaster management plan will be followed as per this EIA report.
6	6.The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.	Environmental policy is described in the EIA report Chapter No. 6 and the same will be followed.
7	7.The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.	A proper action plan regarding the restoration will be followed by the committee
8	8.The committee shall furnish the Emergency Management plan within the cluster.	The committee will submit the emergency management plan to the respective authority in the stipulated time period.
9	9.The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	The risk management plan and disaster management plan will be followed as per the EIA report.
10	10.The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.	A proper action plan with reference to water, sanitation & safety will be devised and submitted by the committee to the respective authority.
11	11.The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.	The fire safety and evacuation plan will be carried out by as per the respective quarry mines managers
<b>Impact study of mining</b>		
12	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following a) Soil health & bio-diversity, physical land chemical features. b) Climate change leading to Droughts, Floods etc. c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature' & Livelihood of the local people. d) Possibilities of water contamination and impact on aquatic ecosystem health' e) Agriculture, Forestry & Traditional practices. 1) Hydrothermal/Geothermal effect due to destruction in the Environment' g) Bio-geochemical processes and its foot prints including environmental stress' h) Sediment geochemistry in the surface steams.	Details of Soil health is given in Chapter No 3 and biodiversity is given in Chapter No 3. The project will not cause any significant changes in the climate Climatic changes and GHG are described in Chapter No 4. Details of water contamination and impact on aquatic ecosystem is given in Chapter No 4. Hydrothermal/ Geothermal effects due to destruction in the environment, Bio geochemical process and sediment geo chemistry given in the Chapter No 7.
<b>Agriculture &amp; Agro-Biodiversity</b>		
13	Impact on surrounding agricultural fields around the proposed mining Area.	As the proposed lease area is dominantly surrounded by mining land, barren land, and fallow land, the impact on the surrounding agricultural fields if present will be low. With proper mitigation measures, the project will be

		carried out to reduce the impact further to the level of negligence.
14	Impact on soil flora & vegetation around the project site.	The vegetation details have been provided in chapter III. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.
15	Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.	The vegetation details have been provided in chapter III. There is no schedule I species of animals observed within study area as per Wildlife Protection Act, 1972 and no species falls in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area
16	The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora. fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	Details are discussed in Chapter No.3
17	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	The Eco System of the area will be retained during the mining operation by the way of planting trees in the boundary barrier and un utilized areas. After completion of mining operation, the quarried-out pit will be facilitated to collect the rainwater to pit act as temporary reservoir.
18	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands. Horticulture, Agriculture and livestock.	The project area is bounded by dry barren land on all the sides.
<b>Forest</b>		
19	The project proponent shall detail study on impact of mining on Reserve forests free ranging wildlife.	There is no Reserve Forest within 1km radius from the project area (Chennimalai R.F – 14.39 Km – NE). The mining operation will not cause any significant impact to the Reserve Forest and Wild life Sanctuaries.
20	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	chapter 3 details of Ecology and Biodiversity, and 4 endemic vulnerable and endangered indigenous flora and fauna.
21	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	chapter 3 details of Ecology and Biodiversity
22	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.	Anticipated Environment Impact and Mitigation measures are detailed in Chapter No.4
<b>Water Environment</b>		
23	Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks. canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.	Hydro-geological study considering the contour map of the water table detailing Chapter-3
24	Erosion Control measures.	Garland drainage structures will be constructed around the lease area to control the erosion, as discussed in Section 4.3 under Chapter 4.
25	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby villages, water-bodies/ Rivers. & any ecological fragile areas.	In the EIA report Chapter No. IV enumerate the anticipated impact due to the project and mitigation measures

26	The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.	Detailed under Chapter 3.
27	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment by the activities.	Details are given in the Chapter No 4.
28	The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.	Detailed discussed in the chapter 4
29	The Terms of Reference should specifically study impact on soil health, soil erosion, the soil, physical, chemical components and microbial components.	Details of impact on soil environment is detailed in Chapter No.4.
30	The Environmental impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	The nearest water bodies from the project area are an Nallar stream located 500m– SW
<b>Energy</b>		
31	The measures taken to control Noise. Air, Water. Dust Control and steps adopted to efficiently utilize the Energy shall be furnished.	Details in Chapter 3 environmental monitoring details.
<b>Climate Change</b>		
32	The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.	Details of carbon emission and mitigation activities are given int the Chapter No.4
33	The Environmental impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	The project will not cause significant impact on climatic change. Description about the project and climatic changes is described in Chapter No.4.
<b>Mine Closure Plan</b>		
34	Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.	Details in Chapter 2 mine closure plan
<b>EMP</b>		
35	Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.	Details in EMP in chapter 10
36	The Environmental Impact Assessment should hold detailed study on EMP with budget for green belt development and mine closure plan including disaster management plan.	Detailed Environment Management Plan for the project to mitigate the anticipated impacts described under Chapter 4 is discussed under Chapter 10.
<b>Disaster Management Plan</b>		
38	To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.	Disaster management Plan details in Chapter-7
<b>Others</b>		
39	The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations. schools. Archaeological sites. Structures. railway lines, roads. Water bodies such as streams, odai, vaari, canal, channel. river, lake pond, tank etc.	The letter detailing habitations around the proposed mining is obtained from Moratupalayam Village enclosed as <b>Annexure – 3</b>

40	As per the MoEF & CC office memorandum tr.No.22-651201 7-1A.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.	Noted and agreed
41	The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.	Details of plastic management is in chapter 7

### Standard Terms of Reference for (Mining of minerals)

S. No	Terms of Reference	Reply
1.1	An EIA-EMP Report shall be prepared for peak capacity (.....MTPA) operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.	Peak Production = 35,750m <sup>3</sup> of Rough Stone Proposed Depth = 37m bgl Project area of 2.48.5Ha.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for.... MTPA of mineral production based on approved project/Mining Plan for.... MTPA. Baseline data collection can be for any season (three months) except monsoon.	Peak capacity of 35,750m <sup>3</sup> operation to cover the impacts and environment management plan in chapter- IV and Chapter-10 covered in project specific activities.  Baseline Data were collected for Post monsoon Season March– May 2022 as per CPCB Notification and MoEF & CC Guidelines. Details in Chapter No. III
1.3	Proper KML file with pin drop and coordinate of mine at 500-1000 m interval be provided.	Noted, Google earth image showing lease area with Coordinates of pillars in chapter-II.
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines, and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also.	Land use and land cover of the 10km Radius of study area is discussed in Chapter No. III.  Geology map of the project area covering 10km radius Figure No. 2.5, Page No. 20. Geomorphology of the area is given in Chapter No 2 Figure No 2.6, Page No. 20  There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km Radius from the periphery of the project area.
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.	Land use and land cover of the study area is discussed in Chapter No. III with Physical features such as waterbodies, odai, canal etc.,

1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.	DEM data using Drainage pattern around 10km radius showing streams and lakes etc., discussed in Chapter No. 3.
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need elaboration in form of length, quantity and quality of water to be diverted.	Drainage pattern around 10km radius showing streams and lakes etc., is discussed in Chapter No. 3.
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.	Details in chapter-2 showing the land features. And also enclosed Approved mining plan in annexure
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.	<p>It is an opencast quarrying operation proposed to operate in Mechanized method. The Rough Stone quarry formation is a hard, compact and homogeneous body.</p> <p>The height and width of the bench will be maintained as 5m with 90<sup>0</sup> bench angles.</p> <p>Quarrying activities will be carried out under the supervision of Competent Persons like Mines Manager, Mines Foreman and Mining Mate.</p>
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing though the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.	Impact Studies and Mitigation Measures of Water Environment including Surface Water and Ground Water are discussed in Chapter 4.

1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.	Not Applicable. The details of waste dump management are given in the Chapter No. 4																																																																					
1.12	<p>Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights</p> <table border="1"> <thead> <tr> <th>Sno</th> <th>ML. project Land use</th> <th>Area under Surface Rights( ha)</th> <th>Area Under Mining Rights( ha)</th> <th>Area under Both (ha)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Agriculture Land</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>Forest Land</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>Grazing Land</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>Settlements</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td>Others (Specify)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>S.No</th> <th>Details</th> <th>Area (Ha)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Buildings</td> <td></td> </tr> <tr> <td>2</td> <td>Infrastructure</td> <td></td> </tr> <tr> <td>3</td> <td>Roads</td> <td></td> </tr> <tr> <td>4</td> <td>Others (Specify)</td> <td></td> </tr> <tr> <td></td> <td>Total</td> <td></td> </tr> </tbody> </table>	Sno	ML. project Land use	Area under Surface Rights( ha)	Area Under Mining Rights( ha)	Area under Both (ha)	1	Agriculture Land				2	Forest Land				3	Grazing Land				4	Settlements				5	Others (Specify)				S.No	Details	Area (Ha)	1	Buildings		2	Infrastructure		3	Roads		4	Others (Specify)			Total		<p>Land use and land cover of the study area is discussed in Chapter No. 3.</p> <p>Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Chapter No. 2, Table No 2.5.</p> <table border="1"> <thead> <tr> <th>Description</th> <th>Present area (Ha)</th> <th>Area at the end of lease period (Ha)</th> </tr> </thead> <tbody> <tr> <td>Quarrying Pit</td> <td>1.85.0</td> <td>2.22.0</td> </tr> <tr> <td>Infrastructure</td> <td>Nil</td> <td>0.01.0</td> </tr> <tr> <td>Roads</td> <td>0.02.0</td> <td>0.02.0</td> </tr> <tr> <td>Green Belt</td> <td>Nil</td> <td>0.14.0</td> </tr> <tr> <td>Unutilized Area</td> <td>0.61.5</td> <td>0.09.5</td> </tr> <tr> <td><b>Grand Total</b></td> <td><b>2.48.5</b></td> <td><b>2.48.5</b></td> </tr> </tbody> </table>	Description	Present area (Ha)	Area at the end of lease period (Ha)	Quarrying Pit	1.85.0	2.22.0	Infrastructure	Nil	0.01.0	Roads	0.02.0	0.02.0	Green Belt	Nil	0.14.0	Unutilized Area	0.61.5	0.09.5	<b>Grand Total</b>	<b>2.48.5</b>	<b>2.48.5</b>
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1.13	Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and	<p>Detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] was carried out and discussed under Chapter No. 3.</p> <p>There is no schedule I species of animals observed within study area as per Wildlife Protection Act 1972 as well as no species is in vulnerable, endangered or threatened category as per IUCN. There is no endangered red list species found in the study area.</p>																																																																					



1.14	One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.	Baseline Data were collected for Summer season March–May 2022 as per CPCB Notification and MoEF & CC Guidelines.Details in Chapter No. 3.
1.15	Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air) / downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification	Details in chapter-3 showing the various sampling stations As per CPCB guidelines.
1.16	For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10km buffer zone i.e., dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring	Air Quality Modelling and windrose pattern for prediction of incremental GLC's of pollutant was carried out using AERMOD view 13 Model.  Details in Chapter No. 4.
1.17	A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report	Traffic density survey was carried out to analyses the impact of Transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no significant impact due to the proposed transportation from the project area. Details in Chapter-II.
1.18	The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status & economic status of the study area and what economically project will contribute should be clearly mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need-based survey for CSR activities to be	Detailed in chapter-3 socio-economic study with occupational status & economic status of the study area. The study should also include the status of infrastructural facilities and amenities present in the study area  CSR are discussed under Chapter 8.
1.19	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the	Detailed Ecology and biodiversity study in chapter-3

1.20	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.	Detailed in chapter-4 population in the impact zone and measures for occupational health and safety and proposed occupational health in chapter-X
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted.	Noted and agreed
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.	The ground water table is at 45-50m below ground level. In these projects, ultimate depth is 27m Bgl  It is inferred the quarrying activities in the Cumulative EIA project (Quarry) will not intersect the Ground water table.
1.23	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.	Detailed in Chapter-IV Anticipated and mitigation measures of in the study area.
1.24	Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.	Total Water Requirement: 2.0 KLD Discussed under Chapter 2, Table No 2.15, The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
1.25	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs	Methodology And Instrument Used For Air Quality Analysis in chapter-3and Air Pollution control equipment (APCEs) in chapter-10 sub 10.2 Environmental policy.
1.26	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of mineral. The measures adopted to conserve energy or use of renewable sources shall be explored.	Details in Machinery and equipment details in Chapter-2 Table No 2.10
1.27	PP to evaluate the green house emission gases from the mine operation/ washery plant and corresponding carbon absorption plan.	Noted and agreed
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.	A Risk Assessment and Disaster Preparedness and management Plan Chapter- 7
1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.	Detailed in Machinery and technology used Chapter-3 Table 3.17 – Methodology and Instrument Used for Air Quality Analysis Detailed study in chapter-4 Impact of choice of mining method and impact on air quality and blasting and noise and vibrations.

1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load	Traffic density survey was carried out to analyse the impact of Transportation in the study area as per IRC guidelines 1961 and it is inferred that there is no much significant impact due to the proposed transportation from the project area. Details in Chapter 2. Infrastructure & other facilities will be provided to the Mine Workers after the grant of quarry lease and the same has been discussed in the Chapter
1.31	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.	Infrastructure & other facilities will be provided to the Mine Workers after the grant of quarry lease and the same has been discussed in the Chapter No.2
1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.	Detailed in chapter-2 for mineral transportation route with approach roads etc., and impacting air quality detailed given chapter-4
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined-out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure	Discussed under Chapter 2. Mine Closure Plan is a part of Approved Mining Plan enclosed as Annexure Volume – 1.
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route.	Greenbelt Development Plan is discussed under Chapter 4,
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.	The total cost and the details are given in the Chapter No. 10
1.36	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc. and costs along with the schedule of the implementation of the R&R Plan should be given.	Not Applicable.  There are no approved habitations within a radius of 300 meters.  Therefore, R&R Plan / Compensation details for the Project Affected People (PAP) is not anticipated and Not Applicable for this project.
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.	CSR are discussed under Chapter 8. And specific budgetary provisions (capital and recurring) for specific activities over the life of the project in chapter-10
1.38	Corporate Environment Responsibility:	CER are discussed under Chapter 8.
1.39	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.	Detailed in chapter-10 The Environment Policy
1.40	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.	

1.41	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.	The Environment Monitoring Cell discussed under Chapter 6
1.42	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.	The Environment Monitoring Cell discussed under Chapter 6
1.43	e) Environment Management Cell and its responsibilities to be clearly spell out in EIA/ EMP report	The Environment Monitoring Cell discussed under Chapter 6
1.44	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.	The Environment Monitoring Cell discussed under Chapter 6
1.45	Status of any litigations/ court cases filed/pending on the project should be provided.	No litigation is pending in any court against this project
1.46	PP shall submit clarification from DFO that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.	Vellode Bird Sanctuary – 27.0 km – NE Anamalai Tiger Reserve– 77.7 km – SW
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable	Noted and agreed
1.48	Details on the Forest Clearance should be given as per the format given: Total Mine lease area (ha): Total Forest Land (Ha) : Date of FC : Extent of Forest Land : Balance area for which FC is yet to be obtained: Status of application for diversion of forest Land:	Chennimalai R.F – 14.39 Km – NE  Total Mine Lease area 2.48.5ha DFO Letter No O.M.No:13737/2022/F. Dated: 04.01.2024
1.49	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report.	Enclosed Approved mining plan in Annexure volume-I
1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same. should be	The outcome of public hearing will be updated in the final EIA/AMP report.
1.51	PP shall carry out survey through drone highlighting the ground reality for at least 10 minutes.	Noted and agreed
1.52	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.	Noted and agreed

<b>1.53</b>	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification)	As per detailed in front page of Draft EIA/EMP, NABET, NABL certification detailed given in the report.
<b>1.54</b>	The compliances of Tor must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapters section.	As per Tor compliance each chapter wise page and table, figure no given in the EIA/EMP report.

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## LIST OF CONTENTS

CHAPTER – 1: INTRODUCTION .....	1
1.0 Preamble .....	1
1.1 Purpose of the report .....	1
1.2 Identification of Project and Project Proponent .....	3
1.3 Brief description of the project .....	3
1.4 Environmental Clearance .....	11
1.5 Post Environment Clearance Monitoring .....	12
1.6 Generic Structure of EIA Document .....	12
1.7 Scope of the Study .....	13
CHAPTER – 2: PROJECT DESCRIPTION .....	15
2.0 General .....	15
2.1 Description of the Project .....	15
2.2 Location of the Project .....	15
2.3 Geology .....	28
2.4 Resources and Reserves of the Cluster quarries .....	36
2.5 Method of Mining .....	41
2.6 General Features .....	42
2.7 Project Requirement .....	44
2.8 Project Implementation Schedule .....	46
CHAPTER – 3: DESCRIPTION OF ENVIRONMENT .....	- 47 -
3.0 General .....	- 47 -
3.1 LAND ENVIRONMENT .....	49
3.1.2 OBJECTIVE .....	49
3.1.3 METHODOLOGY .....	50
3.1.4 Interpretation .....	54
3.2 Water Environment .....	61
3.3 Air Environment .....	73
3.4 Noise Environment .....	91
3.5 Biological Environment .....	95
3.6 Socio Economic Environment .....	119
CHAPTER – 4: ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES .....	127
4.0 General .....	127

4.1	Land Environment .....	127
4.2	Water Environment .....	128
4.3	Air Environment.....	130
4.4	Noise Environment (Impact & Mitigation Measures).....	136
4.5	Ecology and Biodiversity.....	140
4.6	Socio Economic.....	145
4.7	Occupational Health and Safety.....	145
4.8	Mine Waste Management .....	146
4.9	Mine Closure .....	146
CHAPTER – 5: ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE) .....		148
5.0	Introduction:.....	148
5.1	Factors Behind the Selection of Project Site .....	148
5.2	Analysis of Alternative Site.....	148
5.3	Factors Behind Selection of Proposed Technology .....	148
5.4	Analysis of Alternative Technology .....	148
CHAPTER – 6: ENVIRONMENTAL MONITORING PROGRAMME.....		149
6.0	General.....	149
6.1	Methodology of Monitoring Mechanism .....	149
6.2	Implementation Schedule of Mitigation Measures .....	150
6.3	Monitoring Schedule and Frequency.....	150
6.4	Environmental Policy of the Proponents .....	151
6.5	Budgetary Provision for Environmental Monitoring Programme .....	151
6.6	Reporting Schedules of Monitored Data .....	152
CHAPTER – 7: ADDITIONAL STUDIES.....		153
7.0	General.....	153
7.1.	Public Consultation:.....	153
7.2	Risk Assessment .....	153
7.3	Disaster Management Plan.....	155
7.4	CUMULATIVE IMPACT STUDY.....	157
7.5	PLASTIC WASTE MANAGEMENT PLAN FOR P1, P2 & P3 .....	173
CHAPTER – 8: PROJECT BENEFITS .....		175
8.0	General.....	175
8.1	Employment Potential.....	175

8.2	<i>Socio-Economic Welfare Measures Proposed</i> .....	175
8.3	<i>Improvement in Physical Infrastructure</i> .....	176
8.4	<i>Improvement in Social Infrastructure</i> .....	176
8.5	<i>Other Tangible Benefits</i> .....	176
CHAPTER – 9: ENVIRONMENTAL COST BENEFIT ANALYSIS.....		178
CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P1 (Tmt.V. Revathi) .....		179
10.0	<i>General</i> .....	179
10.1	<i>Environmental Policy</i> .....	179
10.2	<i>Land Environment Management –</i> .....	180
10.3	<i>Soil Management</i> .....	180
10.4	<i>Water Management</i> .....	181
10.5	<i>Air Quality Management</i> .....	181
10.6	<i>Noise Management</i> .....	182
10.7	<i>Ground Vibration and Fly Rock Control</i> .....	182
10.8	<i>Biological Environment Management</i> .....	182
10.9	<i>Occupational Safety &amp; Health Management</i> .....	184
10.10	<i>CONCLUSION</i> .....	190
CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P2 (Thiru.U.Prabhakaran) .....		191
10.1	<i>General</i> .....	191
10.2	<i>Environmental Policy</i> .....	191
10.3	<i>Land Environment Management –</i> .....	192
10.4	<i>Soil Management</i> .....	192
10.5	<i>Water Management</i> .....	193
10.6	<i>Air Quality Management</i> .....	193
10.7	<i>Noise Management</i> .....	194
10.8	<i>Ground Vibration and Fly Rock Control</i> .....	194
10.8	<i>Biological Environment Management</i> .....	195
10.9	<i>Occupational Safety &amp; Health Management</i> .....	196
10.10	<i>CONCLUSION –</i> .....	202
CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P3 (Thiru.S. Rajasekar) .....		203
10.1	<i>General</i> .....	203
10.2	<i>Environmental Policy</i> .....	203



---

10.3	<i>Land Environment Management –</i> .....	204
10.4	<i>Soil Management</i> .....	204
10.5	<i>Water Management</i> .....	205
10.6	<i>Air Quality Management</i> .....	205
10.7	<i>Noise Management</i> .....	206
10.8	<i>Ground Vibration and Fly Rock Control</i> .....	206
10.8	<i>Biological Environment Management</i> .....	207
10.9	<i>Occupational Safety &amp; Health Management</i> .....	208
10.10	<i>CONCLUSION –</i> .....	214
CHAPTER – 11: SUMMARY AND CONCLUSIONS .....		215
CHAPTER 12.0: DISCLOSURE OF CONSULTANTS .....		216

---

---

*LIST OF TABLES*

<b>TABLE 1.1: ToR OBTAINED PROJECTS .....</b>	<b>1</b>
<b>TABLE 1.2: PROPOSED PROJECTS IN THE CLUSTER .....</b>	<b>3</b>
<b>TABLE 1.3: DETAILS OF PROJECT PROPONENT.....</b>	<b>3</b>
<b>TABLE 1.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER.....</b>	<b>4</b>
<b>TABLE 1.5 – STRUCTURE OF THE EIA REPORT.....</b>	<b>12</b>
<b>TABLE 1.6 – ENVIRONMENT ATTRIBUTES.....</b>	<b>13</b>
<b>TABLE 2.1: SITE CONNECTIVITY TO THE CLUSTER QUARRIES.....</b>	<b>16</b>
<b>TABLE 2.2 – BOUNDARY CO-ORDINATES OF PROPOSED PROJECTS.....</b>	<b>16</b>
<b>TABLE 2.3 – LAND USE PATTERN OF THE PROPOSED PROJECTS P1-P3.....</b>	<b>27</b>
<b>TABLE 2.4: OPERATIONAL DETAILS FOR PROPOSED PROJECTS.....</b>	<b>27</b>
<b>TABLE 2.5: RANGE OF AQUIFER PARAMETERS .....</b>	<b>31</b>
<b>TABLE 2.6: GROUND WATER LEVEL VARIATIONS OF TIRUPPUR DISTRICT.....</b>	<b>31</b>
<b>TABLE 2.7: AVAILABLE GEOLOGICAL RESOURCES OF PROPOSED PROJECTS- P1- P2-P3.....</b>	<b>37</b>
<b>TABLE 2.8: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P1 .....</b>	<b>37</b>
<b>TABLE 2.9: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P2 .....</b>	<b>37</b>
<b>TABLE 2.10: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN- P3.....</b>	<b>37</b>
<b>TABLE 2.11: ULTIMATE PIT DIMENSIONS- P1- P2-P3 .....</b>	<b>38</b>
<b>TABLE 2.12: MINE CLOSURE BUDGET-P1.....</b>	<b>40</b>
<b>TABLE 2.13: MINE CLOSURE BUDGET-P2.....</b>	<b>40</b>
<b>TABLE 2.14: MINE CLOSURE BUDGET-P3.....</b>	<b>40</b>
<b>TABLE 2.15 PROPOSED MACHINERY DEPLOYMENT P1-P3.....</b>	<b>41</b>

---

<b>TABLE 2.16 – TRAFFIC SURVEY LOCATION’S</b> .....	<b>42</b>
<b>TABLE 2.17 – EXISTING TRAFFIC VOLUME</b> .....	<b>43</b>
<b>TABLE 2.18 – ANTICIPATED TRAFFIC DUE TO THIS PROPOSED PROJECT</b> .....	<b>43</b>
<b>TABLE 2.19 – SUMMARY OF TRAFFIC VOLUME</b> .....	<b>43</b>
<b>TABLE 2.20 – WATER REQUIREMENT FOR THE CLUSTER PROJECT -P1-P2-P3</b> .....	<b>44</b>
<b>TABLE 2.21: EMPLOYMENT POTENTIAL FOR PROPOSED QUARRIES -P1-P2-P3</b> .....	<b>45</b>
<b>TABLE 2.22 – PROJECT COST OF PROPOSED PROJECTS P1-P2-P3</b> .....	<b>46</b>
<b>TABLE 2.23 – EXPECTED TIME SCHEDULE FOR THE PROPOSED QUARRIES</b> .....	<b>46</b>
<b>TABLE 3.1 – ENVIRONMENTAL MONITORING ATTRIBUTES AND FREQUENCY OF MONITORING</b> .....	<b>- 48 -</b>
<b>TABLE 3.2: Resourcesat1-LISSIII SENSOR characteristics</b> .....	<b>50</b>
<b>TABLE: 3.3 LAND USE / LAND COVER DETAILS OF STUDY AREA</b> .....	<b>50</b>
<b>TABLE 3.3 – DETAILS OF ENVIRONMENT SENSITIVITY AROUND THE PROJECT AREA</b> .....	<b>55</b>
<b>TABLE 3.4 – WATER BODIES WITHIN THE CLUSTER FROM PROPOSED QUARRIES</b> .....	<b>55</b>
<b>TABLE 3.5 – SOIL SAMPLING LOCATIONS</b> .....	<b>56</b>
<b>TABLE 3.6 – METHODOLOGY OF SAMPLING COLLECTION</b> .....	<b>56</b>
<b>TABLE 3.7 – SOIL QUALITY MONITORING DATA</b> .....	<b>60</b>
<b>TABLE 3.8 – WATER SAMPLING LOCATIONS</b> .....	<b>62</b>
<b>TABLE 3.9 – SURFACE WATER ANALYSIS RESULTS</b> .....	<b>64</b>
<b>TABLE 3.10 – GROUND WATER ANALYSIS RESULTS</b> .....	<b>65</b>
<b>TABLE 3.11: POST MONSOON WATER LEVEL OF OPEN WELLS 1 KM RADIUS</b> .....	<b>69</b>
<b>TABLE 3.12: POST MONSOON WATER LEVEL OF BOREWELLS 1 KM RADIUS</b> .....	<b>71</b>
<b>TABLE 3.13 – RAINFALL DATA</b> .....	<b>74</b>
<b>TABLE 3.14 – METEOROLOGICAL DATA RECORDED AT SITE</b> .....	<b>74</b>

---

---

<b>TABLE 3.15 – METHODOLOGY AND INSTRUMENT USED FOR AIR QUALITY ANALYSIS.....</b>	<b>76</b>
<b>TABLE 3.16 – NATIONAL AMBIENT AIR QUALITY STANDARDS.....</b>	<b>76</b>
<b>TABLE 3.17 – AMBIENT AIR QUALITY (AAQ) MONITORING LOCATIONS.....</b>	<b>77</b>
<b>TABLE 3.18 AMBIENT AIR QUALITY DATA LOCATION AAQ1-:.....</b>	<b>79</b>
<b>TABLE 3.19 AMBIENT AIR QUALITY DATA LOCATION AAQ2-:.....</b>	<b>80</b>
<b>TABLE 3.20 AMBIENT AIR QUALITY DATA LOCATION AAQ3-:.....</b>	<b>81</b>
<b>TABLE 3.21 AMBIENT AIR QUALITY DATA LOCATION AAQ4-:.....</b>	<b>82</b>
<b>TABLE 3.22 AMBIENT AIR QUALITY DATA LOCATION AAQ5-:.....</b>	<b>83</b>
<b>TABLE 3.23 AMBIENT AIR QUALITY DATA LOCATION AAQ6-:.....</b>	<b>84</b>
<b>TABLE 3.24 AMBIENT AIR QUALITY DATA LOCATION AAQ7-:.....</b>	<b>85</b>
<b>TABLE 3.25 – ABSTRACT OF AMBIENT AIR QUALITY DATA.....</b>	<b>86</b>
<b>TABLE 3.26 –SUMMARY OF AMBIENT AIR QUALITY DATA.....</b>	<b>87</b>
<b>TABLE 3.27– AVERAGE FUGITIVE DUST SAMPLE VALUES IN <math>\mu\text{g}/\text{m}^3</math>.....</b>	<b>90</b>
<b>TABLE 3.28– FUGITIVE DUST SAMPLE VALUES IN <math>\mu\text{g}/\text{m}^3</math> –.....</b>	<b>91</b>
<b>TABLE 3.29 – DETAILS OF SURFACE NOISE MONITORING LOCATIONS.....</b>	<b>92</b>
<b>TABLE 3.30 – NOISE MONITORING RESULTS IN CORE AND BUFFER ZONE.....</b>	<b>92</b>
<b>Table No: 3.31. Flora in the Core zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District.....</b>	<b>97</b>
<b>Table No: 3.32. Flora in the Buffer zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District.....</b>	<b>101</b>
<b>Table 3.33: Number of floral life forms in the Study Area.....</b>	<b>108</b>
<b>Table No: 3.34. Major crops in Tiruppur District.....</b>	<b>111</b>
<b>Table No: 3.35. Major Field crops &amp; horticulture in Tiruppur District.....</b>	<b>111</b>
<b>Table No: 3.36. Area irrigated in the district.....</b>	<b>113</b>

---

---

<i>Table No: 3.37. Fauna in the Core zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District.....</i>	<i>114</i>
<i>Table 3.38. List of Fauna &amp; Their Conservation Status,.....</i>	<i>115</i>
<i>Mammals: (*directly sighted animals &amp; Secondary data) .....</i>	<i>115</i>
<i>Table 3.40. List of Reptiles either spotted or reported from the study area.....</i>	<i>116</i>
<i>(*indicates direct observations &amp; Secondary data).....</i>	<i>116</i>
<i>Table 3.41. List of insects either spotted or reported from the study area.....</i>	<i>117</i>
<i>Table.3.42. List of Butterflies reported from the study area .....</i>	<i>117</i>
<i>Table No.3.43 Description of Macrophytes .....</i>	<i>118</i>
<i>Table no. 3.44. Amphibians Observed/Recorded from the Study Area .....</i>	<i>118</i>
<i>Table 3.45. Based on Actual Sighting, based on inputs from locals and Perused from Secondary Data.....</i>	<i>118</i>
<i>Table 3.44 Type of Information and Sources .....</i>	<i>120</i>
<i>Table 3.45 Shows the socio-economic profile of the study area as compared to district, state and national level socio-economic profile .....</i>	<i>122</i>
<i>Table 3.46 Structure map around 300m Radius-P3 .....</i>	<i>125</i>
<i>TABLE 4.1: WATER REQUIREMENTS P1-P3 .....</i>	<i>128</i>
<i>TABLE 4.2: ESTIMATED EMISSION RATE FOR P1, P2 &amp; P3 .....</i>	<i>131</i>
<i>TABLE 4.3: INCREMENTAL &amp; RESULTANT GLC OF PM<sub>10</sub> .....</i>	<i>134</i>
<i>TABLE 4.4: INCREMENTAL &amp; RESULTANT GLC OF PM<sub>2.5</sub>.....</i>	<i>134</i>
<i>TABLE 4.5: INCREMENTAL &amp; RESULTANT GLC OF SO<sub>2</sub>.....</i>	<i>135</i>
<i>TABLE 4.6: INCREMENTAL &amp; RESULTANT GLC OF NO<sub>x</sub>.....</i>	<i>135</i>
<i>TABLE 4.7: INCREMENTAL &amp; RESULTANT GLC OF FUGITIVE DUST .....</i>	<i>135</i>
<i>TABLE 4.8: ACTIVITY AND NOISE LEVEL PRODUCED BY MACHINERY.....</i>	<i>137</i>
<i>TABLE 4.9: PREDICTED NOISE INCREMENTAL VALUES .....</i>	<i>137</i>
<i>TABLE 4.10: PREDICTED PPV VALUES DUE TO BLASTING.....</i>	<i>138</i>

---

---

<i>Table No. 4.11. List of plant species proposed for Greenbelt development.....</i>	<i>141</i>
<i>Table No. 4.12. Species suitable for abatement of noise and dust pollution .....</i>	<i>142</i>
<i>Table No: 4.13. General Impacts vs. Mitigation Matrix .....</i>	<i>142</i>
<b>TABLE 4.14: GREENBELT DEVELOPMENT PLAN.....</b>	<b>143</b>
<b>TABLE 4.15: BUDGET FOR GREENBELT DEVELOPMENT PLAN-P1.....</b>	<b>144</b>
<b>TABLE 4.16: BUDGET FOR GREENBELT DEVELOPMENT PLAN-P2.....</b>	<b>144</b>
<b>TABLE 4.17: BUDGET FOR GREENBELT DEVELOPMENT PLAN-P3.....</b>	<b>144</b>
<b>TABLE 6.1 IMPLEMENTATION SCHEDULE .....</b>	<b>150</b>
<b>TABLE 6.2: PROPOSED MONITORING SCHEDULE POST EC FOR P1 TO P2.....</b>	<b>151</b>
<b>TABLE 6.3 ENVIRONMENT MONITORING BUDGET P1-P2-P3 .....</b>	<b>152</b>
<b>TABLE 7.1 RISK ASSESSMENT &amp; CONTROL MEASURES.....</b>	<b>153</b>
<b>TABLE 7.2: PROPOSED TEAMS TO DEAL WITH EMERGENCY SITUATION .....</b>	<b>155</b>
<b>TABLE 7.3: LIST OF QUARRIES WITHIN 500 METER RADIUS FROM THIS PROPOSAL .....</b>	<b>158</b>
<b>TABLE 7.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER.....</b>	<b>159</b>
<b>TABLE 7.5 CUMULATIVE PRODUCTION LOAD OF ROUGH STONE IN CLUSTER..</b>	<b>169</b>
<b>TABLE 7.6: CUMULATIVE PRODUCTION OF GRAVEL IN CLUSTER .....</b>	<b>170</b>
<b>TABLE 7.7: EMISSION ESTIMATION FROM CLUSTER.....</b>	<b>170</b>
<b>TABLE 7.8: INCREMENTAL &amp; RESULTANT GLC WITHIN CLUSTER.....</b>	<b>171</b>
<b>TABLE 7.9: PREDICTED NOISE INCREMENTAL VALUES FROM MINES.....</b>	<b>171</b>
<b>TABLE 7.10: NEAREST HABITATION FROM EACH MINE.....</b>	<b>172</b>
<b>TABLE 7.11: GROUND VIBRATIONS AT 3MINES.....</b>	<b>172</b>
<b>TABLE 7.12: SOCIO ECONOMIC BENEFITS FROM 3MINES.....</b>	<b>173</b>
<b>TABLE 7.13: GREENBELT DEVELOPMENT BENEFITS FROM 3MINES .....</b>	<b>173</b>
<b>TABLE 7.14: ACTION PLAN TO MANAGE PLASTIC WASTE.....</b>	<b>174</b>

---

---

<b>TABLE 8.1 CER – ACTION PLAN.....</b>	<b>177</b>
<b>TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT.....</b>	<b>180</b>
<b>TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT.....</b>	<b>180</b>
<b>TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT.....</b>	<b>181</b>
<b>TABLE 10.4: PROPOSED CONTROLS FOR AIR ENVIRONMENT.....</b>	<b>181</b>
<b>TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT.....</b>	<b>182</b>
<b>TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS &amp; FLY ROCK.....</b>	<b>182</b>
<b>TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P1</b> .....	<b>183</b>
<b>TABLE 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P1 .....</b>	<b>183</b>
<b>TABLE 10.9: MEDICAL EXAMINATION SCHEDULE – P1 .....</b>	<b>184</b>
<b>TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P1</b> .....	<b>185</b>
<b>TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P1.....</b>	<b>187</b>
<b>TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT.....</b>	<b>192</b>
<b>TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT.....</b>	<b>192</b>
<b>TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT.....</b>	<b>193</b>
<b>TABLE 10.4: PROPOSED CONTROLS FOR AIR ENVIRONMENT.....</b>	<b>193</b>
<b>TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT.....</b>	<b>194</b>
<b>TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS &amp; FLY ROCK.....</b>	<b>194</b>
<b>TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P2</b> .....	<b>195</b>
<b>TABLE 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P2 .....</b>	<b>196</b>
<b>TABLE 10.9: MEDICAL EXAMINATION SCHEDULE – P2 .....</b>	<b>196</b>
<b>TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P2</b> .....	<b>197</b>

---

---

<b>TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P2.....</b>	<b>199</b>
<b>TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT.....</b>	<b>204</b>
<b>TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT.....</b>	<b>204</b>
<b>TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT.....</b>	<b>205</b>
<b>TABLE 10.4: PROPOSED CONTROLS FOR AIR ENVIRONMENT.....</b>	<b>205</b>
<b>TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT.....</b>	<b>206</b>
<b>TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS &amp; FLY ROCK.....</b>	<b>206</b>
<b>TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P3</b> <b>.....</b>	<b>207</b>
<b>TABLE 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P3 .....</b>	<b>208</b>
<b>TABLE 10.9: MEDICAL EXAMINATION SCHEDULE – P3 .....</b>	<b>208</b>
<b>TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P3</b> <b>.....</b>	<b>210</b>
<b>TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P3.....</b>	<b>211</b>



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---

*LIST OF FIGURES*

*Figure 1.1. Satellite Imagery of Cluster quarries..... 2*

*Figure 1.2 KEY MAP SHOWING THE LOCATION OF THE PROJECT SITE ..... 8*

*FIGURE 1.3: TOPOSHEET SHOWING LOCATION OF THE PROJECT SITE AROUND  
10 KM RADIUS..... 9*

*FIGURE 1.4: TOPOSHEET SHOWING LOCATION OF THE PROJECT SITE AROUND 2  
KM RADIUS..... 10*

*FIGURE 2.1: TOPOGRAPHICAL VIEW OF THE PROJECT SITE ..... 16*

*FIGURE 2.2: FENCING AND GREENBELT OF THE PROJECT SITE-P1..... 17*

*FIGURE 2.3: FENCING AND GREENBELT OF THE PROJECT SITE-P2..... 18*

*FIGURE 2.4: FENCING AND GREENBELT OF THE PROJECT SITE-P3..... 19*

*FIGURE 2.5: SHOWING GOOGLE IMAGE ROUGH STONE AND GRAVEL QUARRY  
PROJECT AREAS ..... 19*

*FIGURE 2.6: SHOWING QUARRY LEASE PLAN ROUGH STONE AND GRAVEL  
QUARRY PROJECT AREAS P1 to P3 ..... 21*

*FIGURE 2.7: SATELLITE IMAGERY OF CLUSTER QUARRIES..... 23*

*FIGURE 2.8: DIGITIZED MAP OF THE STUDY AREA (10 KM RADIUS FROM  
PROJECT SITE) ..... 24*

*FIGURE 2.9: DIGITIZED MAP OF THE STUDY AREA (5 KM RADIUS FROM PROJECT  
SITE)..... 25*

*FIGURE 2.10: DIGITIZED MAP OF THE STUDY AREA (1 KM RADIUS FROM  
PROJECT SITE) ..... 26*

*FIGURE 2.11: GROUND WATER LEVEL VARIATIONS OF TIRUPPUR DISTRICT..... 31*

*FIGURE 2.12: REGIONAL GEOLOGY MAP ..... 32*

*FIGURE 2.13: GEOMORPHOLOGY MAP ..... 33*

*FIGURE 2.14: TOPOGRAPHY, GEOLOGICAL, YEARWISE DEVELOPMENT  
PRODUCTION PLAN AND SECTION- P1-P2-P3 ..... 34*

*FIGURE 2.15: TRAFFIC SURVEY LOCATIONS & TRANSPORTATION ROUTE MAP. 43*

---

<b>FIGURE 3.1: CHART SHOWING LANDUSE/LANDCOVER ANALYSIS USING LISS III Data .....</b>	<b>51</b>
<b>FIGURE 3.2: MAP SHOWING FALSE COLOR COMPOSITE (3,2,1) SATELLITE IMAGERY OF THE STUDY AREA .....</b>	<b>52</b>
<b>FIGURE 3.3: LAND USE LAND COVER MAP 10KM RADIUS.....</b>	<b>53</b>
<b>FIGURE 3.4: SOIL SAMPLING LOCATIONS AROUND 10 KM RADIUS .....</b>	<b>58</b>
<b>FIGURE 3.5: SOIL MAP .....</b>	<b>- 59 -</b>
<b>FIGURE 3.6: WATER SAMPLING LOCATIONS AROUND 10 KM RADIUS .....</b>	<b>63</b>
<b>FIGURE 3.7: CONTOUR MAP OF OPEN WELL WATER LEVEL .....</b>	<b>69</b>
<b>FIGURE 3.8: CONTOUR MAP OF BORE WELL WATER LEVEL .....</b>	<b>71</b>
<b>FIGURE 3.9: DRAINAGE MAP AROUND 10 KM RADIUS FROM PROJECT SITE.....</b>	<b>70</b>
<b>FIGURE 3.10: GROUND WATER PROSPECTS MAP .....</b>	<b>71</b>
<b>FIGURE 3.9: WINDROSE DIAGRAM.....</b>	<b>75</b>
<b>FIGURE 3.10 AMBIENT AIR QUALITY LOCATIONS AROUND 10 KM RADIUS.....</b>	<b>78</b>
<b>FIGURE 3.11 : BAR DIAGRAM OF SUMMARY OF AAQ.....</b>	<b>88</b>
<b>FIGURE 3.12 : BAR DIAGRAM OF PARTICULATE MATTER (PM10).....</b>	<b>88</b>
<b>FIGURE 3.14: BAR DIAGRAM OF PARTICULATE MATTER (SO<sub>2</sub>) .....</b>	<b>89</b>
<b>FIGURE 3.15: BAR DIAGRAM OF PARTICULATE MATTER (NO<sub>x</sub>).....</b>	<b>90</b>
<b>FIGURE 3.16: NOISE MONITORING STATIONS AROUND 10 KM RADIUS.....</b>	<b>93</b>
<b>FIGURE 3.17: DAY &amp; NIGHT TIME NOISE LEVELS IN CORE AND BUFFER ZONE ..</b>	<b>94</b>
<b>Fig No: 3.18. Flora species observation in the Core zone area .....</b>	<b>100</b>
<b>Fig No. 3.19: Diagram showing % distribution of floral life forms .....</b>	<b>108</b>
<b>Fig No: 3.20. Flora species observation in the Buffer zone area .....</b>	<b>111</b>
<b>Figure .3.21 Structure map around 300m Radius-P3 .....</b>	<b>125</b>
<b>FIGURE 4.1: AERMOD TERRAIN MAP .....</b>	<b>132</b>

---

---

---

<b>FIGURE 4.2: PREDICTED INCREMENTAL CONCENTRATION OF <math>PM_{10}</math></b> .....	<b>132</b>
<b>FIGURE 4.3: PREDICTED INCREMENTAL CONCENTRATION OF <math>PM_{25}</math></b> .....	<b>133</b>
<b>FIGURE 4.4: PREDICTED INCREMENTAL CONCENTRATION OF <math>SO_2</math></b> .....	<b>133</b>
<b>FIGURE 4.5: PREDICTED INCREMENTAL CONCENTRATION OF <math>NO_x</math></b> .....	<b>133</b>
<b>FIGURE 4.6: PREDICTED INCREMENTAL CONCENTRATION OF FUGITIVE DUST</b> .....	<b>134</b>
<b>FIGURE 6.1 ENVIRONMENTAL MONITORING CELL</b> .....	<b>149</b>
<b>FIGURE 7.1: DISASTER MANAGEMENT TEAM LAYOUT FOR P1,P2,P3</b> .....	<b>155</b>
<b>FIGURE 10.1: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS – P1</b> .....	<b>185</b>
<b>FIGURE 10.1: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS – P2</b> .....	<b>197</b>
<b>FIGURE 10.1: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS – P3</b> .....	<b>209</b>

## CHAPTER – 1: INTRODUCTION

### 1.0 Preamble

Environmental Impact Assessment (EIA) is the management tool to ensure the sustainable development and it is a process, used to identify the environmental, social and economic impacts of a project prior to decision-making. It is a decision-making tool, which guides the decision makers in taking appropriate decisions for any project. EIA systematically examines both beneficial and adverse consequences of the project and ensures that these impacts are taken into account during the project designing. It also reduces conflicts by promoting community participation, information, decision makers, and helps in developing the base for environmentally sound project.

Rough Stone and Gravel are the major requirements for construction industry. This EIA report is prepared by considering Cumulative load of all proposed quarries of Morattupalayam Rough Stone and Gravel Cluster Quarries consisting of five Proposed quarries and nine existing quarries total extent of Cluster of **21.64.52Ha** in Morattupalayam Village, Uthukuli Taluk Tiruppur District, Tamil Nadu State, cluster area calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1<sup>st</sup> July 2016.

This EIA Report is prepared in compliance with ToR obtained for the below proposals in Table 1.1 and the Baseline Monitoring study has been carried out during the period of **Mar 2022 to May 2022**

**TABLE 1.1: ToR OBTAINED PROJECTS**

Code	Proponent Name	S.F No	Village & Taluk	Extent (Ha)
P1	Tmt.V.Revathi	209/1A(P), 209/1B(P) & 209/2 (P)	Morattupalayam Village, Uthukuli Taluk	2.25.5
P2	Thiru.U.Prabhakaran	389/1C2,		0.68.8
P3	Thiru.S.Rajsekar	382/2A (P),		2.48.5

Source: ToR Letter's of the respective project proponents

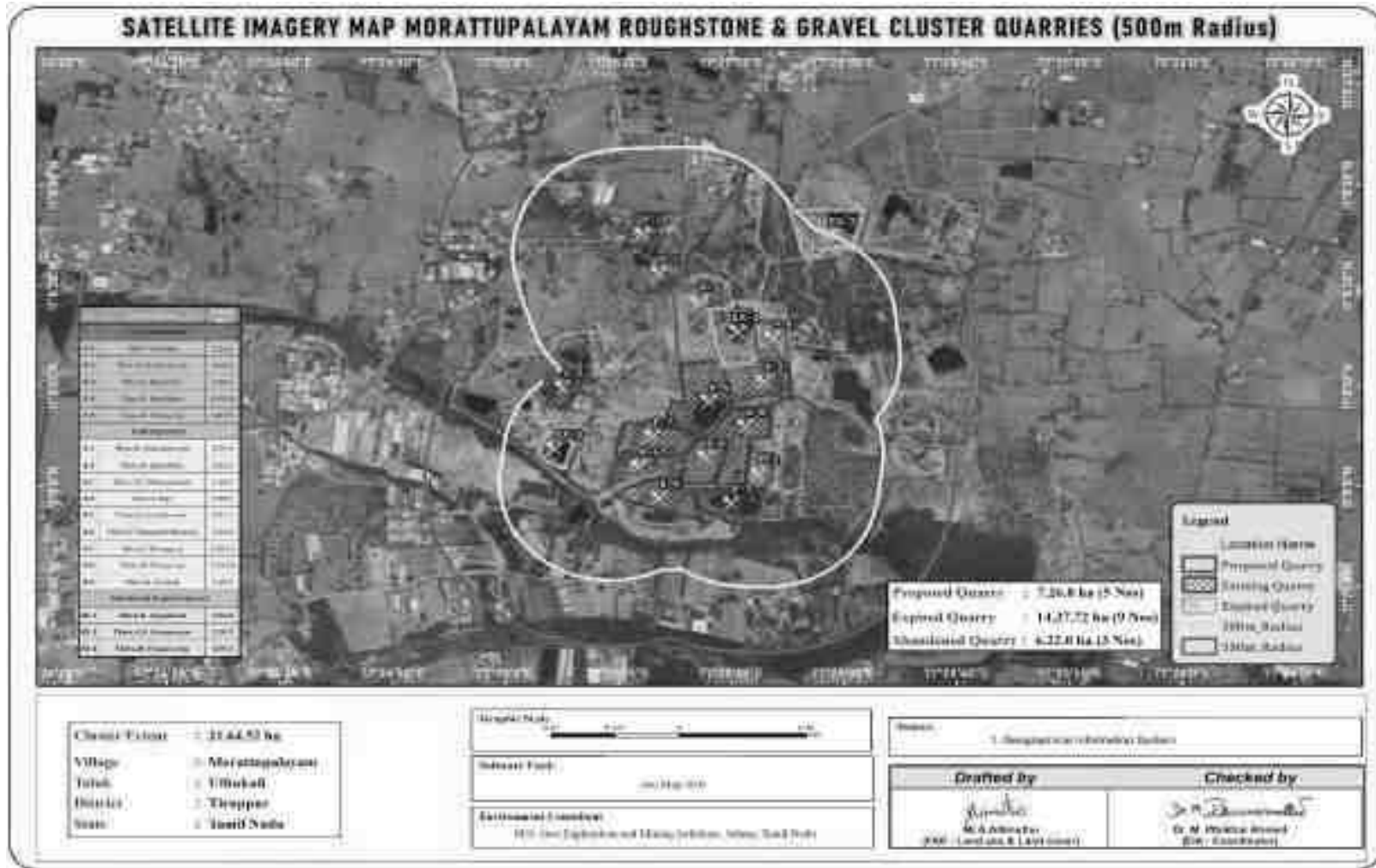
### 1.1 Purpose of the report

The Ministry of Environment and Forests, Govt. of India, through its EIA notification S.O. 1533(E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 1889 of 20th April 2022, Mining Projects are classified under two categories i.e. A (> 250 Ha) and B ( $\leq$  250 Ha), and Schematic Presentation of Requirements on Environmental Clearance of Minor Minerals including cluster situation in Appendix – XI.

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category B - 1 and appraised by SEAC/ SEIAA as well as for cluster situation.

The proposed projects are categorized under category “B1” Activity 1(a) (mining lease area in cluster situation) and will be considered at SEIAA – TN after conducting Public Hearing and Submission of EIA/EMP Report for Grant of Environmental Clearance. **“Draft EIA report prepared on the basis of ToR Issued for carrying out public hearing for the grant of Environmental Clearance from SEIAA, Tamil Nadu”**

**Figure 1.1. Satellite Imagery of Cluster quarries**



**Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016**

Note: As per above notification S.O.2269(E) dated : 01.07.2016 in para (b) in Appendix XI, - (i)(6) A cluster shall be formed when the distance between the peripheries of one lease is less than 500 meters from the periphery of other lease in a homogeneous mineral area which shall be applicable to the mine lease or quarry licenses granted on and after 9<sup>th</sup> September, 2013

## 1.2 Identification of Project and Project Proponent

### 1.2.1 Identification of Project

The project areas in the cluster are Patta Land, no forest land is involved

**TABLE 1.2: PROPOSED PROJECTS IN THE CLUSTER**

Description	P1	P2	P3
Name of the Project	<b>Tmt.V.Revathi</b> , Rough Stone & Gravel Quarry	<b>Thiru.U.Prabhakaran</b> Rough stone & Gravel Quarry	<b>Thiru.S.Rajsekar</b> Rough stone & Gravel Quarry
S.F. No.	209/1A(P), 209/1B(P) & 209/2 (P)	389/1C2	382/2A (P),
Extent	2.25.5 Ha	0.68.8 Ha	2.48.5
Village, Taluk	Morattupalayam Village, Uthukuli Taluk,		
District	Tiruppur District		

Source: Approved Mining Plan

### 1.2.2 Identification of Project Proponent

**TABLE 1.3: DETAILS OF PROJECT PROPONENT**

PROPOSAL – P1	
Name of the Company	<b>Tmt.V.Revathi</b> ,
Address	W/o. M. Vijayakumar, residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812.
Mobile	98430 60018
Status	Proprietor (Individual)
PROPOSAL – P2	
Name of the Company	<b>Thiru.U.Prabhakaran</b>
Address	S/o. Udhayakumar, residing at No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752.
Mobile	+91 98422 12353
Status	Proprietor (Individual)
PROPOSAL – P3	
Name of the Company	<b>Thiru.S.Rajsekar</b>
Address	S/o. Semalai Gounder,71,Dhimmanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752.
Mobile	+91 9443243167
Status	Proprietor (Individual)

Source: Approved Mining Plan of the respective projects

## 1.3 Brief description of the project

### 1.3.1 Nature and size of the Project

The quarrying operation is proposed to be carried out by Opencast Mechanized Mining method with 5.0m bench height and 5.0m bench width by deploying Jack Hammer Drilling & Slurry Explosive during blasting. Hydraulic Excavator and tippers are used for Loading and transportation. Rock Breakers are deployed to avoid secondary blasting.

**TABLE 1.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER**

<b>SALIENT FEATURES OF PROPOSAL "P1"</b>		
Name of the Mine	<b>Tmt.V.Revathi.,</b> Rough Stone & Gravel Quarry Project	
Land type & details	<b>It is a Patta land</b> classified as punjai (Barren land) It is a Patta land, S.F.No. 209/1A (P) is registered in the name of Thiru.K.Krishnasamy, Thiru.N.Chidambaram & Thiru.M.Vijayakumar, S.F.No. 209/1B (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar, S.F.No. 209/2 (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar. The applicant has obtained consent from the pattadhar.	
Previous Land Ownership details	It is a fresh lease application. But The quarry lease was previously granted in the favour of Thiru.P.K. Krishnasamy & Thiru.K. Muthusamy, over an extent of 2.25.5 hectares, obtained Environmental Clearance from the State Level Environment Impact Assessment Authority vide Letter No. SEIAA-TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016.  The applicant has applied a quarry lease on 28.06.2022, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos.209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the <b>period of five years.</b>	
S.F. Nos	209/1A(P), 209/1B(P) & 209/2 (P)	
Extent	2.25.5 Ha	
Maximum dimension of the existing quarry pit	Pit I: 66m (L) x 57m (W) x 20m(D) Pit II: 140m (L) x 93m (W) x 18m(D)	
Geological Reserves	Rough Stone	Gravel
	<b>3,26,788m<sup>3</sup></b>	<b>7,820m<sup>3</sup></b>
Mineable Reserves	Rough Stone	Gravel
	<b>1,41,283m<sup>3</sup></b>	<b>4,860m<sup>3</sup></b>
Proposed Quantity of Reserves/Production for mining Period	<b>1,41,283m<sup>3</sup></b>	<b>4,860m<sup>3</sup></b>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	121m (L) x 169m (W) x 30m (D) Max	
Proposed Depth of mining	30m (2m Gravel + 28m Rough Stone) Bgl.	
Toposheet No	58 E/08	
Latitude	11°08'18.54"N to 11°08'23.95"N	
Longitude	77°25'10.51"E to 77°25'16.84"E	
Elevation	276m Amsl.	
Water table depth	The Ground water occurrence in this area is 70-65m depth below the ground level.	
Previous TNPCB Pollution certificate copy of letter	Proceedings no F.0181PN/RS/DEE/TNPCB/TPN/W/2016 dated 04.08.2016	
Explosive certificate	Sri Selvanayagamman Explosives E/SC/TN/22/339(E10241)	
Previous obtained Environmental Clearance	SEIAA-TN/F.No.5470/1(a)/EC. No:3292/2016 Dated:11.07.2016.	
DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone,	No 13382/2022 dated 20.12.2022	
Machinery proposed	Jack Hammer	4
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	

Water requirement & source	Total water requirement for 1.5KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	18 Nos	
Total Project Cost	Operational Cost	Rs. 46,74,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 50,54,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	550m-SW	

Source: Approved Mining Plan of the respective proposals

<b>SALIENT FEATURES OF PROPOSAL "P2"</b>		
Name of the Mine	<b>Thiru.U.Prabhakaran,,</b> Rough Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Registered in the name of the applicant (Thiru.U.Prabhakaran), vide Patta No.1088.	
Previous Land Ownership details	It is a fresh lease application. But favour of Thiru.T.S.Udhayakumar, over an extent of 0.89.0hectares of Patta land in S.F.No.389/1C of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No.195/Mines/2014, Dated: 23.05.2015 for five years. The applicant has once again applied a quarry lease on 31.03.2021, over an extent of 0.68.8hectares of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years.	
S.F. Nos	389/1C2	
Extent	0.68.8 Ha	
Maximum dimension of the existing quarry pit	Pit1: 94m (L) x 42m (W) x 11m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	1,66,730m <sup>3</sup>	288m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	48,125m <sup>3</sup>	-
Proposed Quantity of Reserves /Production for mining Period	48,125m <sup>3</sup>	-
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	94m (L) x 42m (W) x 36m Bgl (D) Max	
Proposed Depth of mining	36m (1m Gravel + 35m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°07'59.75"N to 11°08'03.55"N	
Longitude	77°25'21.19"E to 77°25'23.61"E	
Elevation	260m Amsl.	
Water table depth	The Ground water occurrence in this area is 78-73m depth below the ground level.	
Previous Pollution certificate copy of letter	Proceedings no F.0181 TPN/RS/DEE/TNPCB/TPN/W/2016 dated 04.08.2016	
Explosive certificate	Sri Selvanayagiamman Explosives E/SC/TN/22/339(E10241)	
Previous obtained Environmental Clearance	SEIAA-TN/F.No.3021/EC/1(a)/ No:2158/2014 Dated:01.04.2015.	
Machinery proposed	Jack Hammer	2
	Compressor	1



	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Water requirement & source	Total water requirement for 2.0KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	14 Nos	
Total Project Cost	Operational Cost	Rs. 21,01,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 24,81,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	730m-SW	
Source: Approved Mining Plan of the respective proposals		

Source: Approved Mining Plan of the respective proposals

<b>SALIENT FEATURES OF PROPOSAL "P3"</b>		
Name of the Mine	<b>Thiru.S.Rajasekar</b> Rough Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Jointly Registered in the name of the applicant (Thiru. S. Rajasekar), Tmt.R.Palaniyammal, Thiru.R.Hariprasath, Thiru.R.Harisankar and Thiru.K.Thirumoorthi, vide Patta No. 421.	
Previous Land Ownership details	It is a fresh lease application but, the applied area has been considered quarrying operation earlier	
Previous Environmental clearance	Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018	
S.F. Nos	382/2A (P),	
Extent	2.48.5 Ha	
Geological Reserves	Rough Stone	Gravel
	4,10,685m <sup>3</sup>	9,166m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	1,63,614m <sup>3</sup>	6,052
Proposed Quantity of Reserves /Production for mining Period	1,63,614m <sup>3</sup>	6,052
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	PitI: 65m (L) x 115m (W) x 37m Bgl (D) PitII: 163m (L) x 87m (W) x 37m Bgl (D)	
Existing Pit Dimension	Pit:1 160m (L) x 87m (W) x 30m(D) below from the existing ground profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile	
Proposed Depth of mining	37m (2m Gravel + 35m Rough stone) below ground level	
Existing depth	22m (Max) Bgl.	
Toposheet No	58 E/08	
Latitude	11°08'12.23"N to 11°08'20.17"N	
Longitude	77°25'14.88"E to 77°25'19.13"E	
Elevation	292m Amsl.	
Water table depth	The Ground water occurrence in this area is 68m depth below the ground level.	
Explosive certificate	Senthamarai Explosives E/SC/TN/22/66 (E-10217), dated:04.08.2023	
Machinery proposed	Jack Hammer	5
	Compressor	1

	Excavator with Bucket and Rock Breaker	1
	Tipper	3
Blasting	Usage of Slurry Explosive with MSD detonators	
Water requirement & source	Total water requirement for 2.0KLD from existing, bore wells and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	23 Nos	
Total Project Cost	Operational Cost	Rs.57,89,000/-
	EMP Cost	Rs.3,80,000/-
	Total Project cost	Rs.61,69,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	510m-NW	
Source: Approved Mining Plan of the respective proposals		

Source: Approved Mining Plan of the respective proposals

### 1.3.2 Location of the project-P1

- The area is located in **S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.**
- The entire quarry lease area falls in the Patta land, the lease applied area exhibits flat terrain.
- The Altitude of the area is 276m (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. **58 - E/08**
- The Latitude between of **11°08'18.54"N to 11°08'23.95"N**
- The Longitude between of **77°25'10.51"E to 77°25'16.84"E** on WGS 1984 datum

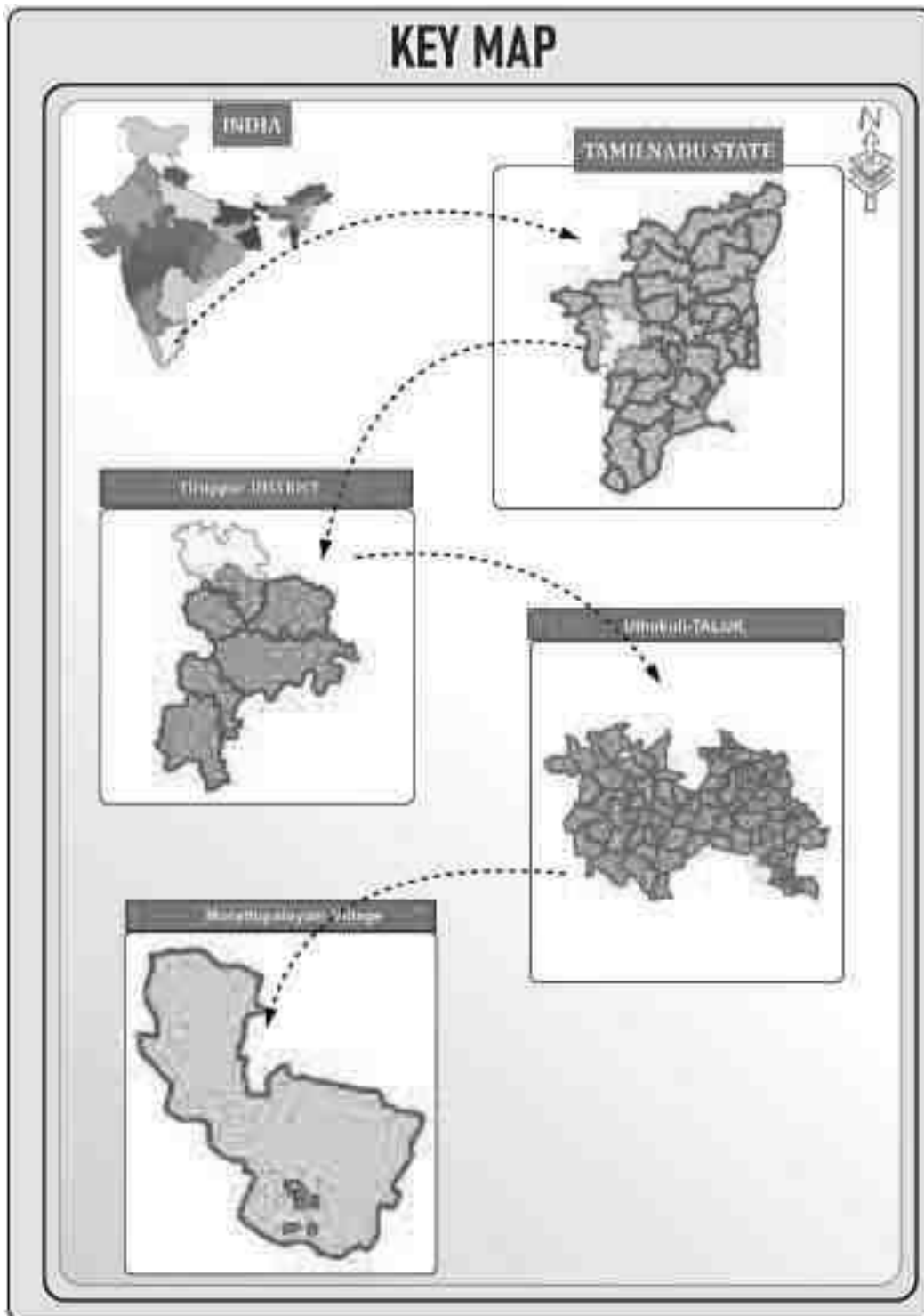
### 1.3.3 Location of the project-P2

- The area is located in **S.F.No. 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.**
- The entire quarry lease area falls in the Patta land, the lease applied area exhibits plain topography.
- The Altitude of the area is **260m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. **58 - E/08**
- The Latitude between of **11°07'59.75"N to 11°08'03.55"N**
- The Longitude between of **77°25'21.19"E to 77°25'23.61"E** on WGS 1984 datum.

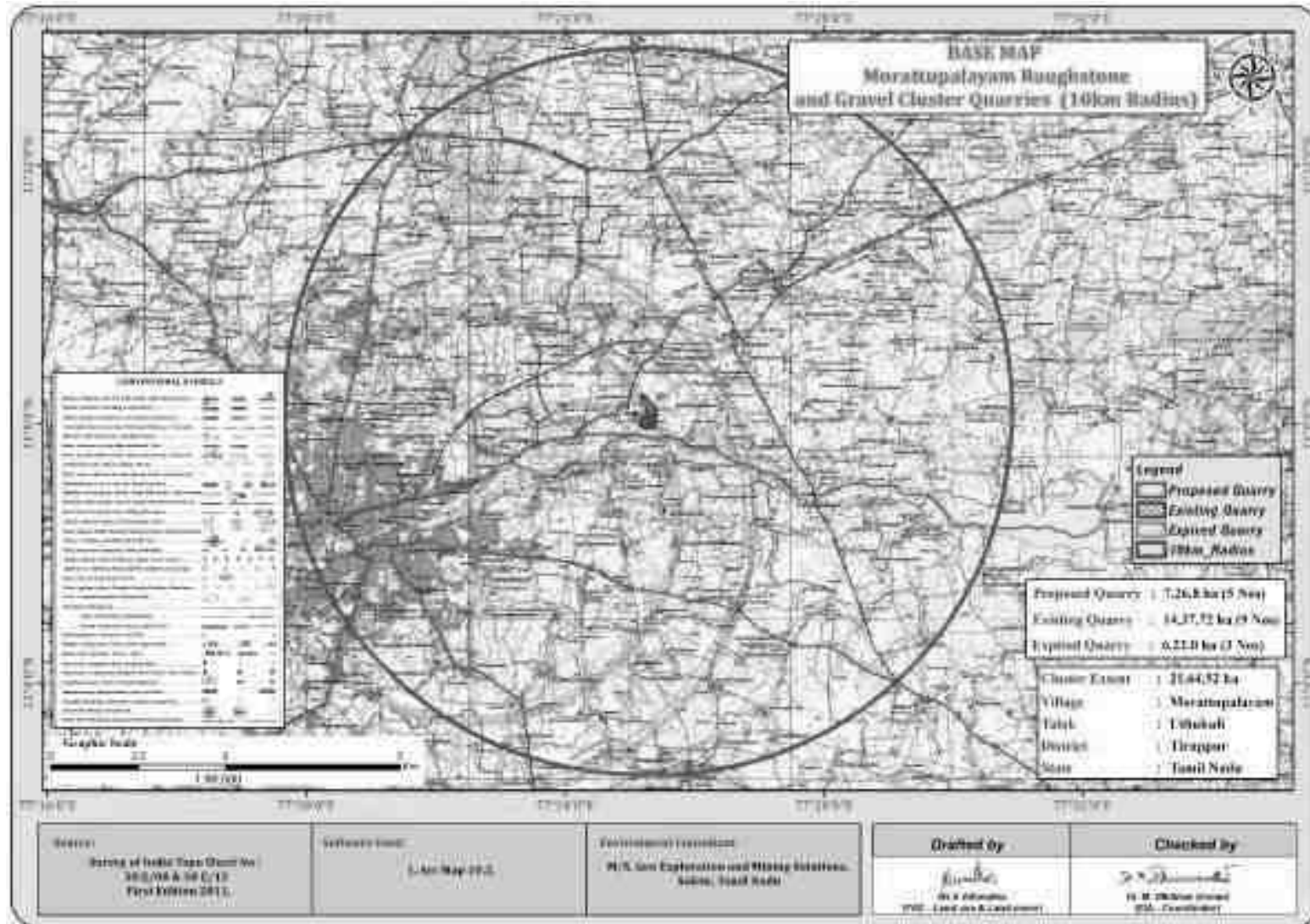
### 1.3.4 Location of the project-P3

- The area is located in **S.F.No. 382/2A(P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.**
- The entire quarry lease area almost plain topography.
- The Altitude of the area is **292m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. **58 - E/08**
- The Latitude between of **11°08'12.23"N to 11°08'20.17"N**
- The Longitude between of **77°25'14.88"E to 77°25'19.13"E** on WGS 1984 datum.

**Figure 1.2 KEY MAP SHOWING THE LOCATION OF THE PROJECT SITE**



**FIGURE 1.3: TOPOSHEET SHOWING LOCATION OF THE PROJECT SITE AROUND 10 KM RADIUS**



**FIGURE 1.4: TOPOSHEET SHOWING LOCATION OF THE PROJECT SITE AROUND 2 KM RADIUS**



## **1.4 Environmental Clearance**

The Environmental Clearance process for the project will comprise of four stages. These stages in sequential order are given below: -

1. Screening
2. Scoping
3. Public consultation &
4. Appraisal

### **SCREENING –**

#### **Project – P1**

- The proponent applied for Rough Stone and Gravel Quarry Lease Dated: 25.05.2022
- The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Tiruppur District vide Rc.No.584/Mines/2022, Dated: 17.11.2022
- The Mining plan was approved by the Assistant Director, Department of Geology and Mining, Tiruppur District vide Rc.No.584/Mines/2022 Dated: 05.12.2022.
- Proponent applied for ToR for Environmental Clearance vides online Proposal No. SIA/TN/MIN/414152/2023, Dated: 11.01.2023.

#### **Project – P2**

- The proponent applied for Rough Stone and Gravel Quarry Lease Date from 19.10.2020
- The precise area communication letter was received from the Deputy Director, Department of Geology and Mining, Tiruppur District and passed a Precise Area Communication letter vide Rc.No.465/Mines/2021, Dated:10.06.2021.
- The Mining plan was approved by the Deputy Director, Department of Geology and Mining, Tiruppur District vide Rc.No.465/Mines/2021, Dated:17.06.2021
- Proponent applied for ToR for Environmental Clearance vides online Proposal No. SIA/TN/MIN/64360/2021, Dated:01.07.2021

#### **Project – P3**

- The proponent applied for Rough Stone and Gravel Quarry Lease Date from 07.12.2022
- The Precise area communication letter was received from the District collector Tiruppur Vide Rc.No.761/Mines/2022, Dated: 20.09.2023.
- The Mining Plan was got approval by the Deputy Director, Department of Geology and Mining, Tiruppur vide Rc. No. 761/Mines/2022 Dated: 12.12.2023.
- Proponent applied for ToR for Environmental Clearance vides online Proposal No. SIA/TN/MIN/466801/2024, Dated:21.03.2024

### **SCOPING –**

#### **Project – P1**

- The proposal was placed in 405<sup>th</sup> SEAC meeting held on 23.08.2022 and the committee recommended for issue of ToR.
- The proposal was considered in 656<sup>th</sup> SEIAA meeting held on 20.09.2023 and issued ToR vide Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023.

#### **Project – P2**

- The proposal was placed in 220<sup>th</sup> SEAC meeting held on 20.07.2021 and the committee recommended for issue of ToR.
- The proposal was considered in 454<sup>th</sup> SEIAA meeting held on 16.08.2021 and issued ToR vide Letter No Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021.

**Project – P3**

- The proposal was placed in 464<sup>th</sup> SEAC meeting held on 03.05.2024 and the committee recommended for issue of ToR.
- The proposal was considered in 723<sup>th</sup> SEIAA meeting held on 24.05.2024 and issued ToR vide Letter No Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024.

**Public Consultation –**

Application to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site or in its close proximity in the district is submitted along with this Draft EIA/ EMP Report and the outcome of public hearing proceedings will be detailed in the Final EIA/EMP Report.

**Appraisal –**

Appraisal is the detailed scrutiny by the State Expert Appraisal Committee (SEAC) of the application and other documents like the final EIA & EMP Report, outcome of the Public Consultations including Public Hearing Proceedings, submitted by the proponent to the regulatory authority concerned for grant of environmental clearance.

The report has been prepared using the following references:

- Guidance Manual of Environmental Impact Assessment for Mining of Minerals, Ministry of Environment and Forests, 2010
- EIA Notification, 14<sup>th</sup> September, 2006
  - *Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 -P1*
  - *Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021 - P2*
  - *Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024– P3*

Approved Mining of P1 to P3 the Rough stone and Gravel quarry projects

**1.5 Post Environment Clearance Monitoring**

The Project Proponents in the Cluster will submit a half-yearly compliance report in respect of stipulated Environmental Clearance terms and conditions to MoEF & CC Regional Office & SEIAA after grant of EC on 1<sup>st</sup> June and 1<sup>st</sup> December of every year.

**1.6 Generic Structure of EIA Document**

The overall contents of the EIA report follow the list of contents prescribed in the EIA Notification 2006 and the “Environmental Impact Assessment Guidance Manual for Mining of Minerals” published by MoEF & CC. A brief description of each Chapter is presented in Table No. 1.5.

**TABLE 1.5 – STRUCTURE OF THE EIA REPORT**

S. No	Chapters	Title	Particulars
1	Chapter 1	Introduction	Presents, an Introduction along with Scope and Objective of this EIA/EMP Studies
2	Chapter 2	Project Description	Presents the Technical Details of the Project
3	Chapter 3	Description of Environment	Presents the Baseline Status for various Environmental Parameters in the Study Area for One Season (3 Months)
4	Chapter 4	Anticipated Environmental Impacts and Mitigation Measures	Presents the Identification, Prediction and Evaluation of overall Environmental Impacts due to the Proposed Projects Activities. Also presents Proposed Mitigation Measures.
5	Chapter 5	Analysis of Alternatives (Technology & Site)	Presents Analysis of alternatives with respect to site
6	Chapter 6	Environment Monitoring Programme	Present details of post project environment monitoring
7	Chapter 7	Additional Studies	Presents Public Consultation, Risk Assessment and Disaster Management Plan

8	Chapter 8	Project Benefits	Presents project benefits as: Improvements in the Physical Infrastructure, Social Infrastructure Employment Potential –Skilled; Semi-Skilled and Unskilled etc.,
9	Chapter 9	Cost Benefit Analysis	Environmental Cost Benefit Analysis has not been recommended at Scoping Stage – thus no analysis carried out separately in this EIA/EMP Report
10	Chapter 10	Environmental Management Plan	Description of the administrative aspects to ensure the Mitigation Measures are implemented and their effectiveness monitored, after approval of the project.
11	Chapter 11	Summary & Conclusion	Summary of the EIA Report
12	Chapter 12	Disclosure of Consultants Engaged	Disclosure of the Consultants

## 1.7 Scope of the Study

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures for each individual leases. A detailed account of the emission sources, emissions control equipment, background Air quality levels, Meteorological measurements, Dispersion model and all other aspects of pollution like effluent discharge, Dust generation etc., have been discussed in this report. The baseline monitoring study has been carried out during the summer season Mar 2022 to May 2022 for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suggest suitable mitigation measures for likely adverse impacts due to the proposed project.

**TABLE 1.6 – ENVIRONMENT ATTRIBUTES**

Sl.No.	Attributes	Parameters	Source and Frequency
1	Ambient Air Quality	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , NO <sub>2</sub>	24 hourly samples twice a week for three months at 8 locations
2	Meteorology	Wind speed and direction, temperature, relative humidity and rainfall	Near project site continuous for three months with hourly recording and from secondary sources of IMD station, Tiruppur
3	Water quality	Physical, Chemical and Bacteriological parameters	Grab samples were collected at 5 ground water and 1 surface water locations once during study period.
4	Ecology	Existing terrestrial and aquatic flora and fauna within 10 km radius circle.	Limited primary survey and secondary data was collected from the Forest department.
5	Noise levels	Noise levels in dB(A)	At 8 locations data monitored once for 24 hours during EIA study.
6	Soil Characteristics	Physical and Chemical Parameters	Once at 6 locations during study period
7	Land use	Existing land use for different categories	Based on Survey of India topographical sheet and satellite imagery and primary survey.
8	Socio-Economic Aspects	Socio-economic and demographic characteristics, worker characteristics	Based on primary survey and secondary sources data like census of India 2011.
9	Hydrology	Drainage pattern of the area, nature of streams, aquifer characteristics, recharge and discharge areas	Based on data collected from secondary sources as well as hydro-geology study report prepared.
10	Risk assessment and Disaster Management Plan	Identify areas where disaster can occur by fires and explosions and release of toxic substances	Based on the findings of Risk assessment done for the mining associated activities

Source: Field Monitoring Data

The data has been collected as per the requirement of the ToR issued by SEIAA – TN and Standard ToR Published by MoEF & CC.

### 1.7.1 Regulatory Compliance & Applicable Laws/Regulations



- 
- Application for Quarrying Lease as per Tamil Nadu Minor Mineral Concession Rules, 1959
  - Obtained Precise Area Communication Letter as per Tamil Nadu Minor Mineral Concession Rules, 1959 for Preparation of Mining Plan and obtaining Environmental Clearance
  - The Mining Plan of Rough Stone and Gravel quarry has been approved under Rule 41 & 42 as amended of Tamil Nadu Minor Mineral Concession Rules, 1959
  - ToR from SEIAA –
  - ***Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 - P1***
  - ***Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021 - P2***
  - ***Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024– P3***
- Approved Mining of P1 to P3 the Rough stone and Gravel cluster quarry projects

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## CHAPTER – 2: PROJECT DESCRIPTION

### 2.0 General

The Proposed Rough Stone and Gravel cluster Quarries requires Environmental Clearance. There are three proposed quarries forming a cluster; calculated as per MoEF & CC Notification S.O. 2269(E) Dated 1<sup>st</sup> July 2016 and the total extent of cluster is 21.64.52Ha.

As the extent of cluster are more than 5 ha, the proposal falls under B1 Category as per the Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018, and requirement for EIA, EMP and Public Consultation for obtaining Environmental Clearance.

### 2.1 Description of the Project

The proposed projects are site specific and there is no additional area required for this project. There is no effluent generation/discharge from the proposed quarries.

Method is mining is common for all the proposed quarries in the cluster. Rough Stone and Gravel are proposed to be excavated by opencast mechanized method involving splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pit head to the needy crushers and rock breakers to avoid secondary blasting.

### 2.2 Location of the Project

#### Location of the project-P1

- The area is located in **S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.**
- The entire quarry lease area falls in the Patta land, the lease applied area is exhibits flat terrain.
- The Altitude of the area is 276m (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. **58 - E/08**
- The Latitude between of **11°08'18.54"N to 11°08'23.95"N**
- The Longitude between of **77°25'10.51"E to 77°25'16.84"E** on WGS 1984datum

#### Location of the project-P2

- The area is located in **S.F.No. 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.**
- The entire quarry lease area falls in the Patta land, the lease applied area is exhibits plain topography.
- The Altitude of the area is **260m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. **58 - E/08**
- The Latitude between of **11°07'59.75"N to 11°08'03.55"N**
- The Longitude between of **77°25'21.19"E to 77°25'23.61"E** on WGS 1984 datum.

#### Location of the project-P3

- The area is located in **S.F.No. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State.**
- The entire quarry lease area almost plain topography.
- The Altitude of the area is **292m** (Maximum) above MSL.
- The area is mentioned in GSI Topo sheet No. **58 - E/08**
- The Latitude between of **11°08'12.23"N to 11°08'20.17"N**
- The Longitude between of **77°25'14.88"E to 77°25'19.13"E** on WGS 1984 datum.

- The projects under the cluster are classified as patta land (Non-Forest Land) & does not fall within 10 km radius of any Eco – sensitive zone, Wild life Sanctuary, National Park, Tiger Reserve, Elephant Corridor and Biosphere Reserves.

**TABLE 2.1: SITE CONNECTIVITY TO THE CLUSTER QUARRIES**

Nearest Roadway	NH544-Salem-Kochin Highway-6.5km-N SH19 - Tiruppur – Uthukuli Road – 300m-W
Nearest Village	Morattupalayam– 555m- W
Nearest Town	Tiruppur – 9.0Km – SW
Nearest Railway	Uthukuli Railway Station – 3.0Km – North East
Nearest Airport	Coimbatore Airport – 43Km - SW
Seaport	Kochi- 185 Km-SW

Source: Survey of India Toposheet.

The cluster quarries corners co-ordinates are given below.

**TABLE 2.2 – BOUNDARY CO-ORDINATES OF PROPOSED PROJECTS**

P1		
S.No	Latitude	Longitude
1	11°08'18.54"N	77°25'11.86"E
2	11°08'20.77"N	77°25'11.18"E
3	11°08'20.89"N	77°25'11.07"E
4	11°08'23.16"N	77°25'10.51"E
5	11°08'23.75"N	77°25'10.69"E
6	11°08'23.95"N	77°25'16.01"E
7	11°08'23.47"N	77°25'16.11"E
8	11°08'23.38"N	77°25'16.44"E
9	11°08'21.63"N	77°25'16.84"E
10	11°08'19.83"N	77°25'15.21"E
11	11°08'19.49"N	77°25'14.64"E
Datum: UTM-WGS84 Zone 43 N		

Source: Mine Lease Plan of the respective proposals

P2		
S.No.	Latitude	Longitude
1	11°07'59.85"N	77°25'21.19"E
2	11°08'03.55"N	77°25'21.81"E
3	11°08'03.28"N	77°25'23.61"E
4	11°08'00.24"N	77°25'23.23"E
5	11°07'59.75"N	77°25'23.10"E
P3		
S.No.	Latitude	Longitude
1	11°08'12.23"N	77°25'15.33"E
2	11°08'19.80"N	77°25'14.88"E
3	11°08'20.05"N	77°25'15.50"E
4	11°08'20.17"N	77°25'19.12"E
5	11°08'17.88"N	77°25'19.13"E
6	11°08'17.79"N	77°25'17.79"E
7	11°08'12.57"N	77°25'18.93"E

**FIGURE 2.1: TOPOGRAPHICAL VIEW OF THE PROJECT SITE****P1- Tmt.Revathi**



**P2- Thiru.U.Prabhakaran**



**P3- Thiru.S.Rajsekar**

**FIGURE 2.2: FENCING AND GREENBELT OF THE PROJECT SITE-P1**





P1- Tmt.Revathi

**FIGURE 2.3: FENCING AND GREENBELT OF THE PROJECT SITE-P2**



P2- Thiru.U. Prabhakaran

**FIGURE 2.4: FENCING AND GREENBELT OF THE PROJECT SITE-P3**



**P3- Thiru.S.Rajasekar**

**FIGURE 2.5: SHOWING GOOGLE IMAGE ROUGH STONE AND GRAVEL QUARRY PROJECT AREAS**



**SATELLITE IMAGERY OF P1**

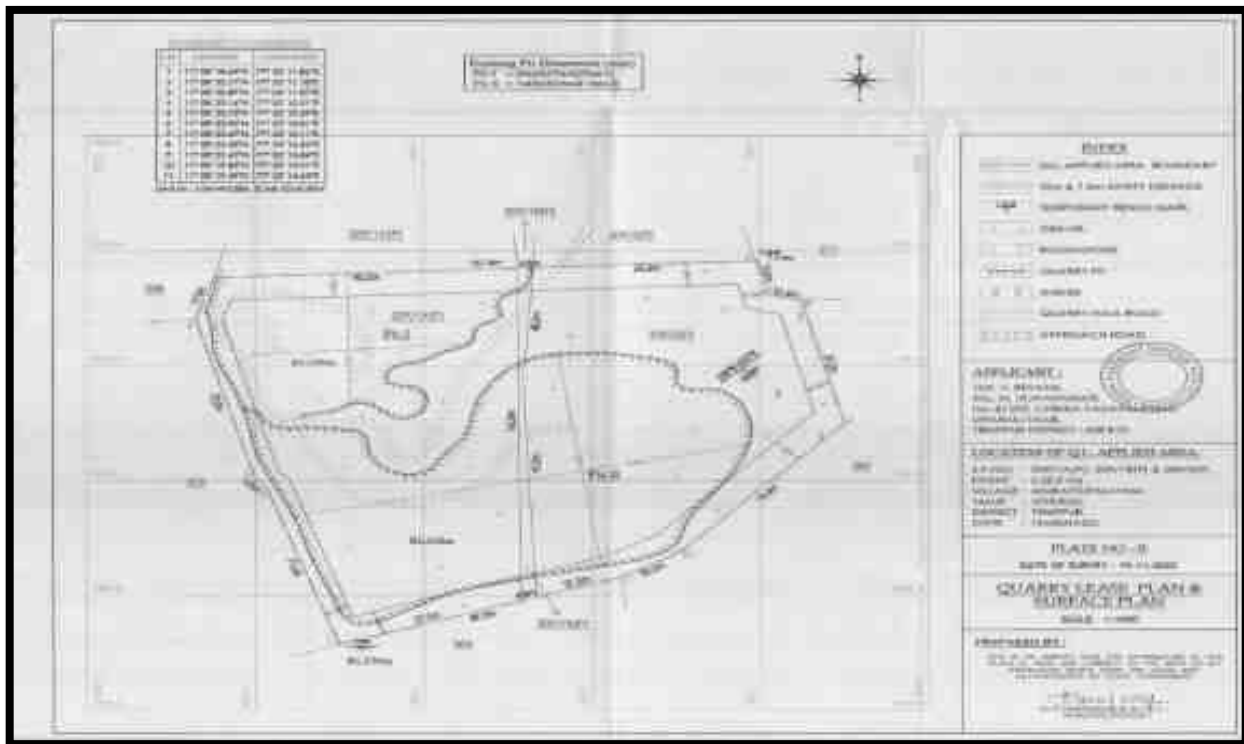


SATELLITE IMAGERY OF P2

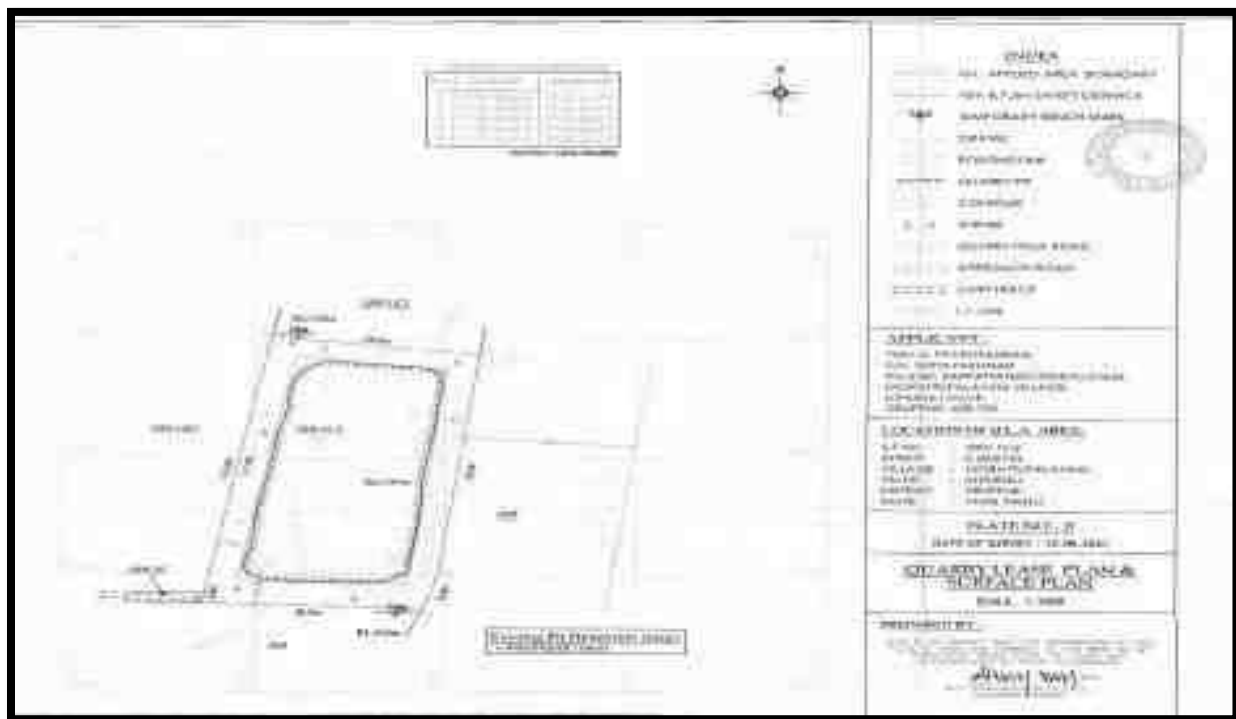


SATELLITE IMAGERY OF P3

**FIGURE 2.6: SHOWING QUARRY LEASE PLAN ROUGH STONE AND GRAVEL QUARRY PROJECT AREAS P1 to P3**



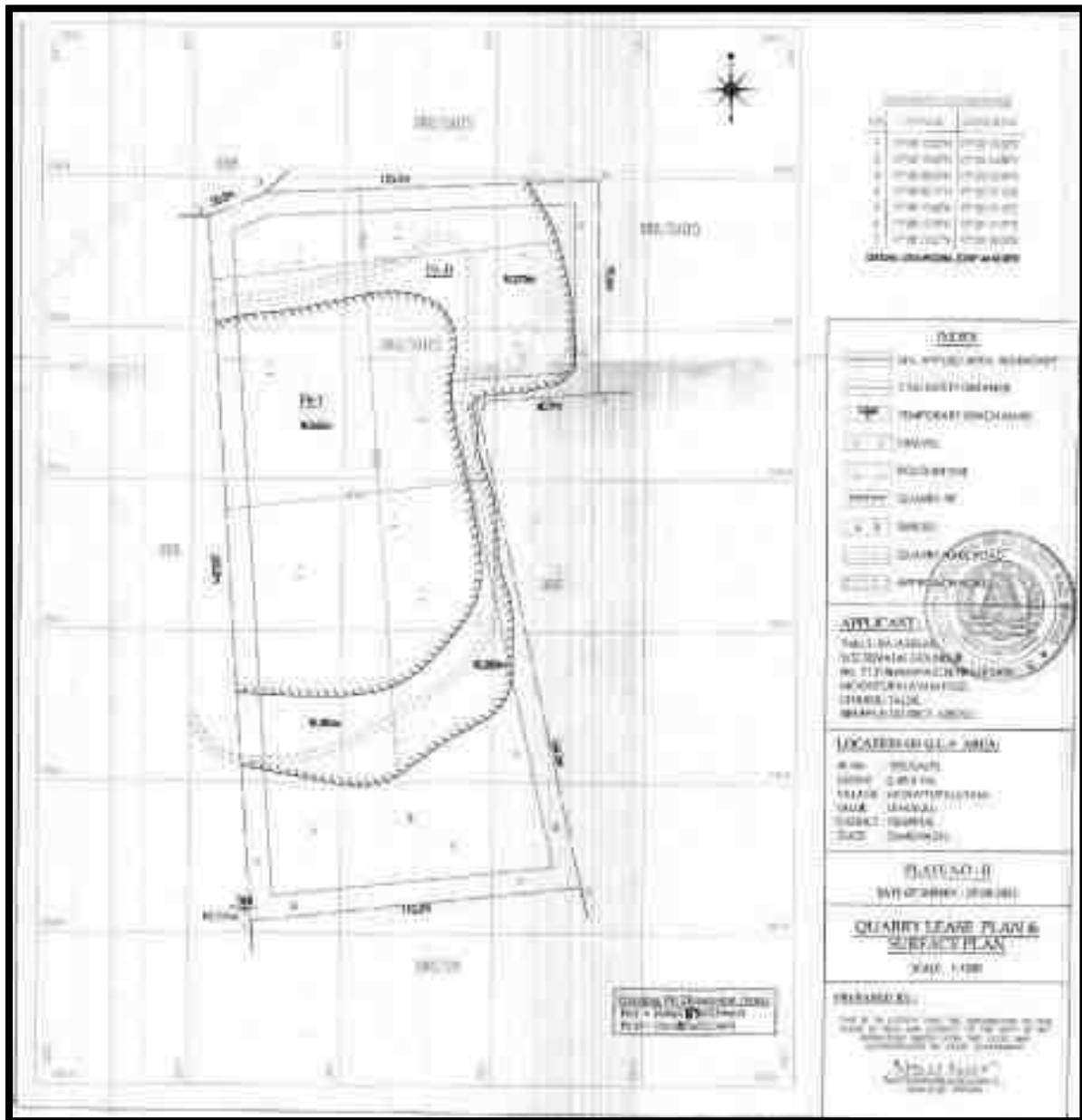
**P1- Tmt.Revathi**



**P2- Thiru.U.Prabhakaran**



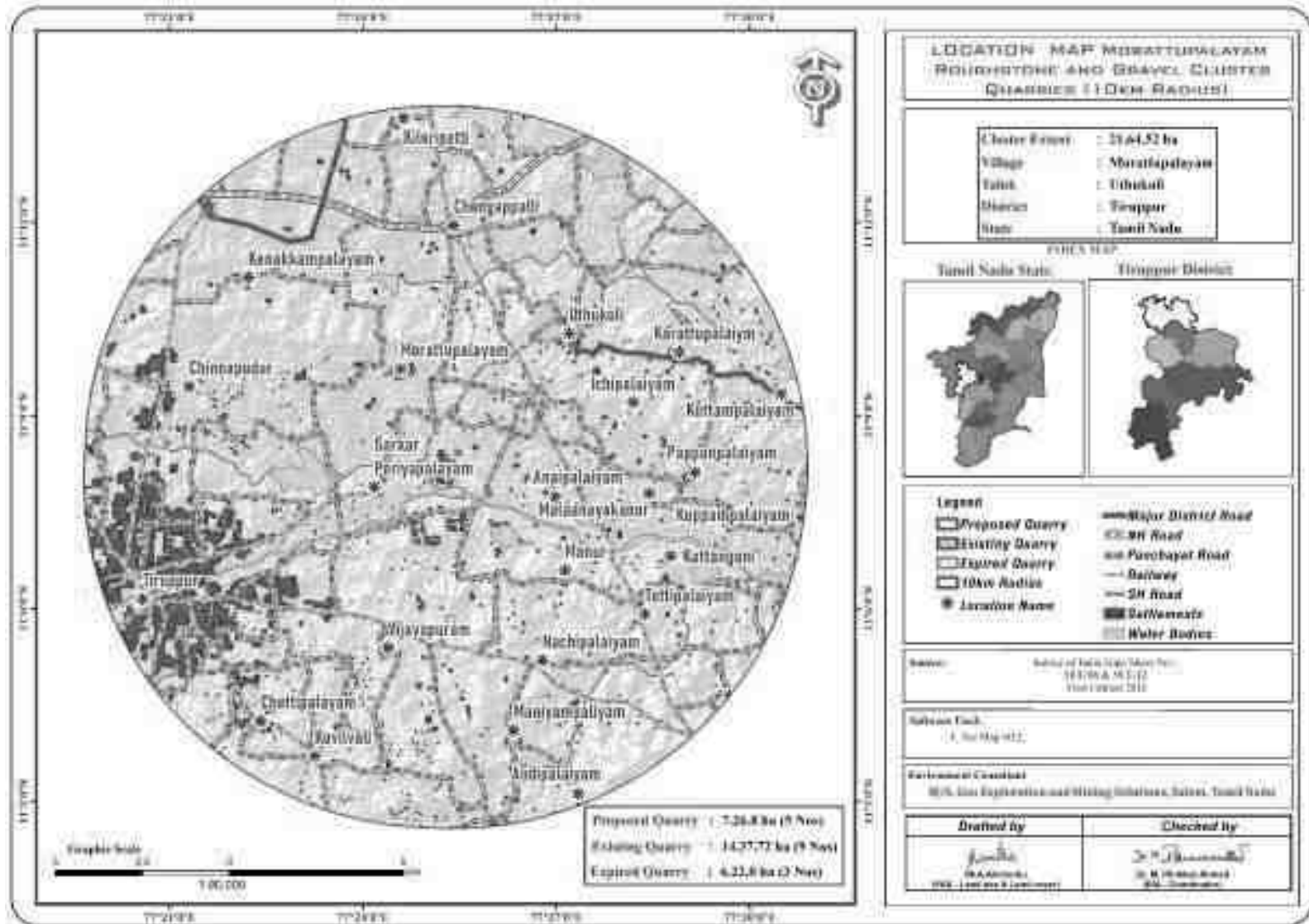
**P3- Thiru.S.Rajasekar**



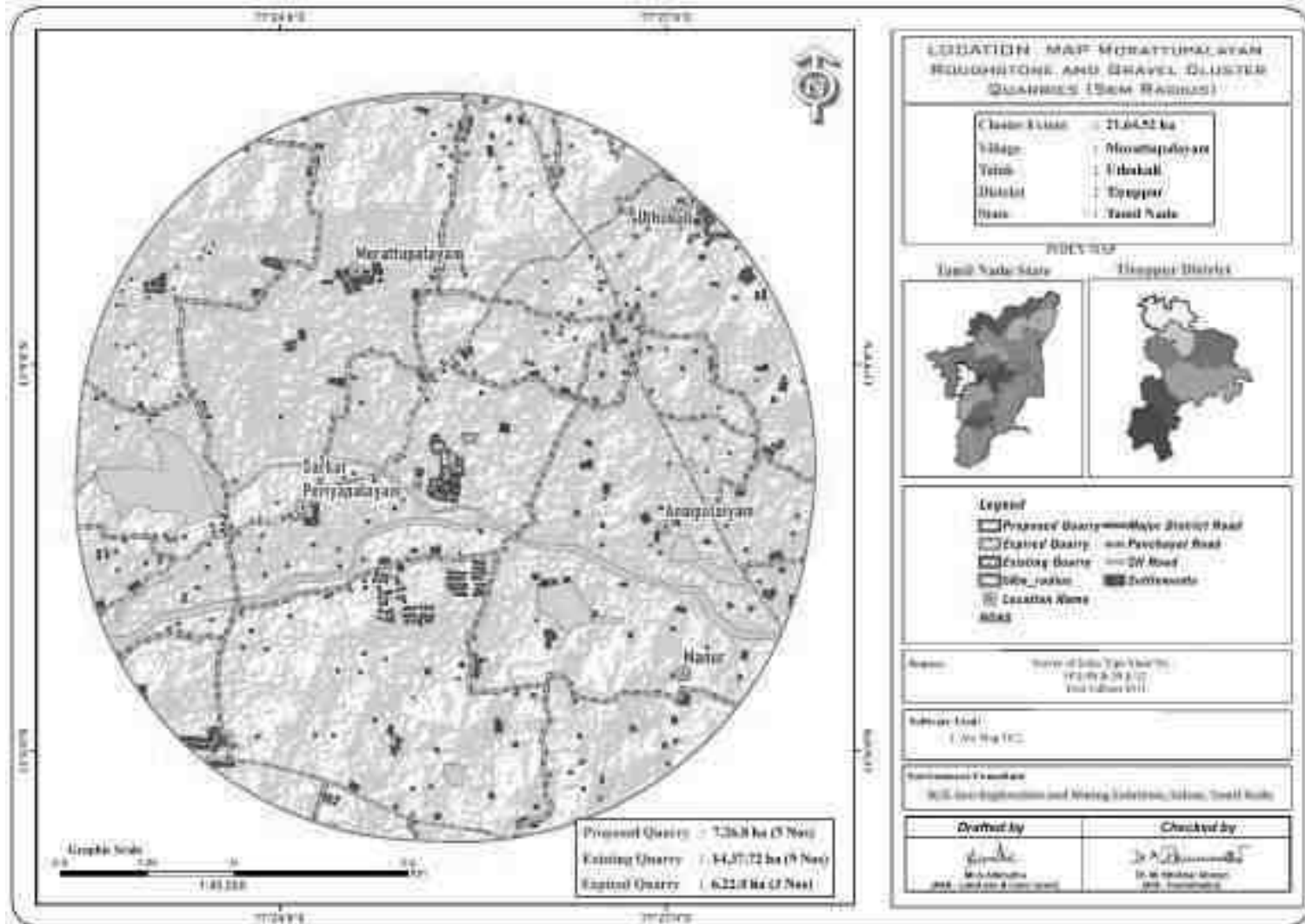
**FIGURE 2.7: SATELLITE IMAGERY OF CLUSTER QUARRIES**



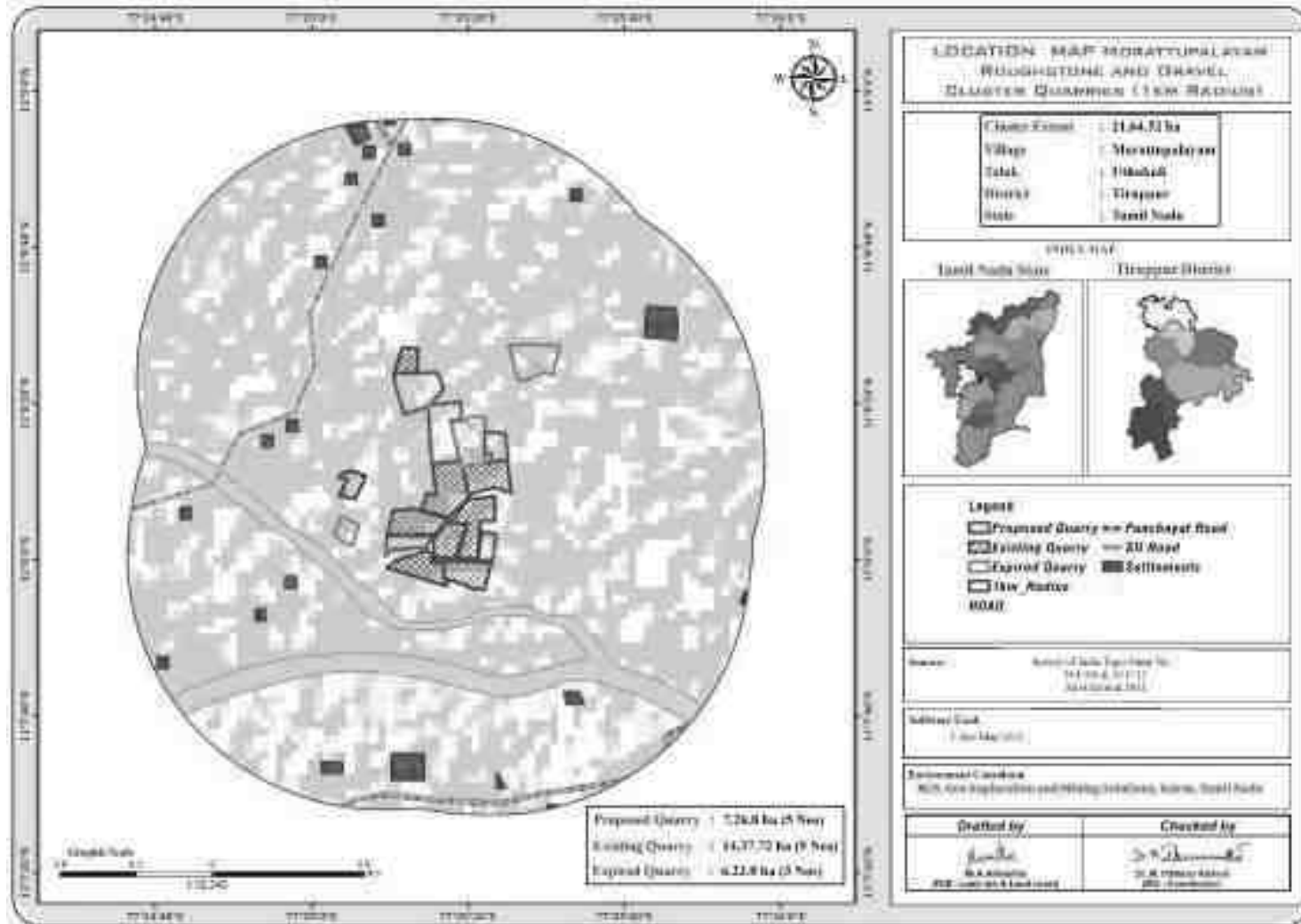
**FIGURE 2.8: DIGITIZED MAP OF THE STUDY AREA (10 KM RADIUS FROM PROJECT SITE)**



**FIGURE 2.9: DIGITIZED MAP OF THE STUDY AREA (5 KM RADIUS FROM PROJECT SITE)**



**FIGURE 2.10: DIGITIZED MAP OF THE STUDY AREA (1 KM RADIUS FROM PROJECT SITE)**



### 2.2.1 Project Area

- (i) All the projects under cluster are site specific, there is No beneficiation or processing proposed inside the project area.
- (ii) There is no forest land involved in the proposed project area and is devoid of major vegetation and trees.

**TABLE 2.3 – LAND USE PATTERN OF THE PROPOSED PROJECTS P1-P3**

LAND USE PATTERN OF PROJECT – P1		
Description	Present area in (ha)	Area at the end of life of quarry (Ha)
Area under quarrying	1.47.5	1.93.5
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Un – utilized area	0.76.0	0.21.0
<b>Grand Total</b>	<b>2.25.5</b>	<b>2.25.5</b>
LAND USE PATTERN OF PROJECT – P2		
Description	Present area in (ha)	Area at the end of life of quarry (Ha)
Area under quarrying	0.40.0	0.40.0
Infrastructure	Nil	0.01.0
Road	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized area	0.26.8	0.17.8
<b>Grand Total</b>	<b>0.68.8</b>	<b>0.68.8</b>
LAND USE PATTERN OF PROJECT – P3		
Description	Present area in (ha)	Area at the end of life of quarry (Ha)
Quarrying Pit	1.85.0	2.22.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.14.0
Unutilized Area	0.61.5	0.09.5
<b>Grand Total</b>	<b>2.48.5</b>	<b>2.48.5</b>

Source: Approved Mining Plan

### 2.2.2 Size or Magnitude of Operation

**TABLE 2.4: OPERATIONAL DETAILS FOR PROPOSED PROJECTS**

OPERATIONAL DETAILS FOR PROJECT – P1		
PARTICULARS	DETAILS	
	Rough Stone (m <sup>3</sup> ) (5Year Plan period)	Gravel (m <sup>3</sup> ) (3 Years Plan period)
Geological Resources	3,26,788 m <sup>3</sup>	7,820 m <sup>3</sup>
Mineable Reserves	1,41,283 m <sup>3</sup>	4,860 m <sup>3</sup>
Production for five-year plan period	1,41,283 m <sup>3</sup>	4,860 m <sup>3</sup>
Mining Plan Period / Lease Applied Period	5Years	
Number of Working Days	300 Days	
Production per day	94	5
No of Lorry loads (6m <sup>3</sup> per load)	16	1
Total Depth of Mining	30m (2m Gravel + 28m Rough stone) Bgl.	
OPERATIONAL DETAILS FOR PROJECT – P2		
PARTICULARS	DETAILS	
	Rough Stone (m <sup>3</sup> ) (5Year Plan period)	Gravel (m <sup>3</sup> )
Geological Resources	1,66,730m <sup>3</sup>	288 m <sup>3</sup>
Mineable Reserves	48,125 m <sup>3</sup>	-
Production for five years Plan	48,125 m <sup>3</sup>	-
Mining Plan Period / Lease Applied Period	5 Years	

Number of Working Days	300 Days		
Production per day	32	--	-
No of Lorry loads (6m <sup>3</sup> per load)	5	--	-
Total Depth of mining	36m bgl (1m topsoil+ 35m Roughstone) Bgl		
<b>OPERATIONAL DETAILS FOR PROJECT – P3</b>			
<b>PARTICULARS</b>	<b>DETAILS</b>		
	<b>Rough Stone (m<sup>3</sup>) (5Year Plan period)</b>	<b>Gravel (m<sup>3</sup>) (1<sup>st</sup> Year)</b>	
Geological Resources	4,10,685m <sup>3</sup>	9,166m <sup>3</sup>	
Mineable Reserves	1,63,614m <sup>3</sup>	6,052	
Production for five years Plan	1,63,614m <sup>3</sup>	6,052	
Mining Plan Period / Lease Applied Period	5 Years		
Number of Working Days	300 Days		
Production per day	109	20	
No of Lorry loads (6m <sup>3</sup> per load)	18	3	
Total Depth of mining	37m bgl (2m topsoil+ 35m Roughstone) Bgl		

Source: Approved mining plan

\* Gravel and weathered formation are proposed to excavate for first, second and third years only.

## 2.3 Geology

### 2.3.1 Regional Geology

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely –

- I. Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite,
- II. Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss,
- III. Basic intrusive include Pyroxinite/Dunite
- IV. Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and
- V. Quaternary sediments of Kankar and soil.

#### Stratigraphy of the area

Age	Group	Lithology
Holocene		Block cotton soil/clay±gypsum
Cenozoic		Kankar/calc-tufa
Neoproterozoic	Acid intrusives	Quartz veins Pegmatite Pink Granite
	Sivamalai syenite Complex	Nepheline-syenite
	Chalk Hills (Basic Intrusives)	Pyroxenite/Dunite
Archaean - Palaeoproterozoic	Peninsular Gneissic Complex (II) PGC (II)	Pink Granite Gneiss Hornblende Biotite gneiss
Archaean	Charnockite Group	Charnockite (Unclassified) Pyroxene Granulite Banded Magnetite Quartzite

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey in colour and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey colored and greasy and exposed as boulder outcrops and small knolls. It is well exposed in Central, Western and Southern parts of

the Tiruppur District. The general strike of foliation varies from ENE-WSW, E-W with dipping towards NW and N respectively.

Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinasi area.

Basic intrusives such as pyroxinite/dunite occurs as Outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusive are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Nepheline syenite is a leucocratic, coarse-grained rock and composed mainly of Feldspar with Nepheline and shows pitted appearance due to removal of Nepheline. This alkaline rock is available in and around Sivanmalai area only. Acid intrusives comprising pink granite, pegmatite and quartz veins are traversed country rocks in micro (cm wide-meter long) to meso-scale (few meters wide and several meter long) extend. Granite is exposed around 9 km SW of Avanashi. Small scale pegmatite and quartz veins are noticed almost in all the rock types. Acid intrusives are overlain by sediments of Quaternary age, represented by Kankar and black cotton soil with Gypsum. Most of the area is covered by brown and red brown soil. Some part of the area covered with black cotton soil contains Gypsum as lumps. Black cotton soil covers south-western part of the district.

Source: District Survey Report for Minor Minerals Tiruppur District – May 2019

<https://cdn.s3waas.gov.in/s3d1f255a373a3cef72e03aa9d980c7eca/uploads/2019/05/2019052585.pdf>

### 2.3.2 Local Geology: -

The study area follows the regional trend and mainly comprises of Hard Rock Formation as a homogeneous formation / Batholith formation of Charnockite. The project area is plain terrain, covered with gravel formation of 1m thickness; Massive Charnockite formation is found after 1m gravel formation which is inferred from the resistivity survey method.

Peninsular gneiss forms the oldest rock formation, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body N30°E – S30°E with dipping towards SE60° (Source Approved Mining plan).

### 2.3.3 Hydrogeology

Tiruppur District is underlain by crystalline metamorphic complex in the western parts of district and sedimentary tract in eastern side. An area of 4551 Sq.km is covered by crystalline rocks (63%) and 2671 Sq.km is covered by sediments (37%). The general geological sequence of formation is given below:

Quaternary - Laterites, Sands and Clays

Tertiary - Sandstone, Gravels and Clays

Cretaceous - Limestone, Calcareous Sandstone and Clay unconformity.

Archaean - Charnockites, Gneisses, Granites, Dolerites and Pegmatite

- The major part of the area is covered by metamorphic crystalline rocks of charnockite, granitic gneiss of Archaean age intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting.
- Ground Water occurs under the phreatic condition and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.
- Occurrence of Ground Water in hard rock depends upon the intensity and depth of weathering, fractures and fissures present in the rocks.
- Granites and gneisses yield moderately compared to the yield in Charnockites.
- Depth of well in hard rock generally ranges between 8 and 15m below ground level.
- Generally, yield in open wells ranges from 30 to 250m<sup>3</sup> /day and in bore well between 260 and 430 m<sup>3</sup> /day. The weathered thickness varies from 2.5 m to 42m in general there are 3 to 5 fracture zones within 100 m and 1 to 4 fracture zones between 100 and 200 m.

The Cretaceous formation is represented by Arenaceous Lime stone, Calcareous sand - stone and marl. The Tertiary formation is argillaceous comprising of Silty clay stones, argillaceous Lime stone.



The Quaternary deposits represented by the river deposits of Ponnaiyar and Varahanadhi spread over as patches in Tiruppur District. The alluvium consists of unconsolidated sands, gravelly sands, clays and clayey sands. The thickness of the sands ranges between 15 and 25 m in the alluvial formation which also form potential aquifers. In some areas, sand stone of tertiary formation are the potential groundwater reservoirs.

#### **Aquifer Systems:**

Occurrence and storage of groundwater depend upon three factors viz., Geology, Topography and rainfall in the form of precipitation. Apart from Geology, wide variation in topographic profile and intensity of rainfall constitutes the prime factors of groundwater recharge. Aquifers are part of the more complex hydro geological system and the behaviour of the entire system cannot be interpreted easily. In hard rock terrain the occurrence of Ground Water is limited to top weathered, fissured and fractured zone which extends to maximum 30 m on an average it is about 10-15 m in Tiruppur District.

In Sedimentary formations, the presence of primary inter granular porosity enhances the transmitting capacity of groundwater where the yield will be appreciable. The sedimentary area which occupies the eastern part of the district along the coastal tract is more favourable for groundwater recharge. Ground Water occurs both in semi confined and confined conditions. A brief description of occurrence of groundwater in each formation is furnished below.

#### **Alluvial Formations**

In the river alluvium groundwater occurs under water table condition. The maximum thickness is 37 m and the average thickness of the aquifer is approximately 12 m. These formations are porous and permeable which have good water bearing zones.

#### **Tertiary Cuddalore sandstone**

Tertiary formations are represented by Cuddalore Sandstone and characterised as fluvial to brackish marine deposits. Predominantly this formation is divided into Lower and Upper Cuddalore formations. In the Upper Cuddalore formations the groundwater occurs in semi confined conditions, whereas in the Lower Cuddalore the groundwater occurs in confined condition with good groundwater potential.

#### **Cretaceous Formations**

Groundwater occurring in the lens shape in the sandy clay lenses and fine sand is underlain by white and black clay beds which constitute phreatic aquifer depth which ranges 10m to 15m below ground level. Phreatic aquifer in Limestone is potential due to the presence of Oolitic Limestone.

#### **Hard Rock Formations**

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development are much less in other type of rocks when compared to gneissic formation. The groundwater potential is low, when compared with the gneissic formations.

#### **Granitic Gneiss**

Groundwater occurs under water table conditions in weathered, jointed and fractural formations. The pore space developed in the weathered mantle acts as shallow granular aquifers and forms the potential water bearing and yielding zones water table is shallow in canal and tank irrigation regions and it is somewhat deeper in other regions.

#### **Charnockite**

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development are much less when compared to gneissic formations. The groundwater potential is low, when compared with the gneissic formations.

#### **Aquifer Parameters**

The thickness of aquifer in this district is highly erratic and varies between 15 m to 40 m below ground level. The inter granular Porosity is essentially dependent on the intensity and degree of weathering and fracture development in the bed rock. As discussed earlier deep weathering has developed in Gneissic formations and moderate weathering in charnockite formations. The range of aquifer parameters in hard rock and sedimentary formations are given below:

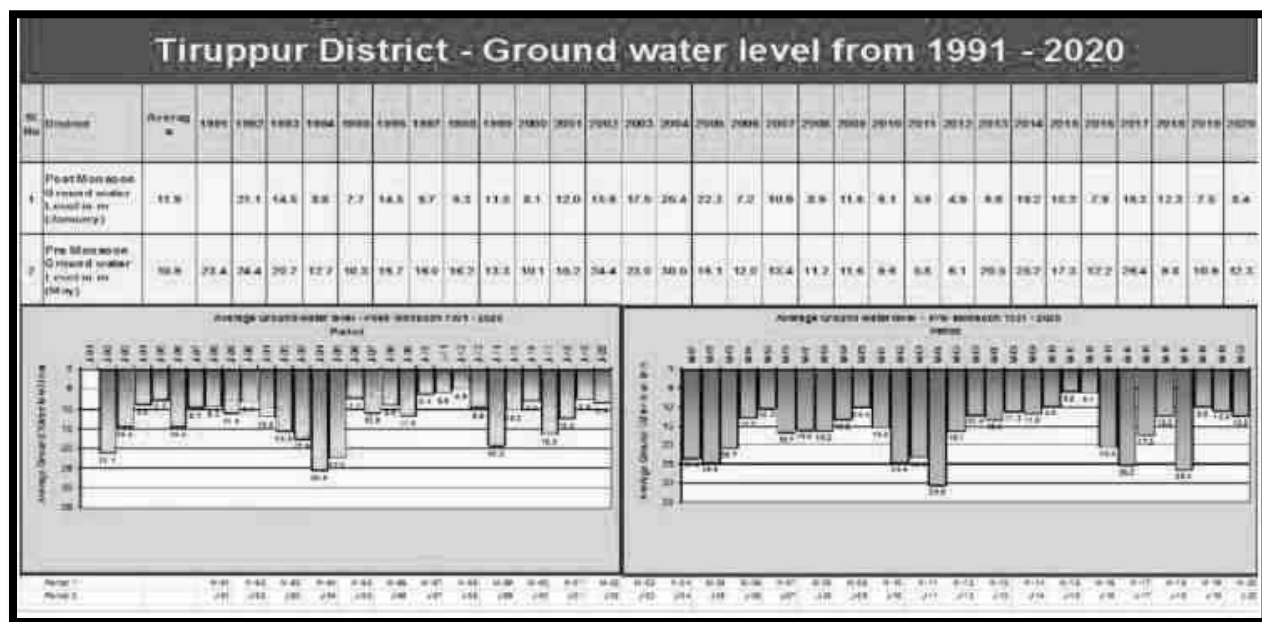
**TABLE 2.5: RANGE OF AQUIFER PARAMETERS**

Name	Sp. Capacity (lpm/d)	Specific Yield (%)	T (m <sup>2</sup> /d)	K (m/day)	Yield of wells (lps)
Alluvium	2.08	7.2	98	19.7	2.5
Tertiary	78-173	1.4-3.5	46-134	16-33	2-3.3
Cretaceous	33-782	0.3-2.56	33-782	10-66	1.1-3.5
Crystalline	27-224	0.8-2.5	16-60	5-20	1-2

Source: <http://nwm.gov.in/sites/default/files/Notes%20on%20Trippur%20District.pdf>

The Ground Water levels from the 38 number of observation wells of TWAD have been analyzed for Post-Monsoon and Pre-Monsoon.

**FIGURE 2.11: GROUND WATER LEVEL VARIATIONS OF TIRUPPUR DISTRICT**

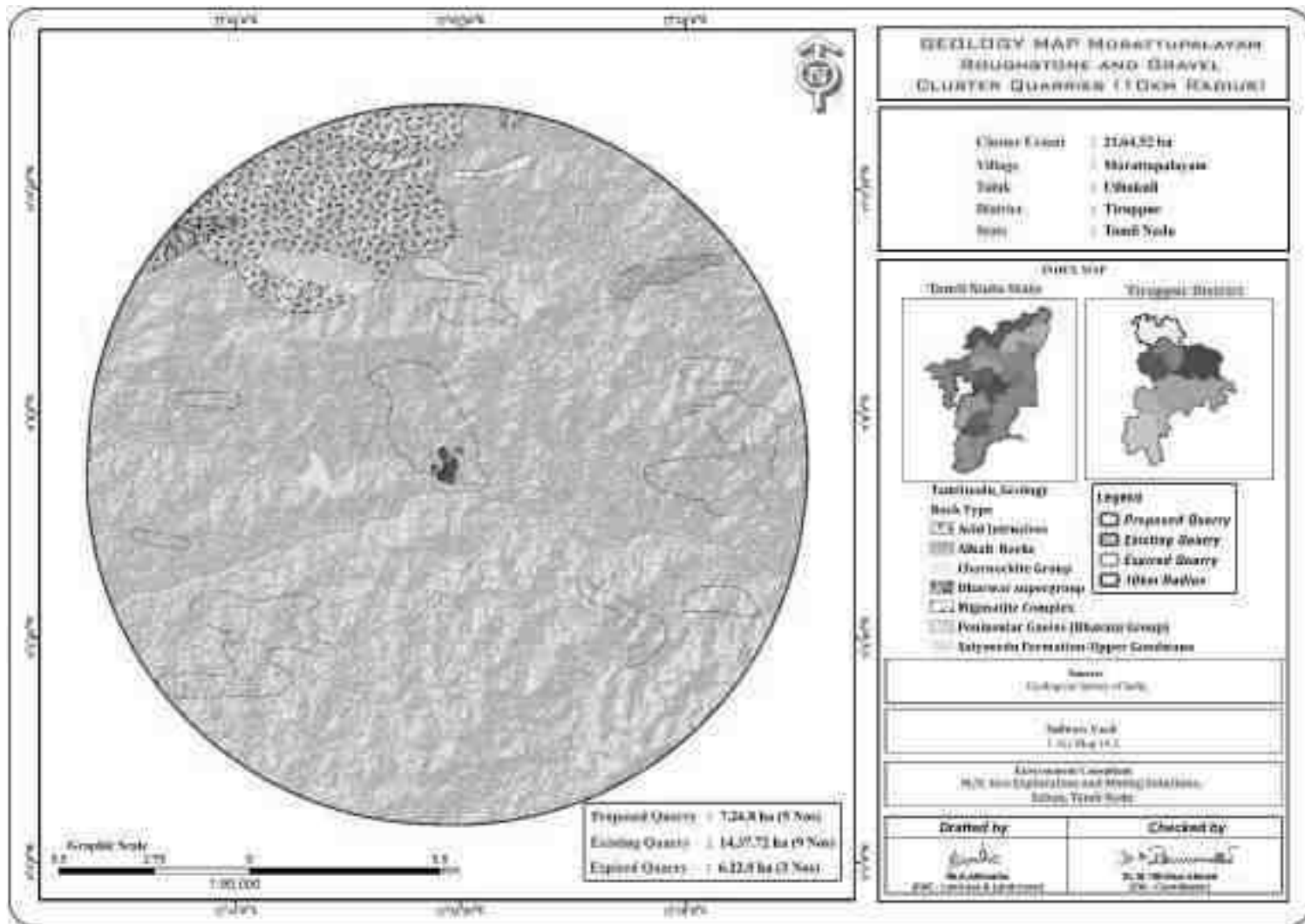


**TABLE 2.6: GROUND WATER LEVEL VARIATIONS OF TIRUPPUR DISTRICT**

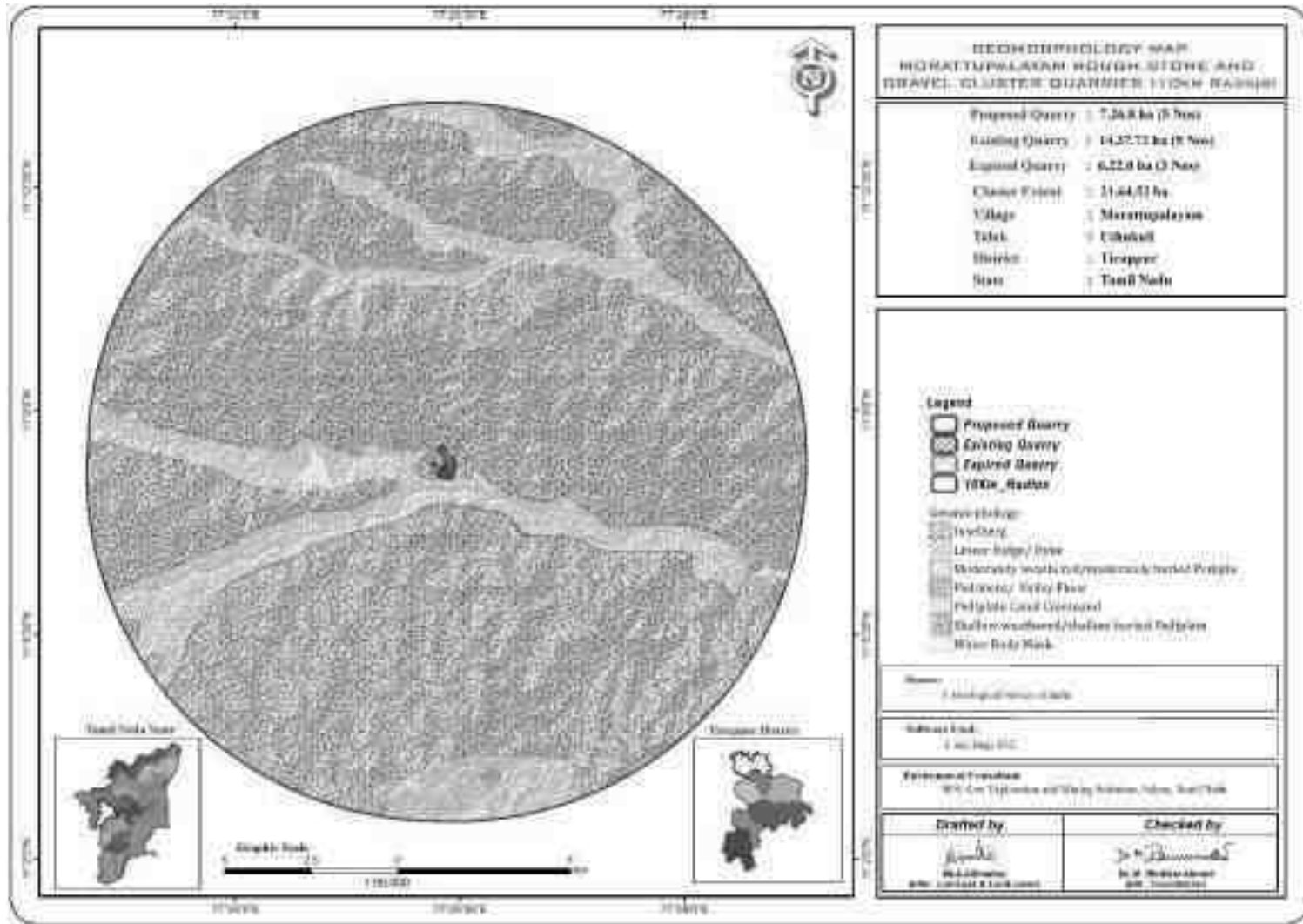
Jan 2017	May 2017	Jan 2018	May 2018	Jan 2019	May 2019	Jan 2020	May 2020	Jan 2021	May 2021	5 Years Pre-Monsoon Average	5Years Post Monsoon Average
16.3	26.4	12.4	9.8	7.6	10.9	8.4	12.3	7.1	10.6	11.9	8.8

Source: <https://www.twadboard.tn.gov.in/content/tiruppur>

**FIGURE 2.12: REGIONAL GEOLOGY MAP**

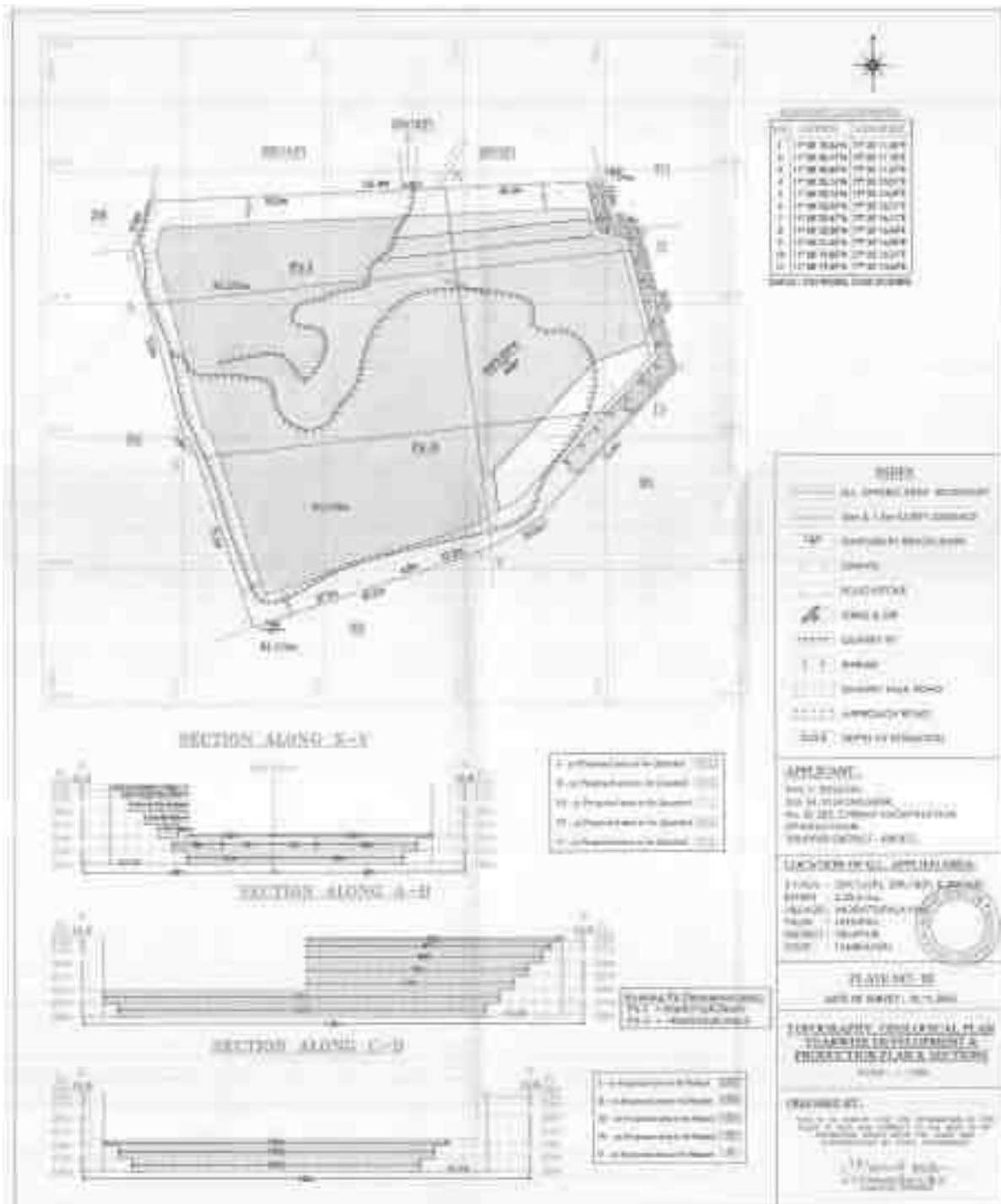


**FIGURE 2.13: GEOMORPHOLOGY MAP**

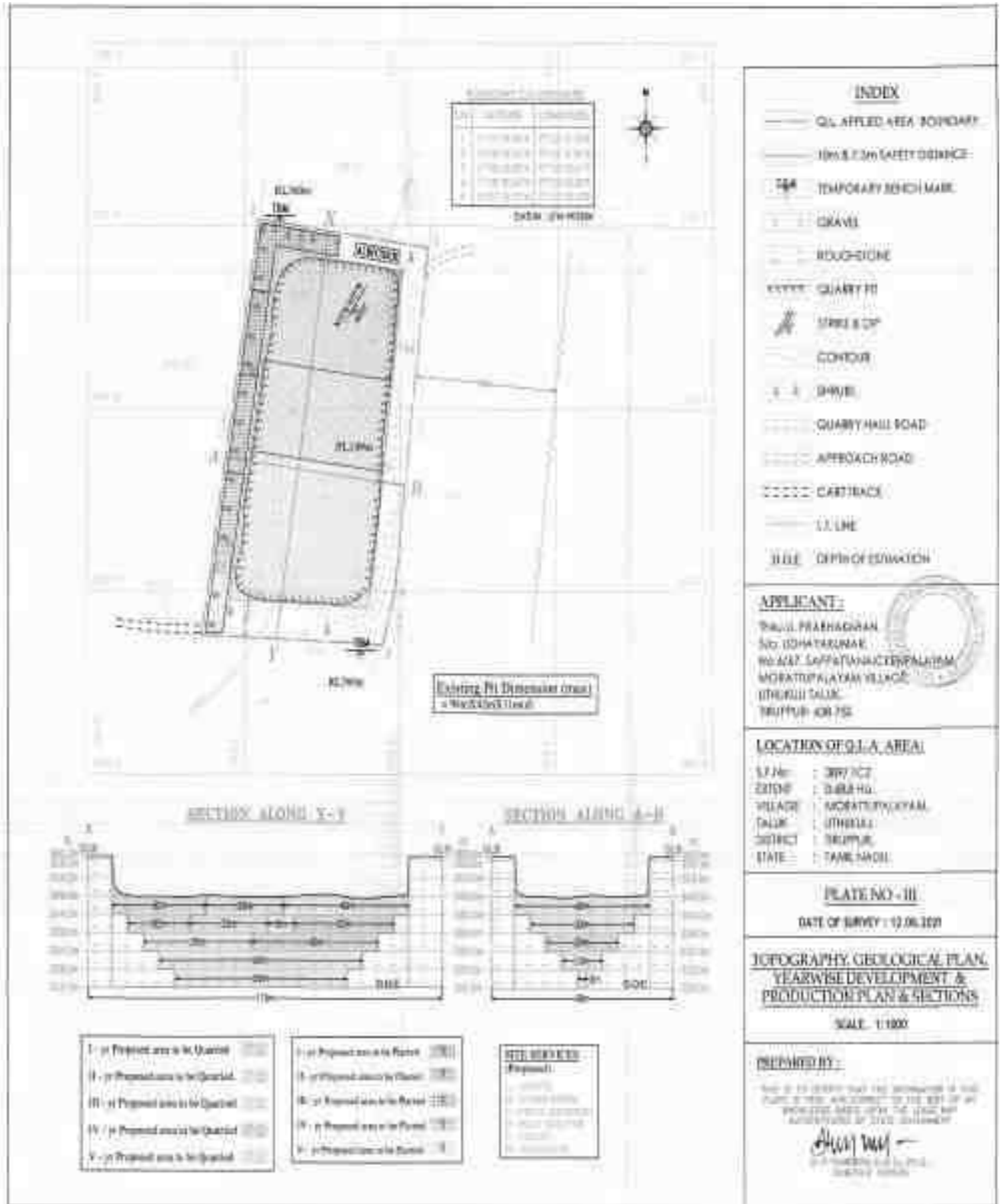


**FIGURE 2.14: TOPOGRAPHY, GEOLOGICAL, YEARWISE DEVELOPMENT PRODUCTION PLAN AND SECTION- P1-P2-P3**

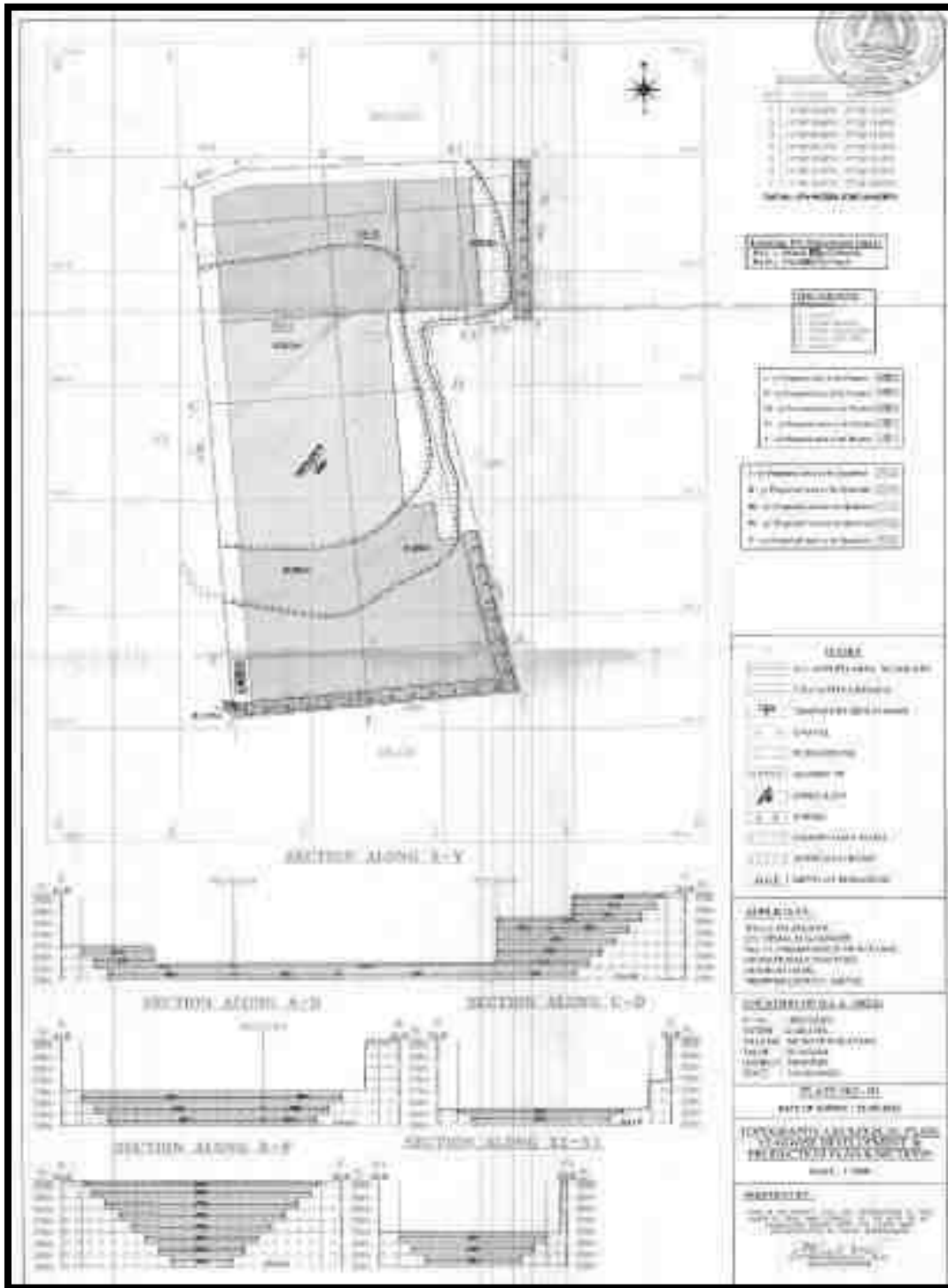
Tmt.V.Revathi- P1



**Thiru.U.Prabhakaran -P2**



**Thiru.S. Rajasekar -P3**



**2.4 Resources and Reserves of the Cluster quarries**

The available mineable reserves are calculated after leaving necessary safety distances prescribed in the Precise area communication letter.

**TABLE 2.7: AVAILABLE GEOLOGICAL RESOURCES OF PROPOSED PROJECTS- P1- P2-P3**

Description	P1		P2		P3	
	Rough Stone quarry	Gravel	Rough Stone quarry	Gravel	Rough Stone quarry	Gravel
Geological Resource	3,26,788m <sup>3</sup>	7,820m <sup>3</sup>	7,54,307m <sup>3</sup>	2,340 m <sup>3</sup>	4,10,685m <sup>3</sup>	9,166m <sup>3</sup>
Mineable Reserves	1,41,283m <sup>3</sup>	4,860m <sup>3</sup>	48,125m <sup>3</sup>	-	1,63,614m <sup>3</sup>	6,052
Proposed production for five years	1,41,283m <sup>3</sup>	4,860m <sup>3</sup>	48,125m <sup>3</sup>	-	1,63,614m <sup>3</sup>	6,052

Source: Approved Mining Plan

**TABLE 2.8: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P1**

YEAR	ROUGH STONE QUARRY (m <sup>3</sup> )	GRAVEL (m <sup>3</sup> )
I	23654	2340
II	29962	1260
III	31212	1260
IV	32995	-
V	23460	-
<b>TOTAL</b>	<b>1,41,283</b>	<b>4,860</b>

Source: Approved Mining Plan

**TABLE 2.9: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P2**

YEAR	ROUGH STONE QUARRY (m <sup>3</sup> )	GRAVEL (m <sup>3</sup> )
I	9750	-
II	9500	-
III	9920	-
IV	9880	-
V	9075	-
<b>TOTAL</b>	<b>48,125</b>	<b>-</b>

Source: Approved Mining Plan

**TABLE 2.10: YEAR-WISE PROPOSAL FOR FIRST FIVE YEARS PRODUCTION PLAN-P3**

YEAR	ROUGH STONE QUARRY (m <sup>3</sup> )	GRAVEL (m <sup>3</sup> )
I	32,889	6,052
II	35,750	-
III	31,950	-
IV	31,115	-
V	31,910	-
<b>TOTAL</b>	<b>1,63,614</b>	<b>6052</b>

### Disposal of Waste

In the entire cluster quarries no waste is anticipated, quarried out materials (Rough stone and Gravel) will be utilized (100%).

### Conceptual Mining Plan/ Final Mine Closure Plan

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.

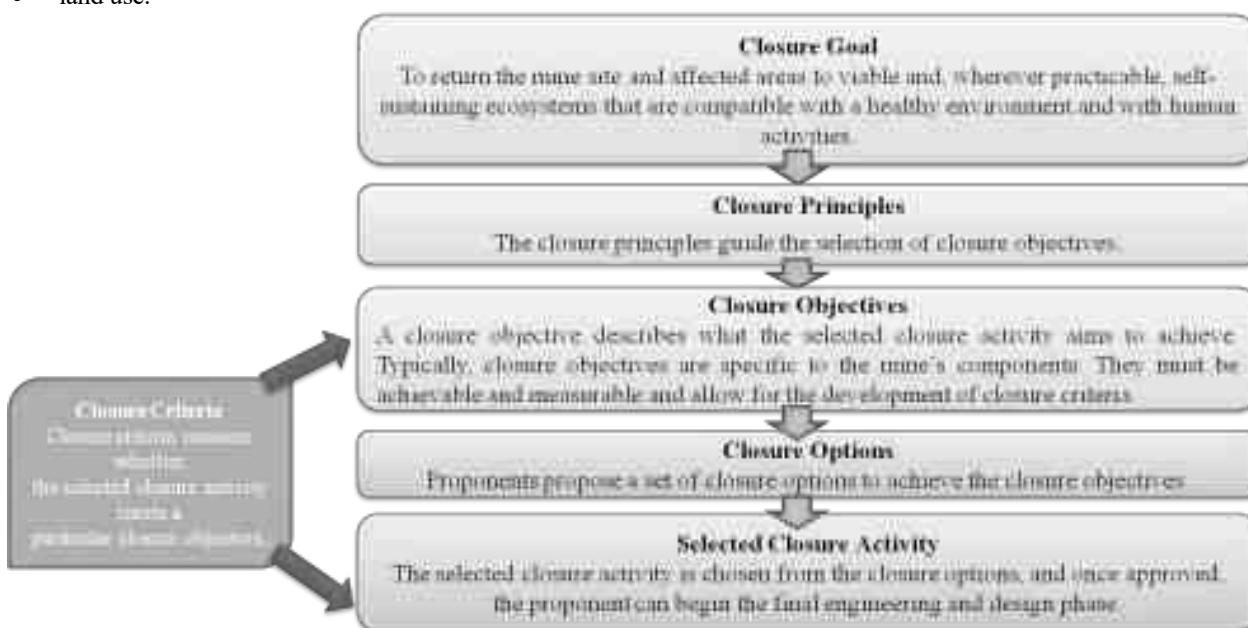


**TABLE 2.11: ULTIMATE PIT DIMENSIONS- P1- P2-P3**

Code	Length (Max) (m)	Width (Max) (m)	Depth (Max) (m)
P1	121	169	30m
P2	94	42	36 m
P3	Pit-I 65	115	37m Bgl
	Pit-II 163	87	

Source: Approved Mining Plan

- At the end of life of mine, the excavated mine pit / void will act as artificial reservoir for collecting rain water and helps to meet out the demand or crises during drought season.
- After mine closure the greenbelt developed along the safety barrier and top benches and temporary water reservoir will enhance the ecosystem
- Mine Closure is a process of returning a disturbed site to its natural state or which prepares it for other productive uses that prevents or minimizes any adverse effects on the environment or threats to human health and safety.
- The principal closure objectives are for rehabilitated mines to be physically safe to humans and animals, geo-technically stable, geo-chemically non-polluting/ non-contaminating, and capable of sustaining an agreed post-mining land use.
- land use.



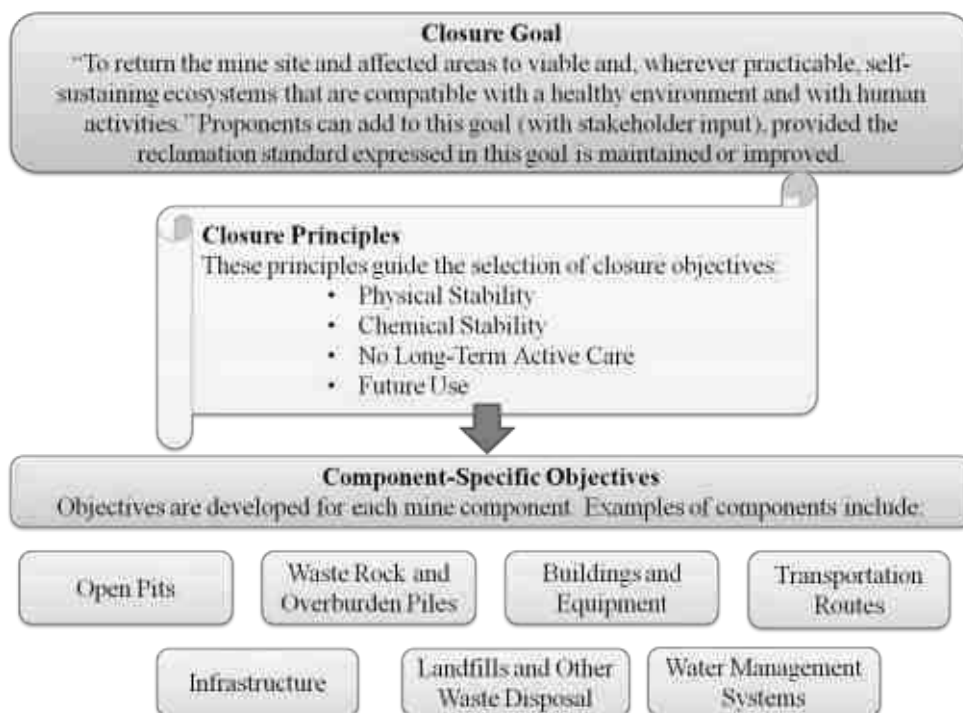
**Closure Objectives**

- Access to be limited, for the safety of humans and wildlife.
- The open pit mine workings and pit boundary are physically and geo-technically stable.
- Water quality in flooded pits is safe for humans, aquatic life, and wildlife.
- Discharge of contaminated drainage has been minimized and controlled.
- Original or desired new surface drainage patterns have been established.
- For flooded pits, in-pit aquatic habitat has been established where practical and feasible.
- Emergency access and escape routes from flooded pits for humans and wildlife are in place.
- Dust levels are safe for people, vegetation, aquatic life, and wildlife.

**Closure Planning & Options Considerations in Mine Design –**

- The closure of mine is well planned at the initial stage of planning & design consideration by the internal and external stake holders

- Construction of 2m height bund all along the mine pit boundary and ensure its stability all time & construction of garland drain along the natural slope to avoid sliding and collection of soil to the pit & surface runoff during rainfall
- After complete exploitation of mineral, the lowest bench foot wall side will be maintained as plain surface without any sump pits to avoid any accidents
- All the sharp edges will be dressed to smoother face before the closure of mine and ensure no loose debris on hanging wall side
- There is a river on southern side of the project area. The river will not be hindered by any of mine closure activities
- The project proponent as a part of social responsibilities assures to supply the stored mine pit water to the nearby villages after effective treatment process as per the standards of TNPCB & TWAD
- Native species will be planted in 3 row patterns on the boundary barriers and 1<sup>st</sup> bench, a full-time sentry will be appointed at the gate to prevent inherent entry of public & cattle.
- The access road to the quarry will be cut-off immediately after the closure
- The layout design shall be prepared and get approved from Department of Geology and Mining.
- The proponent is instructed to construct as per the layout approved
- Physical and chemical stability of structures left in place at the site, the natural rehabilitation of a biologically diverse, stable environment, the ultimate land use is optimized and is compatible with the surrounding area and the requirements of the local community, and taking the needs of the local community into account and minimizing the socio-economic impact of closure
- There will be a positive change in the environmental and ecology due to the mine closure



### Post-Closure Monitoring –

The purpose of post-closure monitoring with respect to open pit mine workings is to ensure the attainment of closure objectives.

- Monitor physical and geotechnical stability of remnant pit walls.
- Monitor the ground regime in pit walls to confirm achievement of design objectives.
- Monitor water level in pit to confirm closure objectives regarding fish, fish habitat, and wildlife safety are being achieved.
- Sample water quality and quantity at controlled pit discharge points.
- Identify and test unanticipated areas where water management is an issue.

- Inspect integrity of barriers such as berms & fences.
- Monitor wildlife interactions with barriers to determine effectiveness.
- Inspect aquatic habitat in flooded pits where applicable.
- Monitor dust levels.

**TABLE 2.12: MINE CLOSURE BUDGET-P1**

ACTIVITY		YEAR					RATE	AMOUNT (INR)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	20	20	20	20	20	@100 Rs Per sapling	Rs.10,000/-
	Cost	2000	2000	2000	2000	2000		Rs.20,000/-
Plantation cost in the quarried out top benches, approach road and panchayat road	Nos.	40	40	40	40	40		Rs.20,000/-
	Cost	4000	4000	4000	4000	4000		
Wire Fencing (In Mtrs) 480		1,44,000	-	-	-	-	@300 Rs Per Meter	Rs.1,44,000/-
Garland drain (In Mtrs) 400		1,20,000	-	-	-	-	@300 Rs Per Meter	Rs.1,20,000/-
<b>TOTAL</b>								<b>Rs.2,94,000/-</b>

**TABLE 2.13: MINE CLOSURE BUDGET-P2**

ACTIVITY		YEAR					RATE	COST (Rs.)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	20	20	20	20	20	@100 Rs Per sapling	10,000/-
	Cost	2000	2000	2000	2000	2000		10,000/-
Plantation in the approach road and nearby village road	Nos.	20	20	20	20	20		10,000/-
	Cost	2000	2000	2000	2000	2000		
Wire Fencing (In Mtrs) 320 Mtrs		96000	-	-	-	-	@300 Rs Per Meter	96,000/-
Garland drain (In Mtrs) 250 Mtrs		75000	-	-	-	-	@300 Rs Per Meter	75,000/-
<b>TOTAL</b>								<b>1,91,000/-</b>

Source: Proposed by FAE's and EC

**TABLE 2.14: MINE CLOSURE BUDGET-P3**

ACTIVITY		YEARS					RATE	COST (Rs.)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	30	30	30	30	30	@200 Rs Per sapling	30,000/-
	Cost	6000	6000	6000	6000	6000		30,000/-
Plantation in the quarried out top benches	Nos.	-	-	-	75	75		30,000/-
	Cost	-	-	-	15000	15000		
Plantation in the approach road and nearby village road	Nos.	100	-	-	-	-	20,000/-	
	Cost	20000	-	-	-	-		
Wire Fencing (In Mtrs) 450 Mtrs		135000					@300 Rs	1,35,000/-

Garland Drain (In Mtrs) 300 Mtrs	90000	Per Meter	90,000/-
TOTAL			3,05,000/-

## 2.5 Method of Mining

The method of mining is common for all the proposed projects – The method of mining is Opencast Mechanized Mining Method is being proposed by formation of 5.0-meter height bench with a bench width not less than the bench height. However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act – 1952.

The top layer of overburden (Gravel) will be Excavate directly by Hydraulic Excavators and loaded into tippers directly and sold to needy customers. The Rough Stone is a batholith formation and the splitting of rock mass of considerable volume from the parent rock mass will be carried out by deploying jackhammer drilling and Slurry Explosives will be used for blasting. Hydraulic Excavators attached with Rock Breakers unit will be deployed for breaking large boulders to required fragmented sizes to avoid secondary blasting and hydraulic excavators attached with bucket unit will be deployed for loading the Rough Stone into the tippers and then the stone is transported from pithead to the nearby crushers.

### 2.5.1 Drilling

Drilling will be carried out as per parameters given below: -

Spacing – 1.2m, Burden –1.0, Depth of hole - 1.5m

### 2.5.2 Blasting

Blasting will be done as per details below: -

- Controlled blasting parameter: -

Spacing – 1.2m

Burden – 1.0 m

Depth of hole – 1.5 m

Charge per hole – 0.5Kg

Powder factor – 6.0 tonnes/kg

Dia of hole – 32 mm

Details of blasting design and parameters are discussed in approved mining plan.

No of Holes to be drilled per day: -

Volume of Rough Stone will be excavated from one hole	=	3 Tonnes
Total Volume from three proposed quarries	=	3,53,022m <sup>3</sup>
	=	3,53,022/5
	=	70,604/300
	=	235* 2.6
	=	612 Tonnes per day
Therefore, Number of Holes per day	=	612/3
	=	204 Holes per day (for 3 Quarries)

### Type of Explosives to be used –

Slurry explosives (An explosive material containing substantial portions of a liquid, oxidizers, and fuel, plus a thickener), NONEL / Electric Detonator & Detonating Fuse

## 2.5.3 Extent of Mechanization

TABLE 2.15 PROPOSED MACHINERY DEPLOYMENT P1-P3

PROPOSAL – P1				
S.NO.	TYPE	NOS	SIZE/CAPACITY	MOTIVE POWER

1	Jack hammers	4	1.2m to 2.0m	Compressed air
2	Compressor	1	400psi	Diesel Drive
3	Excavator with Bucket / Rock Breaker	1	300 HP	Diesel Drive
4	Tippers	1	20 Tonnes	Diesel Drive
<b>PROPOSAL – P2</b>				
<b>S.NO.</b>	<b>TYPE</b>	<b>NOS</b>	<b>SIZE/CAPACITY</b>	<b>MOTIVE POWER</b>
1	Jack hammers	2	1.2m to 2.0m	Compressed air
2	Compressor	1	400psi	Diesel Drive
3	Excavator with Bucket / Rock Breaker	1	300 HP	Diesel Drive
4	Tippers	1	20 Tonnes	Diesel Drive
<b>PROPOSAL – P3</b>				
<b>S.NO.</b>	<b>TYPE</b>	<b>NOS</b>	<b>SIZE/CAPACITY</b>	<b>MOTIVE POWER</b>
1	Jack hammers	5	1.2m to 2.0m	Compressed air
2	Compressor	1	400psi	Diesel Drive
3	Excavator with Bucket / Rock Breaker	1	300 HP	Diesel Drive
4	Tippers	3	20 Tonnes	Diesel Drive

Source: Approved Mining Plan of the respective projects.

## 2.6 General Features

### 2.6.1 Existing Infrastructures

Infrastructures like Mine office, Temporary Rest shelters for workers, Latrine and Urinal Facilities are available in the Existing quarries and the same infrastructure as per the Mine Rule will be arranged after the grant of quarry lease in the proposed quarries.

### 2.6.1 Drainage Pattern

The general drainage pattern of the area is dendritic. There are no streams, canals or water bodies crossing within the project area, hence there is no requirement of stream or canals diversion in the near future.

### 2.6.2 Traffic Density

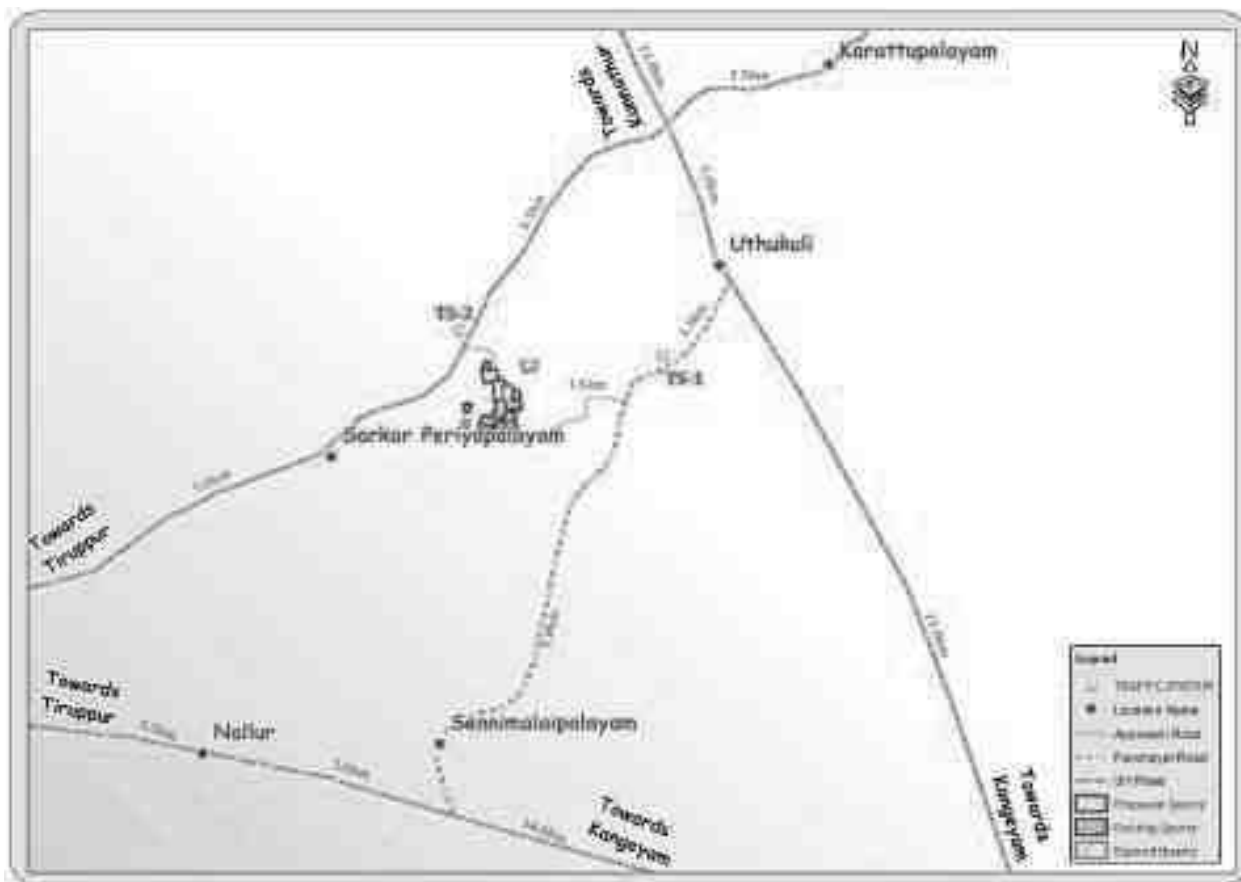
Traffic density measurements were performed as per IRC 1960 Guidelines at three locations based on the transportation route. Traffic density measurement were made continuously for 24 hours by visual observation and counting of vehicles under three categories, viz., heavy motor vehicles, light motor vehicles and two/three wheelers. As traffic densities on the roads are high, two skilled persons were deployed simultaneously at each station during each shift- one person on either direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken.

**TABLE 2.16 – TRAFFIC SURVEY LOCATION'S**

Station code	Station location	Distance and Direction	Type of Road
TS1	Uthukuli-Sennimalaipalayam Road	1.5km- NE	Panchayat Road
TS2	Tiruppur-Vijayamangalam Road	800m-NW	SH Road

Source: On-site monitoring by GEMS FAE & TM

**FIGURE 2.15: TRAFFIC SURVEY LOCATIONS & TRANSPORTATION ROUTE MAP**



(Source: Survey of India Toposheet)

**TABLE 2.17 – EXISTING TRAFFIC VOLUME**

Station code	HMV (Hourly Average)		LMV hourly average		2/3 Hourly average		Total PCU per hour
	No	PCU	No	PCU	No	PCU	
TS1	55	165	50	50	75	75	290
TS2	150	300	100	100	150	75	475

Source: On-site monitoring by GEMS FAE & TM

- PCU conversion factor for HMV (Trucks and Bus) = 3, LMV (Car, Jeep and Auto) = 1 and 0.5 for Motor Vehicles (2/3 Wheelers)

**TABLE 2.18 – ANTICIPATED TRAFFIC DUE TO THIS PROPOSED PROJECT**

Transportation of Rough stone per day		
Capacity of trucks	Cumulative Trips	Volume in PCU
10/20 tonnes	30	90

Source: Anticipated based on Approved Mining Plan Production

**TABLE 2.19 – SUMMARY OF TRAFFIC VOLUME**

Route	Existing traffic value in PCU	Incremental traffic from the quarry in PCU	Total traffic volume	Hourly Capacity in PCU as per IRC guidelines
TS1	290	90	380	1200
TS2	475	90	565	1500

Source: On-site monitoring analysis summary by GEMS FAE & TM

As per the IRC 1960 this existing road can handle 1,200 PCU in hour and Major district road can handle 1500 PCU in hour hence there will not be any conjunction due to this transportation.

### 2.6.3 Mineral Beneficiation and Processing

There is no proposal for the mineral processing or ore beneficiation in this project

### 2.6.4 Existing Infrastructure

It is a Existing quarry, no infrastructural facility available within the project area. The infrastructural facilities to be made after the start of the quarrying operations will be prepared outside limit as per the rules and safe distance to be adopted.

### 2.6.2 Drainage Pattern

The drainage pattern of the area is dendritic – sub dendritic.

## 2.7 Project Requirement

### 2.7.1 Water Source & Requirement

Detail of Total water requirements in KLD as given below:

**TABLE 2.20 – WATER REQUIREMENT FOR THE CLUSTER PROJECT -P1-P2-P3**

PROPOSAL – P1		
*Purpose	Quantity	Source
Domestic & Drinking purpose	0.2KLD	From existing, bore wells and drinking water will be sourced from Approved water vendors.
Dust Suppression	1.0KLD	From Existing bore wells from nearby area
Green Belt	0.3KLD	From Existing bore wells from nearby area
<b>Total</b>	<b>1.5 KLD</b>	
PROPOSAL – P2		
*Purpose	Quantity	Source
Domestic & Drinking purpose	0.5KLD	From Existing, bore wells and drinking water will be sourced from Approved Water vendors.
Dust Suppression	1.0KLD	From Existing bore wells from nearby area
Green Belt	0.5KLD	From Existing bore wells from nearby area
<b>Total</b>	<b>2.0 KLD</b>	
PROPOSAL – P3		
*Purpose	Quantity	Source
Dust Suppression	0.3KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
Green Belt	1.0KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
Sanitation & Drinking	0.7KLD	Approved water vendors
<b>Total</b>	<b>2.0 KLD</b>	

Source: Prefeasibility Report

About 50% water will be required for the suspension of the dust, Water shall be obtained from accumulated rainwater/seepage water in quarry pits. Packaged Drinking Water is available from the nearby approved water vendors.

### 2.7.2 Power and Other Infrastructure Requirement

The project's does not require power supply for the quarry operation. The quarrying activity is proposed during day time only (General Shift 8 AM – 5 PM, Lunch Break 1 PM – 2 PM). Electricity for use in office and other internal infrastructure will be obtained from TNEB. For the quarrying operation like compressor for drilling Diesel will be utilized.

The temporary infrastructures such as Mine Office, First Aid Room, Rest Shelter etc., will be constructed within the project area before commencing the quarry operation. No workshops are proposed inside the project area hence there will not be any process effluent generation from the project area. Domestic effluent from the mine office

will be discharged to septic tank and soak pit. There is no toxic effluent expected to generate in the form of solid, liquid or gaseous form hence there is no requirement of waste treatment.

### 2.7.3 Fuel Requirement

High speed Diesel (HSD) will be used for mining machineries. Diesel will be brought from nearby Fuel Stations.

#### For Rough stone and gravel: P1

The quarry works restricted to one general shift during day time only. **No electricity is needed for quarry operation etc** as mainly diesel operated mining machinery is used for quarrying. However, the electricity will be required for crusher plant, pumping of water and for administrative building & rest shelters. Besides, standby generator will be available to meet the emergency power requirement of the quarry.

#### For Rough stone and gravel: P2

Per hour Excavator will consume	= 16 liters / hour
Per hour Excavator will excavate	= 20m <sup>3</sup> of Rough stone
Rough stone	= 48,125/20 = 2,406 hours
Diesel consume	= 2,406 hours x 16 liters
Total diesel consumption	= <b>38,496</b> Liters of HSD will be utilized for rough stone

Total diesel consumption is around **38,496 Liters** of HSD for the entire period of life.

#### **Gravel: P3**

Per hour Excavator will consume	= 10liters / hour
Per hour Excavator will excavate	= 60m <sup>3</sup> of Gravel
Gravel quantity	= 6052/60 = 101hours
Diesel consume	= 101hours x 10liters
Total diesel consumption	= 1,010Liters of HSD will be utilized for Gravel

#### **Rough stone: P3**

Per hour Excavator will consume	= 16 liters / hour
Per hour Excavator will excavate	= 20m <sup>3</sup> of Rough stone
Rough stone quantity	= 1,63,614/20 = 8,181hours
Diesel consume	= 8,181hours x 16 liters
Total diesel consumption	=1,30,896Liters of HSD will be utilized for Rough stone
Total diesel consumption	= 1,31,906liters of HSD will be utilized for entire project life.

### 2.7.4 Employment Requirement:

The skilled, competent qualified statutory persons will be engaged for quarrying operation, preference will be given to the local community.

**TABLE 2.21: EMPLOYMENT POTENTIAL FOR PROPOSED QUARRIES -P1-P2-P3**

Identification code	Employment in Nos
P1	18
P2	14
P3	23
<b>Total</b>	<b>55</b>

A total of 55people will get employment due to these 3quarries in the cluster quarries.



### 2.7.5 Project Cost

**TABLE 2.22 – PROJECT COST OF PROPOSED PROJECTS P1-P2-P3**

Identification code	Project Cost
P1	Rs. 50,54,000/-
P2	Rs. 24,81,000/-
P3	Rs. 61,69,000/-
<b>Total</b>	<b>Rs. 1,37,04,000/-</b>

Source: Approved Mining Plan & Prefeasibility Report of the respective projects

### 2.8 Project Implementation Schedule

The commercial operation will commence after the grant of Environmental Clearance. CTO will be obtained from the Tamil Nadu State Pollution Control Board. The conditions imposed during the Environmental Clearance will be compiled before the start of mining operation.

**TABLE 2.23 – EXPECTED TIME SCHEDULE FOR THE PROPOSED QUARRIES**

S. No	Particulars lease execution	Time schedule (in month)					Remarks if any
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	
1	Environmental Clearance						
2	Consent to operate						Production start period

Source: Anticipated based on Timelines framed in EIA Notification & CPCB Guidelines

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## CHAPTER – 3: DESCRIPTION OF ENVIRONMENT

### 3.0 General

This chapter presents a regional background to the baseline data at the very onset, which will help in better appreciation of micro-level field data, generated on several environmental and ecological attributes of the study area. The baseline status of the project environment is described section wise for better understanding of the broad-spectrum conditions. The baseline environment quality represents the background environmental scenario of various environmental components such as Land, Water, Air, Noise, Biological and Socio-economic status of the study area. Field monitoring studies to evaluate the base line status of the project site were carried out covering Mar 2022 to May 2022 with CPCB guidelines. Environmental data has been collected with reference to cluster quarries by KGS Enviro Laboratory Private Limited, Approved by NABL Accredited Testing Laboratory ISO/IEC 17025:2017 for the below attributes-

- Land
- Water
- Air
- Noise
- Biological
- Socio-economic status

#### Study Area

An area of 10 km radius (aerial distance) from the periphery of the cluster is considered for EIA study. The data collection has been used to understand the existing environment scenario around the cluster quarries against which the potential impacts of the project can be assessed. The study area has been divided into two zones viz **core zone** and **buffer zone** where core zone is considered as cluster and buffer zone taken as 10km radius from the periphery of the Cluster. Both Core zone and Buffer zone is taken as the study area.

#### Study Period

The baseline study was conducted during the summer season i.e. Mar 2022 to May 2022.

#### Study Methodology

Baseline data was generated for various environmental parameters including Land, Soil, Water (surface and groundwater), Air, Noise, Ecology & Biodiversity and Socio-economic status to determine the quality of the prevailing environmental settings. A MoEF accredited Laboratory was used for generating the baseline data.

1. The project area (Core zone) was surveyed in detail with the help of Total Station survey instrument and the boundary pillars were picked up with the help of handheld GPS. The boundary coordinates were superimposed on the satellite imagery to understand the relief of the area, besides Land use pattern of the area was studied through the Bhuvan (ISRO).
2. Soil samples were collected and analysed for relevant physico-chemical characteristics, exchangeable cations, nutrients & micro nutrients etc., in order to assess the impact of mining activities and proposed greenbelt development.
3. Ground water samples were collected during the study period from the open wells and bore wells, while surface water was collected from river and lake in the buffer zone. The samples were analysed for parameters necessary to determine water quality (based on IS: 10500:2012 criteria) and those which are relevant from the point of view of environmental impact of the proposed quarries.
4. A meteorological station was setup in Vadapudur village. Wind speed, Wind direction, Dry and wet bulb temperature, Relative humidity, Rainfall with cloud cover and general weather conditions were recorded throughout the study period.

5. In order to assess the Ambient Air Quality (AAQ), samples of Ambient Air were collected by installation of Respiratory Dust Samplers (RDS) for Fugitive dust, PM<sub>10</sub> and SO<sub>2</sub>, NO<sub>x</sub> with gaseous attachments & Fine Dust Samplers (FDS) for PM<sub>2.5</sub> and other parameters as per NAAQ norms and analysed for primary air pollutants to work out the existing status of air quality
6. The noise level measurements were also made at various locations in different intervals of time with the help of sound level meter to establish the baseline noise levels in the impact zone
7. Baseline biological studies were carried out to assess the ecology of the study area to study the existing flora and fauna pattern of the area
8. Socio-Economic survey was conducted at village and household level in the study area to understand the present socio-economic conditions and assess the extent of impact due to the proposed mining project

The sampling methodologies for the various environmental parameters required for the study, frequency of sampling, method of samples analysis, etc., are given below Table 3.1.

**TABLE 3.1 – ENVIRONMENTAL MONITORING ATTRIBUTES AND FREQUENCY OF MONITORING**

Attribute	Parameters	Frequency of Monitoring	No. of Locations	Protocol
Land-use Land cover	Land-use Pattern within 10 km radius of the study area	Data's from census handbook 2011 and from the satellite imagery	Study Area	Satellite Imagery Primary Survey
*Soil	Physio-Chemical Characteristics	Once during the study period	6 (2 core & 4 buffer zone)	IS 2720 Agriculture Handbook - Indian Council of Agriculture Research, New Delhi
*Water Quality	Physical, Chemical and Bacteriological Parameters	Once during the study period	6 (2 surface water & 4 ground water)	IS 10500& CPCB Standards
Meteorology	Wind Speed Wind Direction Temperature Cloud cover Dry bulb temperature Rainfall	1 Hourly Continuous Mechanical/Automatic Weather Station	1	Site specific primary data & Secondary Data from IMD Station
*Ambient Air Quality	PM <sub>10</sub> PM <sub>2.5</sub> SO <sub>2</sub> NO <sub>x</sub> Fugitive Dust	24 hourly twice a week (Mar 2022 to May 2022)	7 (2 core & 5 buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient Noise	Hourly observation for 24 Hours per location	7 (2 core & 5 buffer zone)	IS 9989 As per CPCB Guidelines
Ecology	Existing Flora and Fauna	Through field visit during the study period	Study Area	Primary Survey by Quadrate & Transect Study Secondary Data – Forest Working Plan
Socio Economic Aspects	Socio-Economic Characteristics, Population Statistics and Existing Infrastructure in the study area	Site Visit & Census Handbook, 2011	Study Area	Primary Survey, census handbook & need based assessments.

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

\* All monitoring and testing are been carried out as per the Guidelines of CPCB and MoEF & CC.

### 3.1 LAND ENVIRONMENT

The main objective of this section is to provide a baseline status of the study area covering 10km radius around the proposed mine site so that temporal changes due to the mining activities on the surroundings can be assessed in future.

#### 3.1.1 LAND USE/LAND COVER

To study the land use pattern of the core as well as a buffer zone, land use/land cover details have been identified/ maps have been prepared in accordance with the **Standard ToR point no. 4 & 10 Stating:** Point No. 4 All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/ topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

Point No. 10. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted.

Current vintage data of Indian Remote Sensing Satellite Resourcesat1 LIII (False Color Composite) has been used for Land Use / Land Cover study. Satellite image has been procured from National Remote Sensing Centre, Hyderabad.

#### 3.1.2 OBJECTIVE

*The objectives of the LULC study are as follow:*

- ☞ To develop the Land use & Land cover map using land coordinates of the quarry area (Core Zone) and 10 km radius from the quarry site (Buffer area).
- ☞ To Identify and mark the important Land use and Land cover features using the primary and secondary data collected.
- ☞ To evaluate the impacts on existing land use/cover features of the buffer area by the Proposed Project activities.
- ☞ To identify the mitigative measures for the sustainable use of land and to protect the buffer zone from the adverse impacts.

#### **Technical specification of Satellite imagery Data Used:**

Current vintage data of Indian Remote Sensing Satellite RESOURCESAT1 (LISS-III) digital FCC (False Color Composite) has been used for preparation of Land use/ Land cover thematic map of study area. Satellite image has been procured from National Remote Sensing Centre, Hyderabad. Survey of India Toposheet as a reference map on 1:50,000 scale has been used for preparation of base layer data like road, rail network; village for geo-referencing of satellite image.

- ☞ Satellite Image - Resourcesat1-LISSIII, 23.5m Resolution
- ☞ Satellite Data Source - NRSC, Hyderabad
- ☞ Satellite Vintage - 14st July 2020, Swath 141km wide.
- ☞ SOI Toposheet No - 58 -E/08
- ☞ Software Used - ArcGIS 10.8

The satellite image (FCC color 3,2,1) of the buffer zone is given in 3.1

The spatial resolution and the spectral bands in which the sensor collects the remotely sensed data are two important parameters for any land use survey. Resourcesat1-LISSIII, 23m Resolution of 23.5m and a 141 km wide swath of the earth in 23.5m resolution covering wide areas the data is collected in 4 visible bands namely band number and Resolution.

**TABLE 3.2: Resourcesat1-LISSIII SENSOR characteristics**

Band Number	Description	Wavelength	Resolution
Band 1	Green	0.52-0.59 $\mu\text{m}$	23.5 meters
Band 2	Red	0.62-0.68 $\mu\text{m}$	23.5meters
Band 3	NIR	0.77-0.86 $\mu\text{m}$	23.5meters
Band 4	SWIR	1.55-1.70 $\mu\text{m}$	70meters

Source: NRSC, Hyderabad

### 3.1.3 METHODOLOGY

The land use / land cover map is prepared by adopting the interpretation techniques of the Satellite image in combination with collateral data such as Survey of India topographical maps. Image classification is done by using visual interpretation techniques and digital classification using any of the image processing software. The various activities for preparation of LULC include preprocessing, rectification, image enhancements and classifying the satellite data for assessing the change in land use land cover due to proposed developmental activities.

- ☞ Preliminary/primary data collection of the study area
- ☞ Satellite data procurement from NRSC
- ☞ Secondary data collection from authorized bodies
- ☞ Survey of India Toposheet (SOI)
- ☞ Mine Layout
- ☞ Cadastral / Khasra map
- ☞ GPS Coordinates of Lease Boundary
- ☞ Processing of satellite data using ArcGIS 10.8 and preparing the Land Use & Land cover maps (e.g. Plant/Mine area, Existing Quarry, Settlements, Agriculture land, Non agriculture land, water bodies, etc.) by Digital Image Processing (DIP) technique.
- ☞ Geo-Referencing of the Survey of India Toposheet
- ☞ Geo-Referencing of satellite Imagery with the help of Geo-Referenced Toposheets
- ☞ Enhancement of the Satellite Imagery
- ☞ Base Map layer creation (Roads, Railway, Village Names, and other Secondary data, etc.)
- ☞ Data analysis and Classification using Digital interpretation techniques.
- ☞ Ground truth studies or field Verification.
- ☞ Error fixing / Reclassification
- ☞ Final Map Generation.

The land use/Land cover Map of the buffer zone is given in 3.3. Land Use Pattern of the Buffer Zone (Study area) Details of the same are given in Table - 3.3 and the map is shown in Figure - 3.3.

**TABLE: 3.3 LAND USE / LAND COVER DETAILS OF STUDY AREA**

S.No	CLASSIFICATION	AREA_HA	AREA_%
<b>BUILTUP</b>			
1	URBAN	4205.97	12.36
2	RURAL	1839.21	5.40
3	MINING	330.96	0.97
<b>AGRICULTURAL LAND</b>			
4	CROP LAND	18809.00155	55.27
5	PLANTATION	1645.96	4.84
6	FALLOW LAND	5878.12	17.27
<b>BARREN/WASTE LANDS</b>			
7	SCRUB LAND	476.43	1.40
8	RAVINOUS LAND	65.43	0.19
<b>WETLANDS/ WATER BODIES</b>			
9	WATER BODIES/LAKE/RIVER	778.56	2.29

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<b>TOTAL</b>	<b>34029.64</b>	<b>100.00</b>
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Source: Bhuvan, NRSC.

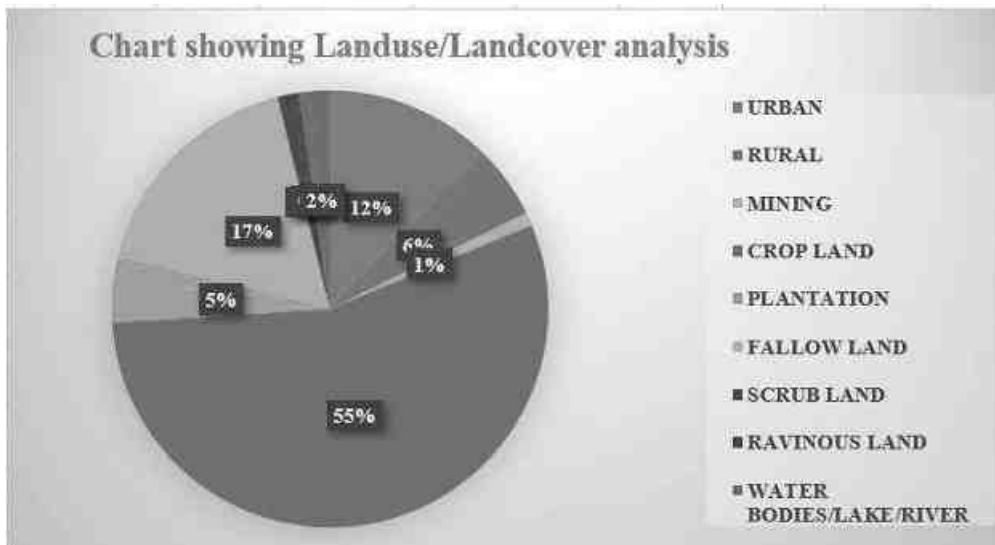
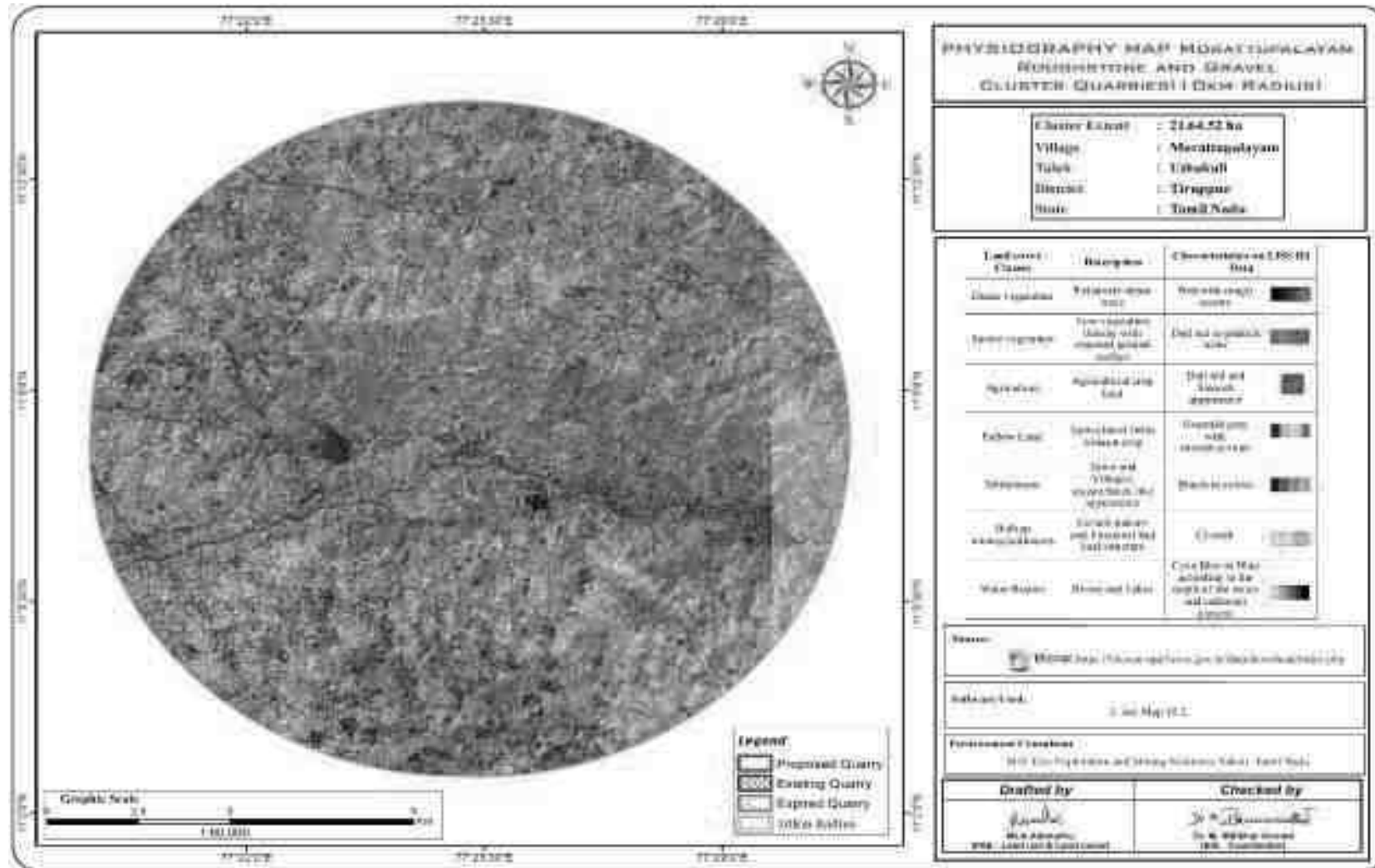
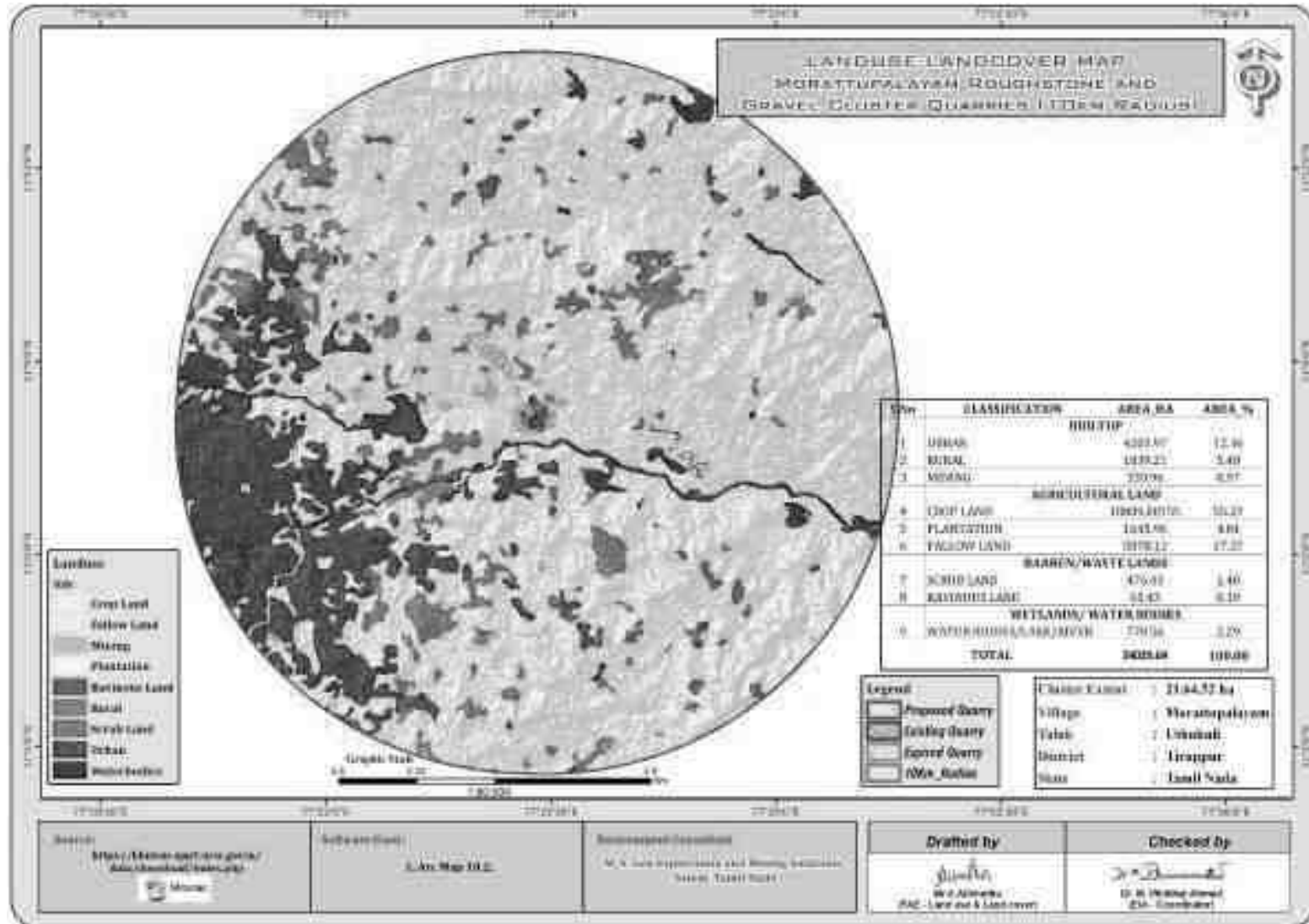


FIGURE 3.1: CHART SHOWING LANDUSE/LANDCOVER ANALYSIS USING LISS III Data

**FIGURE 3.2: MAP SHOWING FALSE COLOR COMPOSITE (3,2,1) SATELLITE IMAGERY OF THE STUDY AREA**



**FIGURE 3.3: LAND USE LAND COVER MAP 10KM RADIUS**





### 3.1.4 Interpretation

- ⊗ The 10 km radius study area mainly comprises of Crop land & Agriculture Plantation land accounting of 55.27% & 4.84% of the total study area. The study area also consists of fallow land of 17.27%.
- ⊗ The buffer zone studied has no ecological sensitive area (National Park, Wildlife Sanctuary, Biosphere Reserve/ etc.).
- ⊗ Water Bodies such as Odai, ponds/ lakes comprise of 2.29% of the total buffer area. There are some River found in the study area like Nallar Stream (150m-SE), Noyyal River (480m-S), of the total study area.
- ⊗ The Scrub land accounts of 1.40%. As per the primary survey, it was observed the scrub land is mainly occupied by the stony waste and left-over domestic waste generated by the nearby areas.
- ⊗ The Ravinous Land means gullied area (Unconsolidated material) covered is about 0.19% in buffer zone.
- ⊗ 0.97% of the total study area is occupied by the mine industries. The area occupied by Mainly Roughstone and gravel of the total buffer area. As also observed within the primary survey, the 10 km buffer area is also occupied by the medium scaled roughstone and small Brick kiln industries also located in the study area.
- ⊗ 17.76% of the area is covered under the Builtup Land including rural area. The nearest village within the 3km from the project site boundary is observed to be villages Morattupalayam, Kullayur, Velliyampalayam and Velampalayam villages etc.

The project site falls under the Roughstone and gravel region. Therefore, the area is appropriate for developing Road development and building etc., it shows that the region has good prospects in the future. Due to proposed Roughstone and gravel quarry in this region, economic condition of locals is expected to be improved directly & indirectly. Hence project will prove to be the best economic proposal for the coming times.

### 3.1.5 Cropping Pattern of the Buffer Zone

The district has a total Geographical area of 367097Ha with net cultivated area of about 165260 Ha. Coconut is the major plantation crop cultivated in an area of about 85831 Ha. The other Agricultural crops cultivated are Millets, Pulses, Oilseeds, Cotton and Sugarcane. Coimbatore is perhaps one of the very few districts in the State which is covered with thick forest (> 20 per cent of the total districts' area). The forests here are abundant in commercially significant trees such as Teak, Sandalwood, Rosewood, Bamboo etc. The cinchona department is raising a cinchona plantation in forests of Pollachi range to jungles of shrubs in Udumalpet. Apart from this, there are one or two tea plantations and coffee plantations.

*Source: TNRTP-Coimbatore DDR, 2019*

### 3.1.6 Topography

The project area is almost plain terrain with gentle gradient towards Southeast – Southwestern side, maximum elevation of the area is 250-300 m above Mean Sea level There are no hilly regions in and around the area.

### 3.1.7 Drainage Pattern of the Area

There are no developed surface drainage channels in the study area. Noyyal, a non-perennial pass 480m-South from the project site. The area is studded with few tanks that serve as the source of drinking water and also their surplus feeds adjoining tanks. The area is mostly dry in all seasons except rainy seasons.

The general drainage pattern of the area is of sub dendritic and dendritic pattern. No prominent water course or nallah is inferred. During rainy season the surface runoff flows in W to E direction. The drainage pattern of the study area is given in Fig. 3.5. The quarrying activity will not hinder the natural flow of rainwater.

### 3.1.8 Environmental Features in the Study Area

There is no Wildlife Sanctuaries, National Park and Archaeological monuments within the study area. No Protected and Reserved Forest area is involved in the project area. Therefore, there will be no need to acquisition/diversion of forest land. The details related to the environment sensitivity around the mine lease area i.e. 10 km radius of the mine lease area, are given in the below Table 3.3.

### 3.1.9 Seismic Sensitivity

The proposed project site falls in the seismic Zone II, low damage risk zone as per BMTPC, Vulnerability Atlas of Seismic zone of India IS: 1893 – 2002. The project area falls in the hard rock terrain on the peninsular shield of south India which is highly stable.

**TABLE 3.3 – DETAILS OF ENVIRONMENT SENSITIVITY AROUND THE PROJECT AREA**

Sl. No	Sensitive Features	Ecological	Name	Arial Distance in km from Mine Lease Boundary
1	National Park / Wild life Sanctuaries		None	Vellode Bird Sanctuary – 27.0 km – NE Anamalai Tiger Reserve– 77.7 km – SW
2	Reserve Forest		None	Vayapadi R.F-10km-NE, Villikaradu R.F-11km-NE Chennimalai R.F-15km-E
3	Tiger Reserve/ Elephant Reserve/ Biosphere Reserve		None	Nil within 10Km Radius
4	Critically Polluted Areas		None	Nil within 10Km Radius
5	Mangroves		None	Nil within 10Km Radius
6	Mountains/Hills		None	Nil within 10Km Radius
7	Notified Sites	Archaeological	None	Kodumanal Archaeological Excavation – 11.5 Km – South East
8	Defence Installation		None	Nil within 10Km Radius

Source: Survey of India Toposheet, Village Cadastral Map & Google Earth/Maps

**TABLE 3.4 – WATER BODIES WITHIN THE CLUSTER FROM PROPOSED QUARRIES**

P1

S.No	NAME	DISTANCE & DIRECTION
1	Nallar Stream	570m SW
	Noyyal River	970m South
2	Manikapuram Kulam	2.5km SE
3	Koolipalayam Reservoir	3.5km SW
4	Avarakkarai Stream	4.8km North
5	Kattagani Kulam	7.5km SE

P2

S.No	NAME	DISTANCE & DIRECTION
1	Nallar Stream	150m SE
	Noyyal River	480m South
2	Manikapuram Kulam	1.8km SE
3	Koolipalayam Reservoir	3.3km SW
4	Avarakkarai Stream	5.3km North
5	Kattagani Kulam	7.0km SE

Source: Village Cadastral Map and Field Survey and Toposheet

S.No	NAME	DISTANCE & DIRECTION
1	Nallar Stream	500m SW
	Noyyal River	850m South
2	Manikapuram Kulam	2.2km SE
3	Koolipalayam Reservoir	3.3km SW
4	Avarakkarai Stream	5.0km North
5	Kattagani Kulam	7.5km SE

Source: Village Cadastral Map and Field

### 3.1.6 Soil Environment

Soil quality of the study area is one of the important components of the land environment. The composite soil samples were collected from the study area and analysed for different parameters. The locations of the monitoring sites are detailed in Table 3.4 and Figure 3.3.

**TABLE 3.5 – SOIL SAMPLING LOCATIONS**

S. No	Location Code	Monitoring Locations	Distance & Direction	Coordinates
1	S-1	Core Zone	Project Area	11° 8'3.54"N 77°25'22.44"E
2	S-2	Core Zone	Project Area	11° 8'22.12"N 77°25'16.47"E
3	S-3	Morattupalayam	2.5km NW	11° 9'31.58"N 77°24'36.66"E
4	S-4	Mudhalipalayam	4.3km SE	11° 5'53.45"N 77°26'24.62"E
5	S-5	Parapalayam	4.8km West	11° 7'36.88"N 77°22'37.48"E
6	S-6	Pappanpalayam	6.5km West	11° 8'8.79"N 77°28'57.74"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

#### The objective of the soil sampling is -

1. To determine the baseline soil characteristics of the study area;
2. To determine the impact of proposed activity on soil characteristics and;

To determine the impact on soil more importantly agriculture production point of view.

#### Methodology –

For studying soil quality, sampling locations were selected to assess the existing soil conditions in and around the proposed quarry site representing various land use conditions. The samples were collected by auger boring into the soil up to 90-cm depth. Six (6) locations were selected for soil sampling on the basis of soil types, vegetative cover, industrial & residential activities including infrastructure facilities, which would accord an overall idea of the soil characteristics. The samples were analysed for physical and chemical characteristics. The sealed samples were sent to laboratory for analysis. The samples were filled in Polythene bags, coded and sent to laboratory for analysis and the details of methodology in respect are given in below Table 3.5.

**TABLE 3.6 – METHODOLOGY OF SAMPLING COLLECTION**

Particulars	Details
Frequency	One grab sample from each station-once during the study period
Methodology	Composite grab samples of the topsoil were collected from 3 depths, and mixed to provide a representative sample for analysis. They were stored in airtight Polythene bags and analysed at the laboratory.

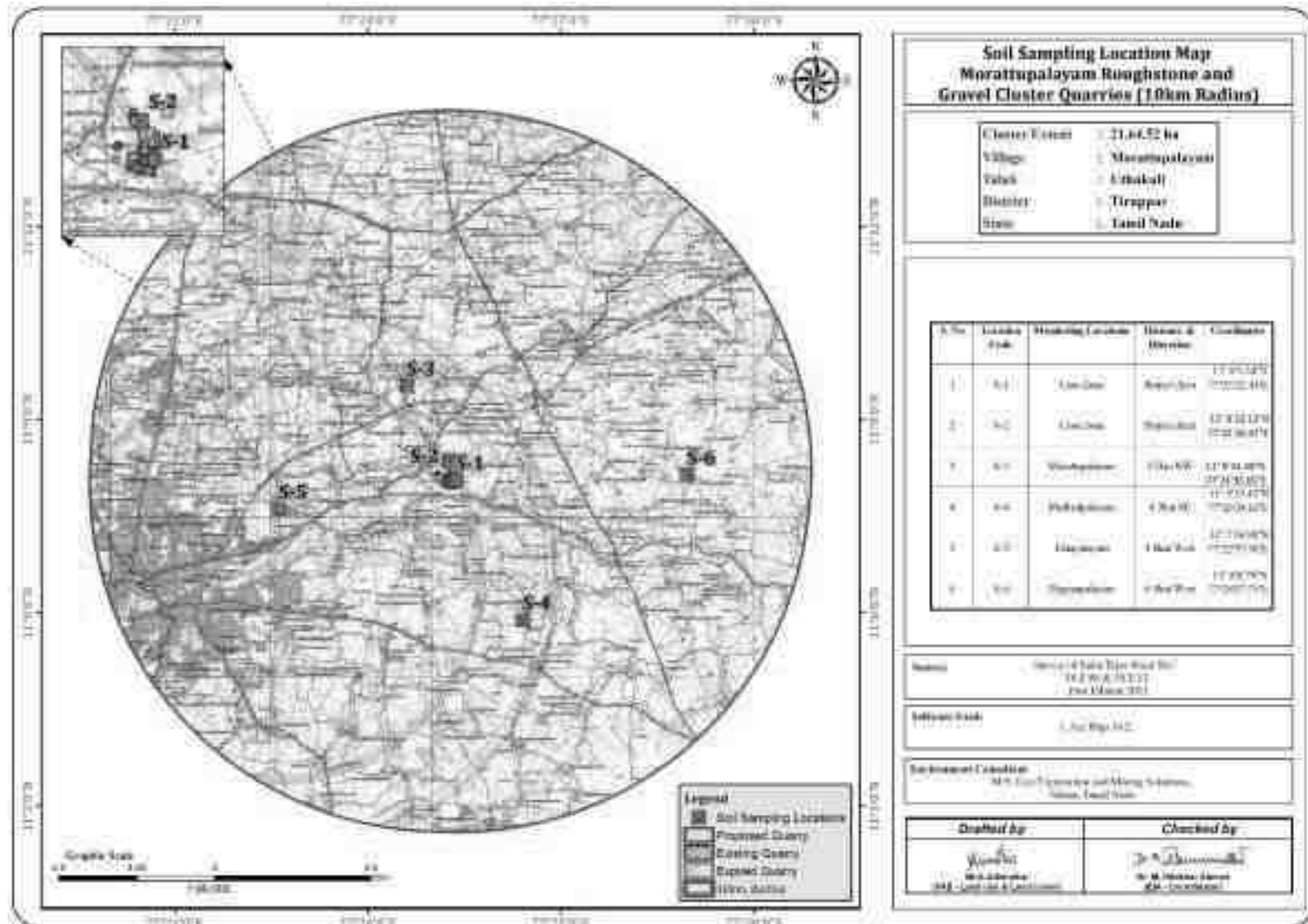
Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited

#### Soil Testing Result –

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The samples were analysed as per the standard methods prescribed in “Soil Chemical Analysis (M.L. Jackson, 1967) & Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India”. The important properties analysed for soil are bulk density, porosity, infiltration rate, pH and Organic matter, kjeldahi Nitrogen, Phosphorous and Potassium. The standard classification of soil and physico-chemical characteristics of the soils are presented below in Table 3.6 & Test Results in Table 3.7.

**FIGURE 3.4: SOIL SAMPLING LOCATIONS AROUND 10 KM RADIUS**



**FIGURE 3.5: SOIL MAP**

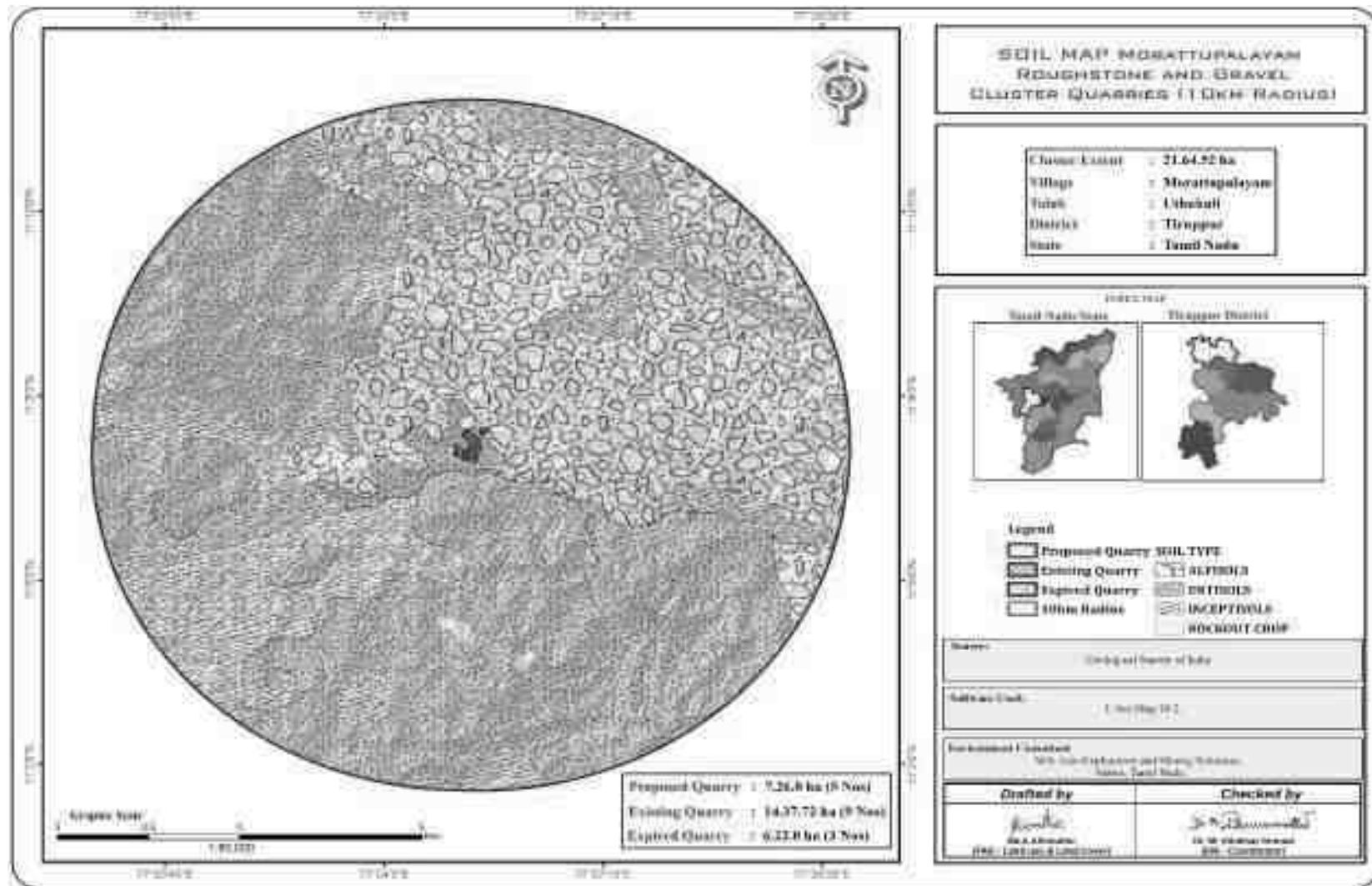


TABLE 3.7 – SOIL QUALITY MONITORING DATA

Parameter		Unit	S-1 Core Zone	S-2 Core Zone	S-3 Morattupalayam	S-4 Mudhalipalayam	S-5 Parapalayam	S-6 Pappapalayam
1	pHat27C	-	7.89	8.20	8.34	7.99	8.41	8.85
2	Electrical Conductivity at 25°C	µs/cm	275	316	292	418	414	459
3	Texture	-	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Clay Loam	Clay Loam
4	Sand	%	34.6	35.1	32.3	37.9	36.4	32.2
5	Slit	%	36.1	31.8	38.6	34.6	35.2	35.9
6	Clay	%	29.3	33.1	29.1	27.5	28.4	31.8
7	Water Holding Capacity	%	44.9	46.6	47.2	50.8	43.4	43.6
8	Bulk Density	g/cc	1.11	1.20	1.24	0.98	0.94	0.70
9	Porosity	%	28.1	27.9	31.4	32.6	40.4	41
10	Exchangeable Calcium (as Ca)	mg/Kg	161	179	138.6	124.7	152	132
11	Exchangeable Magnesium (as Mg)	mg/Kg	22.0	29.5	24.2	30.6	39.8	25.0
12	Exchangeable Manganese (as Mn)	mg/Kg	34	26.5	25.2	38.6	31.8	21.2
13	Exchangeable Zinc as Zn	mg/Kg	0.50	0.29	0.46	0.9	1.01	0.48
14	Available Boron (as B)	mg/Kg	0.48	0.45	0.72	0.93	0.75	0.50
15	Soluble Chloride (as Cl)	mg/Kg	156.0	134	129	166	125	161
16	Soluble Sulphate (as SO <sub>4</sub> )	mg/Kg	120	119	138	101	126	84.5
17	Available Potassium (as K)	mg/Kg	43.2	39.7	38.6	39.5	30.7	208
18	Available Phosphorous (as P)	Kg/hect	0.74	1.12	0.93	0.46	1.18	0.81
19	Available Nitrogen (as N)	Kg/hect	142	156	120	174	123	182
20	Cadmium (as Cd)	mg/Kg	BDL (DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)	BDL (DL:0.003)
21	Chromium (as Cr)	mg/Kg	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
22	Copper (as Cu)	mg/Kg	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
23	Lead (as Pb)	mg/Kg	0.39	0.45	0.73	1.12	0.85	0.25
24	Total Iron	mg/Kg	1.98	2.57	2.01	1.97	1.19	2.56
25	Organic Matter	%	2.09	1.95	1.34	1.64	1.99	2.62
26	Organic Carbon	%	1.21	1.13	0.78	0.95	1.16	1.52
27	CEC	meq/100g	39.6	35.8	37.5	41.0	38.2	40.6

Source: Sampling Results by KGS Enviro Laboratory Private Limited

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**Interpretation & Conclusion****Physical Characteristics –**

The physical properties of the soil samples were examined for texture, bulk density, porosity and water holding capacity. The soil texture found in the study area is Clay to Sandy Soil and Bulk Density of Soils in the study area varied between 0.70– 1.24 g/cc. The Water Holding Capacity 43.4 to 50.8% and Porosity of the soil samples is found to be medium i.e., ranging from 27.9 – 41 %.

**Chemical Characteristics –**

- The nature of soil is slightly alkaline to strongly alkaline in nature with pH range 7.89 to 8.85
- The available Nitrogen content range between 120 to 182 mg/kg
- The available Phosphorus content range between 0.46 to 1.18mg/kg
- The available Potassium range between 30.7 to 208 mg/kg

Whereas, the micronutrient as zinc (Zn), iron (Fe) and copper (Cu) were found in the range of 0.9 to 1.01mg/kg; 1.19 to 2.57 mg/kg and ND

Wilting coefficient in significant level would mean that the soil would support the vegetation. The soil properties in the buffer zone reveal that the soil can sustain vegetation. If amended suitability the core area can also withstand plantation.

**3.2 Water Environment**

The water resources, both surface and groundwater play a significant role in the development of the area. The purpose of this study is to assess the water quality characteristics for critical parameters and evaluate the impacts on agricultural productivity, domestic community usage, recreational resources and aesthetics in the vicinity. The water samples were collected and transported as per the norms in pre-treated sampling cans to laboratory for analysis.

**3.2.1 Surface Water Resources:**

Noyyal river lies at 970m S from the project cluster-P1, 480m-S from the project cluster-P2. The area is studded with few tanks that serve as the source for agriculture and also their surplus feeds adjoining tanks. The rainfall over the area is moderate, the rainwater storage in open wells, trenches is in practice over the area and the stored water acts as source of freshwater for couple of months after rainy season.

**3.2.2 Ground Water Resources:**

The terrain is underlain by hard rock formations, Fissured and fractured crystalline rocks constitute the important aquifer systems in the Tiruppur region. Ground water occurs under phreatic to semi-confined conditions in these formations and is being developed by means of dug wells and filter points. Proterozoic formation is the basement rocks which consist of quartzite, crystalline limestone, calc-granulite, hornblende – biotite gneiss, charnockite or pyroxene granulite, granite and pegmatite. Weathered, a fissured crack, shear zones and joints in the basement rock act as a good groundwater potential zone in the study area.

The study area falls in the Uthukuli which is categorized as over-exploited zone as per G.O (MS) No 113 dated 09.06.2016.



### 3.2.3 Methodology

Reconnaissance survey was undertaken to collect the sampling and locations were finalized based on;

1. Drainage pattern;
2. Location of residential areas representing different activities/likely impact areas; and
3. Likely areas, which can represent baseline conditions

two (2) surface water and four (4) ground water samples were collected in the study area and physico-chemical, heavy metals and bacteriological parameters were analysed. The samples were analysed as per the procedures specified by CPCB, IS-10500:2012 and 'Standard methods for the Examination of Water and Waste water' published by American Public Health Association (APHA). The water sampling locations are given in Table 3.8 and shown as Figure 3.6.

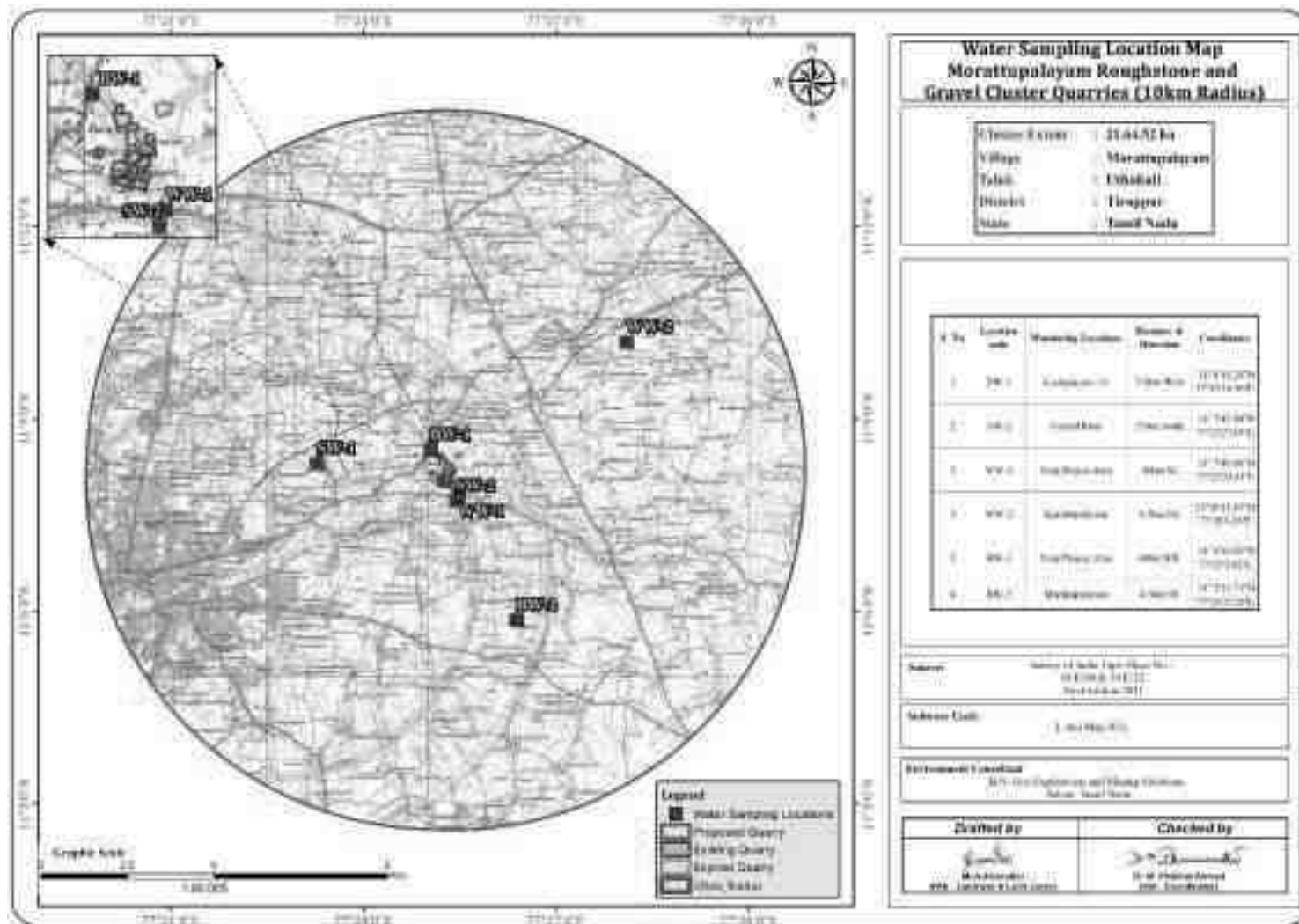
**TABLE 3.8 – WATER SAMPLING LOCATIONS**

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	SW-1	Koolipalayam Eri	3.8km West	11° 8'18.28"N 77°23'16.96"E
2	SW-2	Noyyal River	530m South	11° 7'43.08"N 77°25'27.03"E
3	WW-1	Near Project Area	400m SE	11° 7'49.06"N 77°25'29.41"E
4	WW-2	Karattupalayam	6.5km NE	11°10'11.65"N 77°28'6.26"E
5	BW-1	Near Project Area	400m NW	11° 8'30.85"N 77°25'2.82"E
6	BW-2	Mudhalipalayam	4.3km SE	11° 5'51.71"N 77°26'23.28"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited

Note: SW- Surface water, WW – Well Water, BW – Bore well

**FIGURE 3.6: WATER SAMPLING LOCATIONS AROUND 10 KM RADIUS**



**TABLE 3.9 – SURFACE WATER ANALYSIS RESULTS**

S.N O	Parameter	UNIT	SW1 Koolipalayam eri	SW2 Noyyal River
1	Color	Hazen	5	5
2	Odour	-	Agreeable	Agreeable
3	pH@ 25°C	-	7.55	7.31
4	Electrical Conductivity @ 25°C	µs/cm	1052	976
5	Turbidity	NTU	7.8	8.2
6	Total Dissolved Solids	mg /l	621	598
7	Total Hardness as CaCO <sub>3</sub>	mg/l	196.7	170
8	Calcium as Ca	mg/l	40.1	35.6
9	Magnesium as Mg	mg/l	23.5	19.8
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	210	168
11	Chloride as Cl <sup>-</sup>	mg/l	112.4	99.0
12	Sulphate as SO <sub>4</sub> <sup>-</sup>	mg/l	56	49.8
13	Iron as Fe	mg/l	0.19	0.20
14	Free Residual Chlorine	mg/l	BDL(DL: 2.0)	BDL(DL: 2.0)
15	Fluoride as F	mg/l	0.13	0.20
16	Nitrates as NO <sub>3</sub>	mg/l	18	9.6
17	Copper as Cu	mg/l	BDL (DL:0.2)	BDL (DL:0.2)
18	Manganese as Mn	mg/l	BDL (DL:0.05)	BDL (DL:0.05)
19	Mercury as Hg	mg/l	(BDL (DL: 0.0005))	(BDL (DL: 0.0005))
20	Cadmium as Cd	mg/l	BDL (DL:0.01)	BDL (DL:0.01)
21	Selenium as Se	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	BDL (DL: 0.03)	BDL (DL: 0.03)
23	Lead as Pb	mg/l	BDL (DL:0.01)	BDL (DL:0.01)
24	Zinc as Zn	mg/l	BDL (DL:0.02)	BDL (DL:0.02)
25	Total Chromium	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)
26	Boron as B	mg/l	BDL (DL:0.1)	BDL (DL:0.1)
27	Mineral Oil	mg/l	BDL (DL:1.0)	BDL (DL:1.0)
28	Phenolic Compunds as	mg/l	Absent	Absent
29	Anionic Detergents as	mg/l	BDL (DL:0.1)	BDL (DL:0.1)
30	Cynaide as CN	mg/l	Absent	Absent
31	Bio chemical Oxygen demand	mg/l	6.4	5.6
32	Chemical Oxygen demand	mg/l	24	18
33	Dissolved Oxygen	mg/l	5.7	4.4
34	Total Coliform	Per 100ml	present	present
35	E-Coli	Per 100ml	present	present
36	Barium as Ba	mg/l	BDL (DL:0.5)	BDL (DL:0.5)
37	Ammonia-n (as Total	mg/l	2.5	BDL(DL:1)
38	Sulphide as H <sub>2</sub> S	mg/l	BDL (DL:0.05)	BDL (DL:0.05)
39	Molybdenum as Mo	mg/l	BDL (DL:0.5)	BDL (DL:0.5)
40	Total Arsenic as As	mg/l	BDL (DL:0.01)	BDL (DL:0.01)
41	Total Suspended Solids	mg/l	20.7	17.4

TABLE 3.10 – GROUND WATER ANALYSIS RESULTS

S.NO	Parameter	Unit	WW1 Near Project Area	WW2 Karattupalayam	BW1 Near Project Area	BW2 Mudhalipalayam
1	Color	Hazen	< 5	< 5	< 5	< 5
2	Odour	-	Agreeable	Agreeable	Agreeable	Agreeable
3	pH@ 25°C	-	6.72	6.99	7.47	7.20
4	Electrical Conductivity	µs/cm	910	948	745	810
5	Turbidity	NTU	< 1	< 1	< 1	< 1
6	Total Dissolved Solids	mg/l	578	550	449	430
7	Total Hardness as CaCO <sub>3</sub>	mg/l	159	194	180	130
8	Calcium as Ca	mg/l	31.8	42.0	32.0	25.6
9	Magnesium as Mg	mg/l	19.4	21.6	24.2	16.0
10	Total Alkalinity	mg/l	145	205	176	152
11	Chloride as Cl <sup>-</sup>	mg/l	98.8	86.4	70.3	85.6
12	Sulphate as SO <sub>4</sub> <sup>-</sup>	mg/l	43.4	39.6	29.4	31.8
13	Iron as Fe	mg/l	0.10	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
14	Free Residual Chlorine	mg/l	BDL(DL: 2.0)	BDL(DL: 2.0)	BDL(DL: 2.0)	BDL(DL: 2.0)
15	Fluoride as F	mg/l	0.15	0.12	0.20	0.17
16	Nitrates as NO <sub>3</sub>	mg/l	9.6	7.2	6.5	8.2
17	Copper as Cu	mg/l	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)	BDL (DL:0.2)
18	Manganese as Mn	mg/l	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
19	Mercury as Hg	mg/l	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)	(BDL (DL: 0.0005)
20	Cadmium as Cd	mg/l	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
21	Selenium as Se	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)	BDL (DL: 0.03)
23	Lead as Pb	mg/l	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
24	Zinc as Zn	mg/l	BDL (DL:0.02)	BDL (DL:0.02)	BDL (DL:0.02)	BDL (DL:0.02)
25	Total Chromium	mg/l	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)	BDL (DL: 0.05)
26	Boron as B	mg/l	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
27	Mineral Oil	mg/l	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:1.0)	BDL (DL:1.0)
28	Phenolic Compunds	mg/l	Absent	Absent	Absent	Absent
29	Anionic Detergents	mg/l	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
30	Cynaide as CN	mg/l	Absent	Absent	Absent	Absent
31	Total Coliform	Per 100ml	< 2	< 2	< 2	< 2
32	E-Coli	Per 100ml	< 2	< 2	< 2	< 2
33	Barium as Ba	mg/l	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)
34	Ammonia (as Total	mg/l	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)	BDL (DL:0.1)
35	Sulphide as H <sub>2</sub> S	mg/l	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)	BDL (DL:0.05)
36	Molybdenum as Mo	mg/l	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)	BDL (DL:0.5)
37	Total Arsenic as	mg/l	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)	BDL (DL:0.01)
38	Total Suspended Solids	mg/l	BDL(DL:2)	BDL(DL:2)	BDL(DL:2)	BDL(DL:2)

\* IS: 10500:2012-Drinking Water Standards; # within the permissible limit as per the WHO Standard. The water can be used for drinking purpose in the absence of alternate sources. Note: SW- Surface water, GW – Ground water.

Source: Sampling Results by KGS Enviro Laboratory Private Limited

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### **3.2.4 Interpretation & Conclusion**

#### **Surface Water**

The pH of surface 7.31-7.55 while turbidity found within the standards. Total Dissolved Solids 598-621 mg/l and Chloride 99.0-112.4mg/l. Nitrates 9.6-18mg/l, while sulphates 49.8-56 mg/l.

#### **Ground Water**

The pH of the water samples collected ranged from 6.72 to 7.47 and within the acceptable limit of 6.5 to 8.5. pH, Sulphates and Chlorides of water samples from all the sources are within the limits as per the Standard. on Turbidity, the water samples meet the requirement. Total Dissolved Solids were found in the range of 430- 578 mg/l in all samples. The Total hardness varied between 130 – 194mg/l for all samples.

On Microbiological parameters, the water samples from all the locations meet the requirement. The parameters thus analysed were compared with IS 10500:2012 and are well within the prescribed limits.

### **3.2.5 Hydrology and Hydrogeological studies**

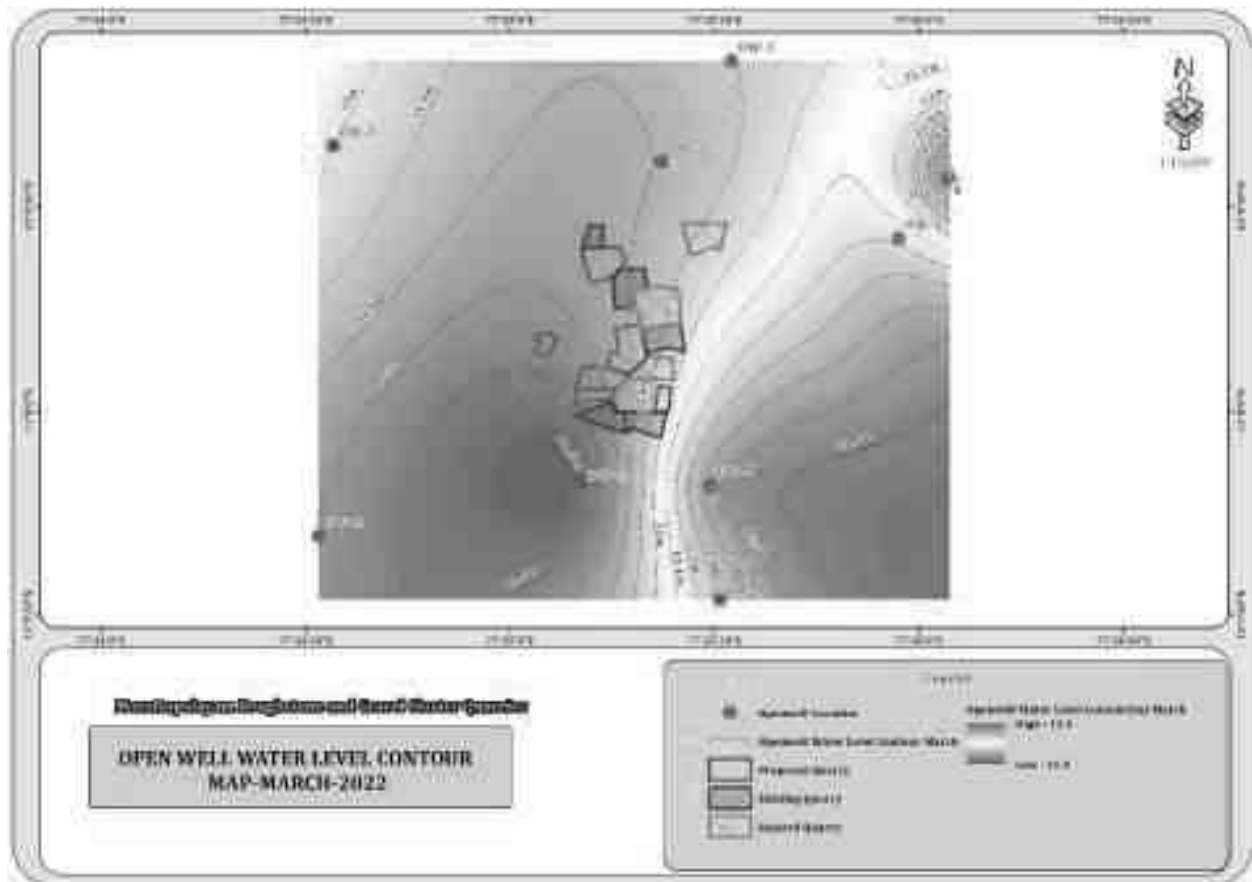
The district is underlain by hard rock formation Fissured and Fractured crystalline rocks constitute the important aquifer systems in the district. Geophysical prospecting was carried out in that area by SSRMP-ATS Instrument by qualified Geo physicist with the help of IGIS software and it was inferred that the low resistance encountered at the depth between 70-65m. the quarrying operations is restricted upto 30-37m hence there is no possibilities of water table intersection during the entire mine life period besides it is also inferred topographically that there are no major water bodies intersecting the project area. There is no necessity of stream, channel diversion due to this upcoming project.

During the rainy season there is a possibility of collection of seepage water from the subsurface levels this is due to the high intensity of fracture and weathered portion upto a depth of 10m thus the collected seepage water will be stored in the mine sump pits and will be used for dust suppression and greenbelt development and during the end of the life of the mine this collected water will be as a temporary reservoir in that area.

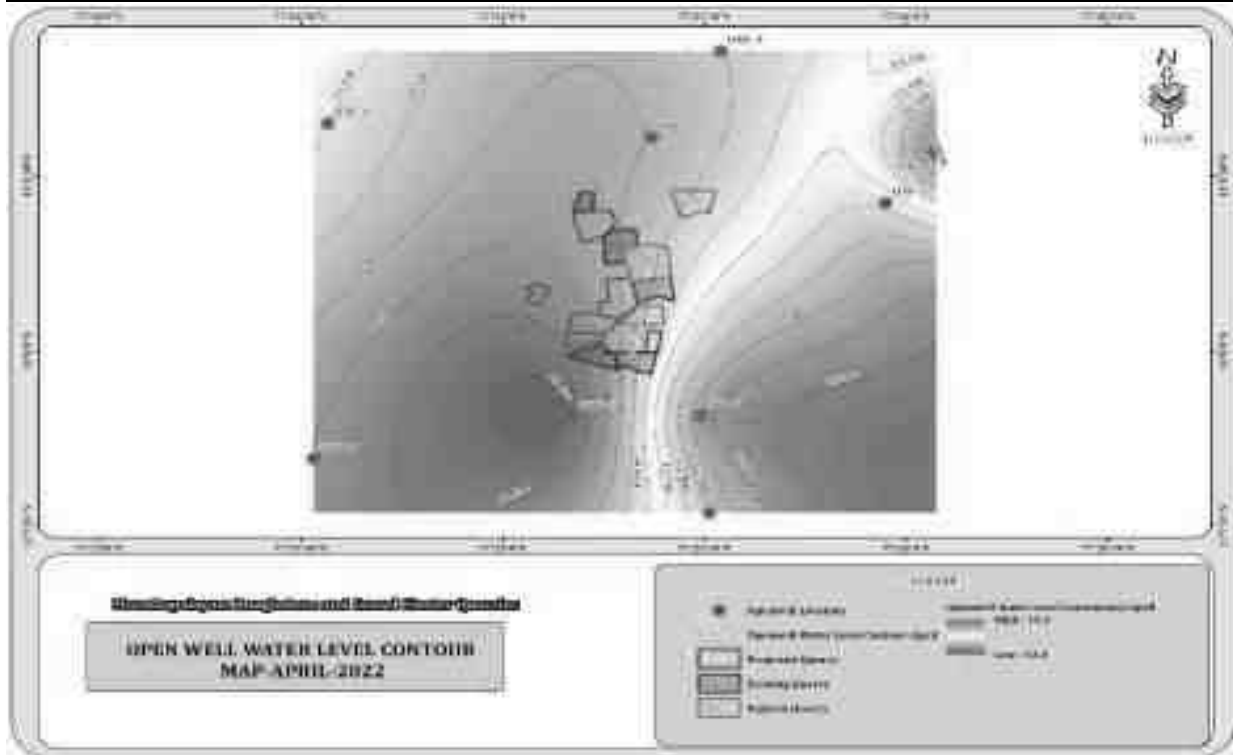
**TABLE 3.11: POST MONSOON WATER LEVEL OF OPEN WELLS 1 KM RADIUS**

S.No	LABEL	LONGITUDE	LATITUDE	Mar 2022	Apr2022	May 2022
1	OW-1	77° 25' 10.3372" E	11° 07' 49.5152" N	11.5	12.1	12.7
2	OW-2	77° 25' 22.2076" E	11° 08' 36.5623" N	11.8	12.4	13
3	OW-3	77° 25' 32.4651" E	11° 08' 51.3034" N	11.9	12.5	13.1
4	OW-4	77° 24' 34.0033" E	11° 08' 38.8661" N	12	12.6	13.2
5	OW-5	77° 25' 57.0095" E	11° 08' 25.3247" N	12.2	12.8	13.4
6	OW-6	77° 26' 04.3936" E	11° 08' 34.0977" N	11.6	12.2	12.8
7	OW-7	77° 25' 29.4248" E	11° 07' 48.9146" N	12.5	13.1	13.7
8	OW-8	77° 24' 31.8828" E	11° 07' 41.5352" N	11.7	12.3	12.9
9	OW-9	77° 25' 30.7621" E	11° 07' 32.2487" N	12.3	12.9	13.5

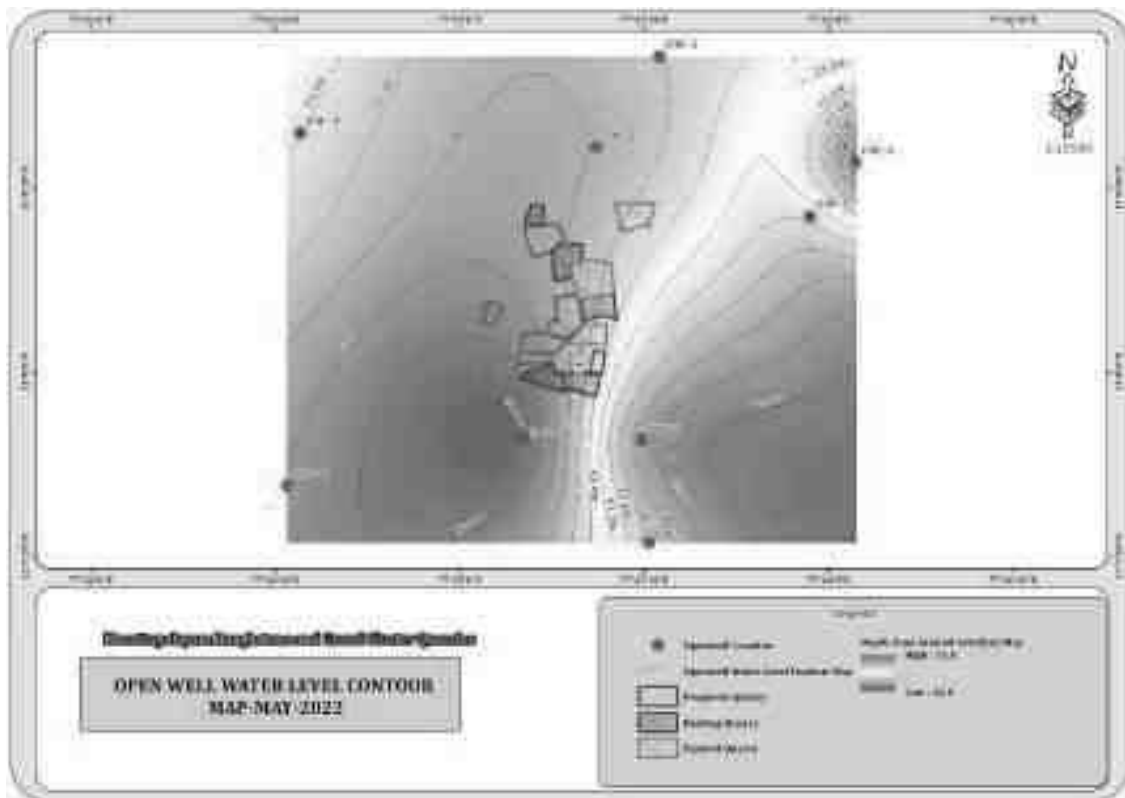
**FIGURE 3.7: CONTOUR MAP OF OPEN WELL WATER LEVEL**



**March 2022**



April 2022

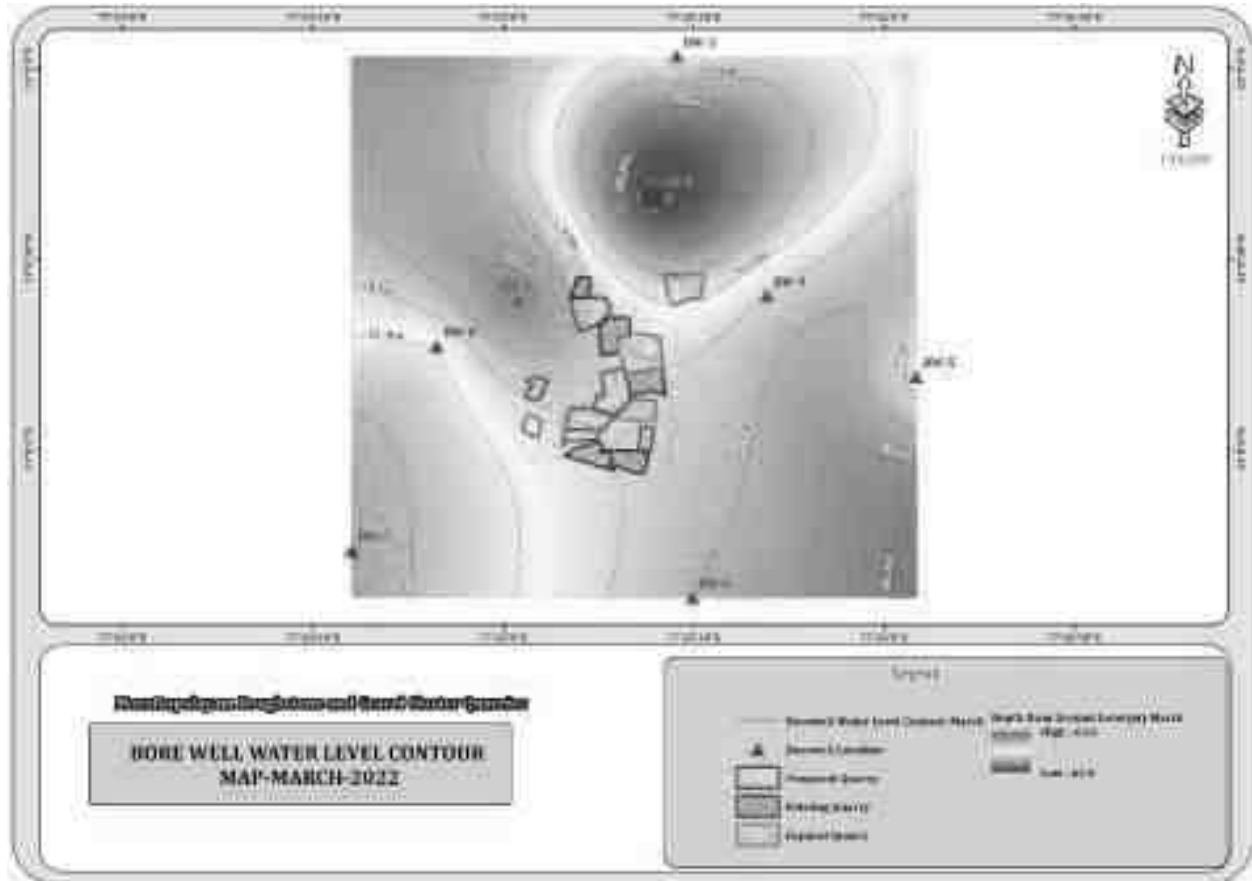


May 2022

**TABLE 3.12: POST MONSOON WATER LEVEL OF BOREWELLS 1 KM RADIUS**

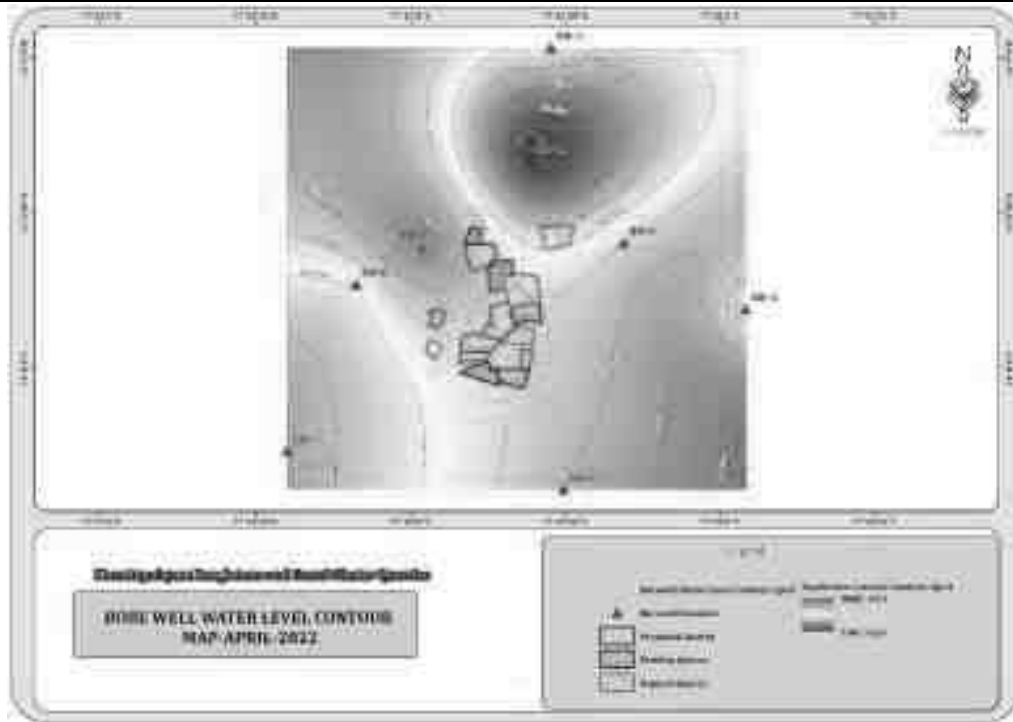
S.No	LABEL	LONGITUDE	LATITUDE	Mar 2022	Apr 2022	May 2022
1	BW-1	77° 25' 02.3376" E	11° 08' 23.4691" N	63.5	64.1	64.7
2	BW-2	77° 25' 23.4699" E	11° 08' 39.9269" N	62	62.6	63.2
3	BW-3	77° 25' 27.3071" E	11° 09' 01.9174" N	62.8	63.4	64
4	BW-4	77° 25' 41.4343" E	11° 08' 24.1783" N	63	63.6	64.2
5	BW-5	77° 26' 05.0735" E	11° 08' 11.4062" N	62.9	63.5	64.1
6	BW-6	77° 25' 29.8060" E	11° 07' 36.5670" N	63.2	63.8	64.4
7	BW-7	77° 24' 36.0512" E	11° 07' 43.9622" N	62.5	63.1	63.7
8	BW-8	77° 24' 49.4572" E	11° 08' 16.2032" N	62.8	63.4	64

**FIGURE 3.8: CONTOUR MAP OF BORE WELL WATER LEVEL**

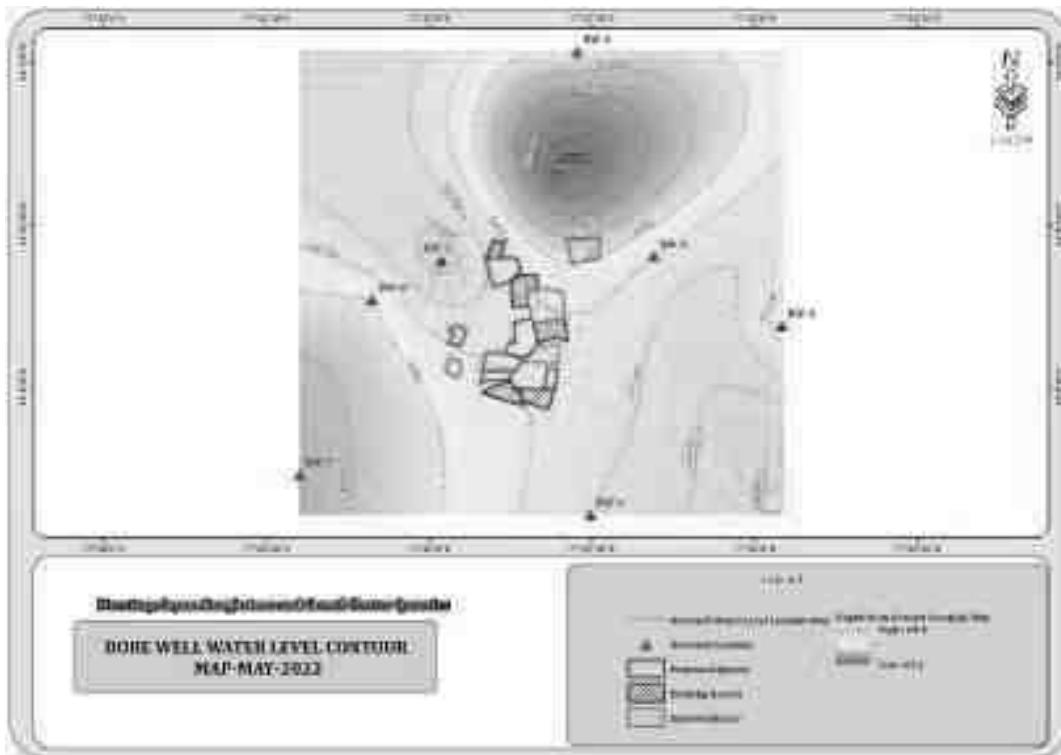


March 2022



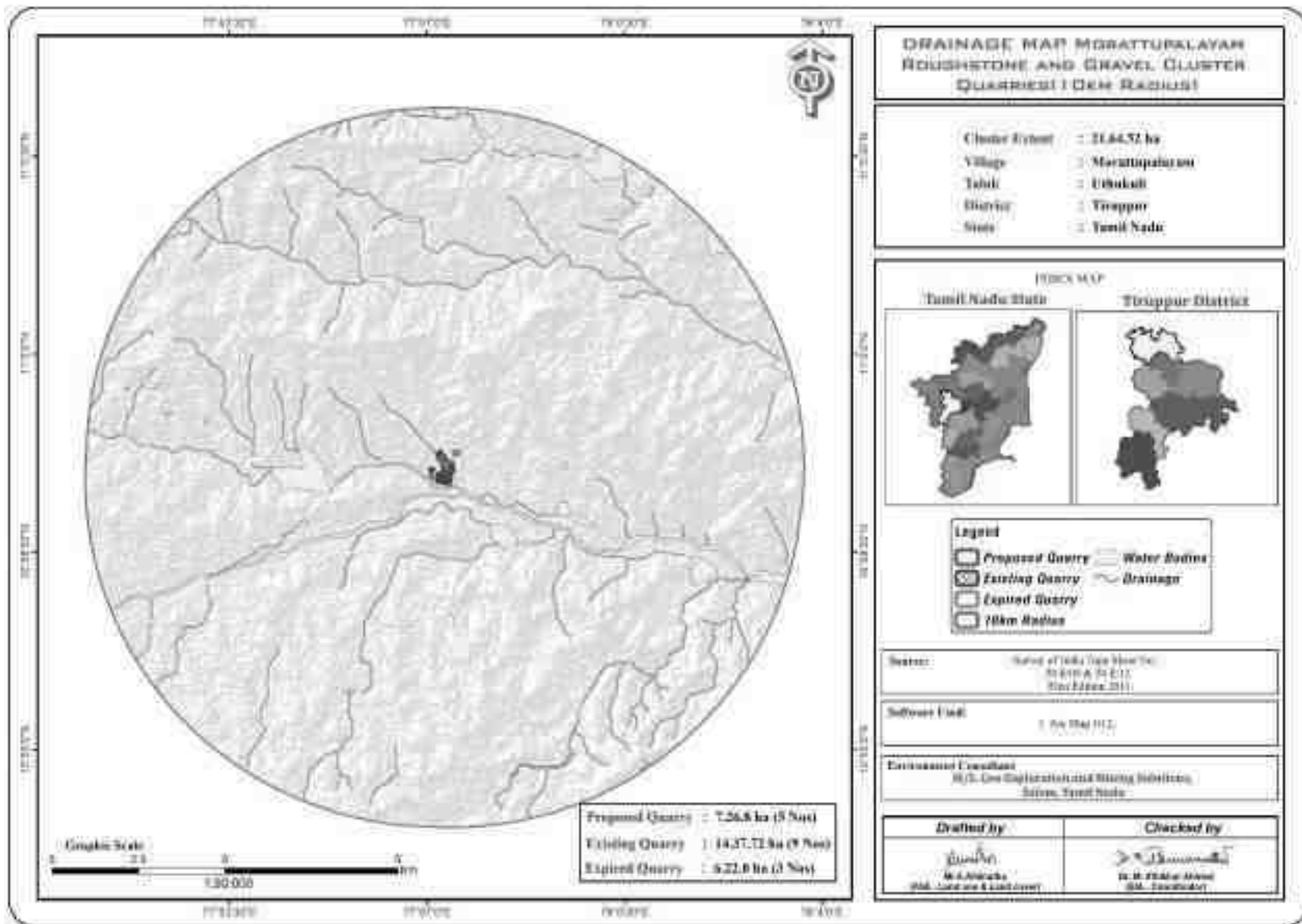


April 2022

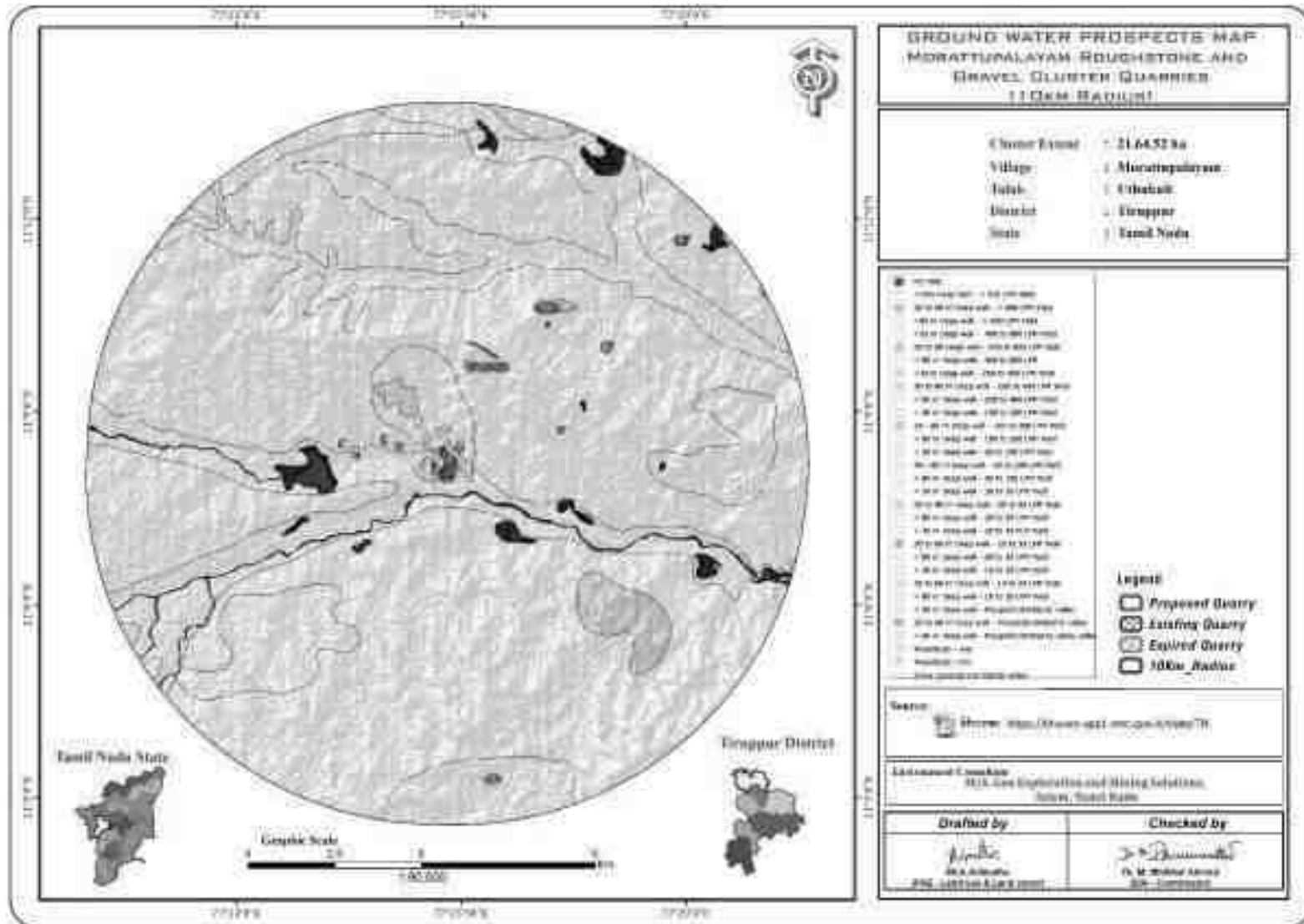


May 2022

**FIGURE 3.9: DRAINAGE MAP AROUND 10 KM RADIUS FROM PROJECT SITE**



**FIGURE 3.10: GROUND WATER PROSPECTS MAP**



Source: Bhuvan

### 3.2.5.1 Methodology and Data Acquisition

Electric Resistivity Method is well established for delineating lateral as well vertical discontinuities in the resistive structure of the Earth's subsurface. The present study makes use of vertical electric sounding (VES) to delineate the Vertical Resistivity structure at depth. Schlumberger electrode set up was employed for making sounding measurements. Since it is least influenced by lateral inhomogeneities and is capable of providing higher depth of investigation. This is four electrodes collinear set up where in the outer electrodes send current into the ground and the inner electrodes measure the potential difference.

The present study utilizes maximum current electrode separation  $AB/2$ . The data from this survey are commonly arranged and contoured in the form of Pseudo-section that gives an approximate of the subsurface resistivity. This technique is used for the inversion of Schlumberger VES data to predict the layer parameter namely layer resistivity and Geo electric layer thickness. The main goal of the present study is to search the vertical inhomogeneities that is consistent with the measured data.

For a Schlumberger among the Apparent resistivity can be calculated as follows

$$\rho_a = \frac{G\Delta V}{I}$$

$\Delta V$  = potential difference between receiving electrodes

$G$  = Geometric Factor.

Rocks show wide variation in resistivity ranging from 10-8 more than 10+14 ohmmeter. On a broad classification, one can group the rocks falling in the range of 10-8 to 1 ohmmeter as good conductors. 1 to 106 ohmmeter as intermediate conductors and 106 to 1012 ohmmeter as more as poor conductor. The resistivity of rocks and subsurface lithology, which is mostly dependent on its porosity and the pore fluid resistivity is defined by Archie's Law,

$$\rho_r = F\rho_w = a \emptyset^m \rho_w$$

$\rho_r$  = Resistivity of Rocks

$\rho_w$  = Resistivity of water in pores of rock

$F$  = Formation Factor

$\emptyset$  = Fractional pore volume

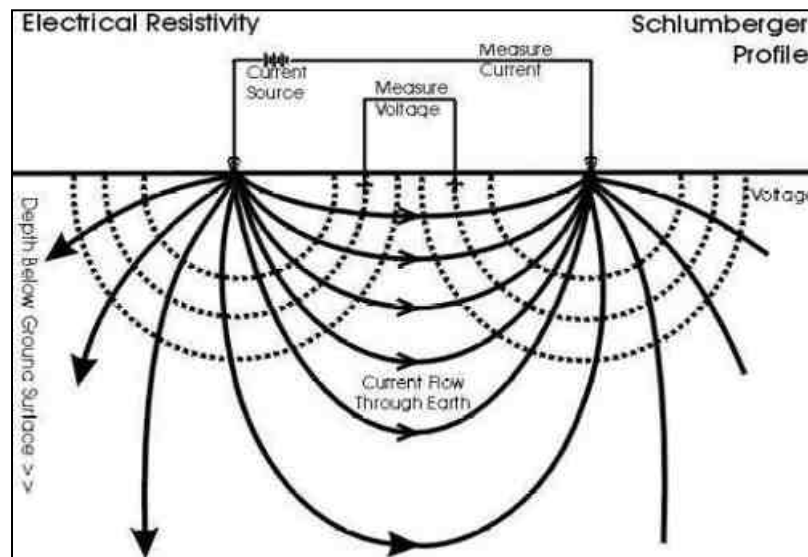
$A$  = Constants with values ranging from 0.5 to 2.5

### 3.2.5.2 Survey Layout

The layout for a resistivity survey depends on the choice of the current and potential electrode arrangement, which is called electrode array. Here the present study is considered with Schlumberger array. In which the distance may be used for current electrode separation while potential electrode separation is kept on third to one fifth of the same. One interesting aspect in VES is the principle of reciprocity, which permits interchange of the potential and current electrode without any effect on the measured apparent resistivity.

The field equipment deployed for the study is in a deep resistivity meter with a model of SSR – MP – AT. This Signal stacking Resistivity meter is a high-quality data acquisition system incorporating several innovation features for Earth resistivity. In the presence of random earth Noises the signal to noise ration can be enhanced by  $\sqrt{N}$  where  $N$  is the number of stacked readings. This SSR meter in which running averages of measurements [1, (1+2)/2, (1+2+3)/3 ... (1+2...+16/16)] up to the chosen stacks are displayed and the final average is stored automatically, in memory utilizing the principles of stacking to achieve the benefit of high signals to noise ratio. Based on these above significations the signal stacking resistivity meter was used for (VES) Vertical Electric Resistivity Sounding.

### RESISTIVITY SURVEY PROFILE



Measurements of ground Resistivity is essentially done by sending a current through two electrodes called current electrodes ( $C_1$  &  $C_2$ ) and measuring the resulting potential by two other electrodes called potential electrode ( $P_1$  &  $P_2$ ). The amount of current required to be sent into the ground depends on the contact resistance at the current electrode, the ground resistivity and the depth of interest.

#### 3.2.5.3 Data Presentation

It was inferred that the low resistance encountered at the depth between 78-73m. The maximum depth proposed out of proposed projects is 30-36m BGL. Hence there is no possibilities of water table intersection during the entire mine life period besides it is also inferred topographically that there are no major water bodies intersecting the project area.

#### 3.2.5.4 Geophysical Data Interpretation

The geophysical data was obtained to study the lateral variations, vertical in homogeneities in the sub – surface with respect to the availability of groundwater. From the interpreted data, it has inferred that the area has moderate groundwater potential in the investigated area. This small quarrying operation will not have any significant impact on the natural water bodies.

### 3.3 Air Environment

The ambient air quality with respect to the study area of 10 km radius including the cluster quarries forms the baseline information. The prime objective of baseline air quality monitoring is to assess existing air quality of the area. This will also be useful in assessing the conformity to standards of the ambient air quality during the operations

The existing ambient air quality of the area is important for evaluating the impact of mining activities on the ambient air quality. These will also be useful for assessing the conformity to standards of the ambient air quality during the operation of Existing and proposed quarries within the radius of 500m.

The sources of air pollution in the region are mostly due to vehicular traffic, dust arising from unpaved village road and domestic & agricultural activities. This section describes the identification of sampling locations, methodology adopted during the monitoring period and sampling frequency.

The baseline status of the ambient air quality has been assessed through scientifically designed ambient air quality network. The design of monitoring network in the air quality surveillance program has been based on the following considerations:

- Meteorological conditions.
- Topography of the study area.
- Likely impact area.

### 3.3.1 Meteorology & Climate

Meteorology is the key to understand the air quality. The essential relationship between meteorological condition and atmospheric dispersion involves the wind in the broadest sense. Wind fluctuations over a very wide range of time, accomplish dispersion and strongly influence other processes associated with them.

A temporary meteorological station was installed at project site. The station was installed at a height of 4 m above the ground level in such a way that there are no obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature are recorded on hourly basis.

#### Climate –

The Tiruppur lies on 300m above sea level The climate here is considered to be a local steppe climate. There is not much rainfall in Tiruppur all year long. This location is classified as BSh by Köppen and Geiger. In Tiruppur.

- The average annual temperature is 27.3°C | 81.1°F.
- The annual rainfall here is around 605mm | 23.8 inch.
- The driest month is January with 7mm |0.3 inch of rainfall. The greatest amount of precipitation occurs in October, with an average of 155mm | 6.1 inch.
- The warmest month of the year is April, with an average temperature of 30.0°C | 86.0°F. The lowest average temperatures in the year occur in December, when it is around 24.8°C | 76.64°F.
- The difference in precipitation between the driest month and the wettest month is 148 mm |6 inch. The variation in annual temperatures throughout the year is 5.2°C | 41.4°F.

Source: <https://en.climate-data.org/asia/india/tamil-nadu/tiruppur-2789/>

#### Rainfall –

The average annual rainfall and the 5 years rainfall is as follows:

**TABLE 3.13 – RAINFALL DATA**

Actual Rainfall in mm					Normal Rainfall in mm
2017	2018	2019	2020	2021	<b>606.8</b>
679.8	716.2	488.1	748.8	845.1	

Source: <https://www.twadboard.tn.gov.in/content/tiruppur>

**TABLE 3.14 – METEOROLOGICAL DATA RECORDED AT SITE**

S.No	Parameters		Mar-2022	Apr-2022	May-2022
1	Temperature (°C)	Max	30.5	30.1	27.5
		Min	27.3	24.5	24.8
		Avg	28.9	27.3	26.15
2	Relative Humidity (%)	Avg	76.32	79.53	73.29
3	Wind Speed (m/s)	Max	9.250	3.931	3.700
		Min	1.959	1.500	0.300
		Avg	5.6045	2.7155	2.000
4	Cloud Cover (OKTAS)		0-8	0-8	0-8
5	Wind Direction		SW,WSW	NE,SSE	S,ESE

Source: On-site monitoring/sampling by **KGS Enviro Laboratory Private Limited** in association with GEMS

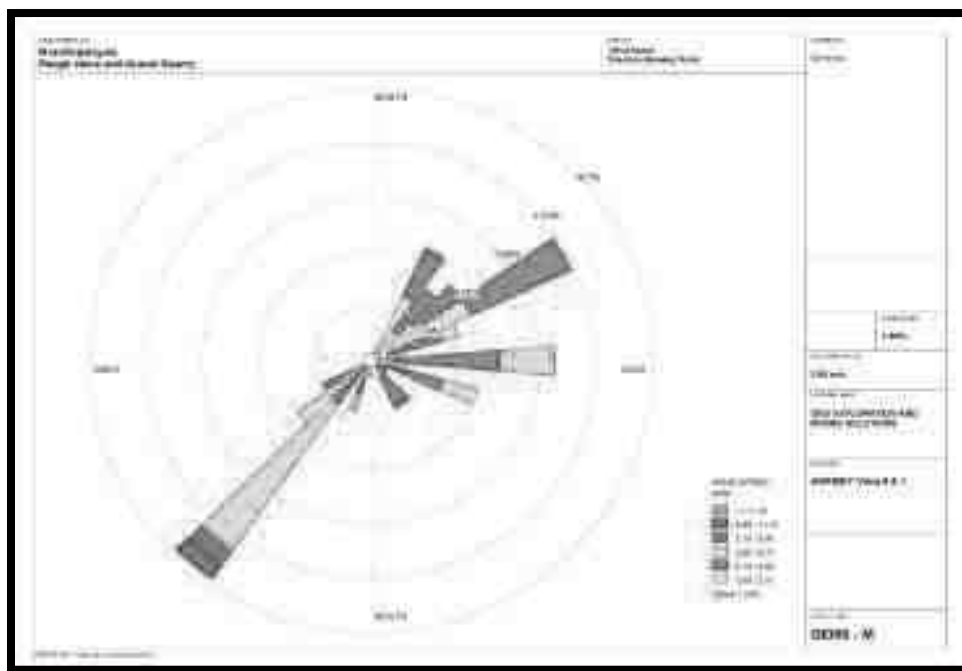
#### Correlation between Secondary and Primary Data

The meteorological data collected at the site is almost similar to that of secondary data collected from IMD Tiruppur. A comparison of site data generated during the three months with that of IMD, Tiruppur Agro reveals the following:

- The average maximum and minimum temperatures of IMD, Tiruppur agro showed a higher in respect of on-site data i.e. in Morattupalayam village.
- The relative humidity levels were lesser at site as compared to IMD, Tiruppur agro.
- The wind speed and direction at site shows similar trend that of IMD, Tiruppur agro.

Windrose diagram of the study site is depicted in Figure. 3.8. Predominant downwind direction of the area during study season is North East to South West.

**FIGURE 3.9: WINDROSE DIAGRAM**



Environmental In the abstract of collected data wind rose were drawn on presented in figure No.3.14 during the monitoring period in the study area

1. Predominant winds were from SW, E, NE, ESE
2. Wind velocity readings were recorded between 0.50 to 8.80km / hour
3. Calm conditions prevail of about 0.00% of the monitoring period
4. Temperature readings ranging from 24.5<sup>0</sup> to 30.5<sup>0</sup>C
5. Relative humidity ranging from 73.29 to 79.53%
6. The monitoring was carried out continuously for three months

### 3.3.2 Methodology and Objective

The prime objective of the ambient air quality study is to assess the existing air quality of study area and its conformity to NAAQS. The observed sources of air pollution in the study area are industrial, traffic and domestic activities. The baseline status of the ambient air quality has been established through a scientifically designed ambient air quality monitoring network considering the followings:

- Meteorological condition on synoptic scale;
- Topography of the study area;
- Representatives of regional background air quality for obtaining baseline status;
- Location of residential areas representing different activities;
- Accessibility and power availability; etc

### 3.3.3 Sampling and Analytical Techniques

**TABLE 3.15 – METHODOLOGY AND INSTRUMENT USED FOR AIR QUALITY ANALYSIS**

Parameter	Method	Instrument
PM <sub>2.5</sub>	Gravimetric Method Beta attenuation Method	Fine Particulate Sampler Make – Thermo Environmental Instruments – TEI 121
PM <sub>10</sub>	Gravimetric Method Beta attenuation Method	Respirable Dust Sampler Make –Thermo Environmental Instruments – TEI 108
SO <sub>2</sub>	IS-5182 Part II (Improved West & Gaeke method)	Respirable Dust Sampler with gaseous attachment
NO <sub>x</sub>	IS-5182 Part II (Jacob & Hochheiser modified method)	Respirable Dust Sampler with gaseous attachment
Free Silica	NIOSH – 7601	Visible Spectrophotometry

Source: Sampling Methodology followed by **KGS Enviro Laboratory Private Limited & CPCB** Notification.

**TABLE 3.16 – NATIONAL AMBIENT AIR QUALITY STANDARDS**

Sl. No.	Pollutant	Time Weighted Average	Concentration in ambient air	
			Industrial, Residential, Rural & other areas	Ecologically Sensitive area (Notified by Central Govt.)
1	Sulphur Dioxide ( $\mu\text{g}/\text{m}^3$ )	Annual Avg.* 24 hours**	50.0 80.0	20.0 80.0
2	Nitrogen Dioxide ( $\mu\text{g}/\text{m}^3$ )	Annual Avg. 24 hours	40.0 80.0	30.0 80.0
3	Particulate matter (size less than 10 $\mu\text{m}$ ) PM <sub>10</sub> ( $\mu\text{g}/\text{m}^3$ )	Annual Avg. 24 hours	60.0 100.0	60.0 100.0
4	Particulate matter (size less than 2.5 $\mu\text{m}$ ) PM <sub>2.5</sub> ( $\mu\text{g}/\text{m}^3$ )	Annual Avg. 24 hours	40.0 60.0	40.0 60.0

Source: NAAQS CPCB Notification No. B-29016/20/90/PCI-I Dated: 18<sup>th</sup> Nov 2009

\*Annual Arithmetic mean of minimum 104 measurements in a year taken twice a Week 24 hourly at uniform interval,

\*\* 24 hourly / 8 hourly or 1 hourly monitored values as applicable shall be complied with 98 % of the time in a year. However, 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

### 3.3.4 Frequency & Parameters for Sampling

Ambient air quality monitoring has been carried out with a frequency of two samples per week at seven (7) locations, adopting a continuous 24 hourly (3 shift of 8-hour) schedule for the period Mar-May2022. The baseline data of ambient air has been generated for PM<sub>10</sub>, PM<sub>2.5</sub>, Sulphur Dioxide (SO<sub>2</sub>) & Nitrogen Dioxide (NO<sub>2</sub>).

### 3.3.5 Ambient Air Quality Monitoring Stations

Seven (7) monitoring stations were set up in the study area as depicted in Figure 3.6.1 for assessment of the existing ambient air quality. Details of the sampling locations are as per given below.



**TABLE 3.17 – AMBIENT AIR QUALITY (AAQ) MONITORING LOCATIONS**

<b>S. No</b>	<b>Location Code</b>	<b>Monitoring Locations</b>	<b>Distance &amp; Direction</b>	<b>Coordinates</b>
1	AAQ-1	Core Zone	Project Area	11° 8'3.26"N 77°25'21.82"E
2	AAQ-2	Core Zone	Project Area	11° 8'23.44"N 77°25'15.90"E
3	AAQ-3	Morattupalayam	2.5km NW	11° 9'32.62"N 77°24'35.61"E
4	AAQ-4	Mudhalipalayam	4.3km SE	11° 5'52.79"N 77°26'24.43"E
5	AAQ-5	Karattupalayam	6.2km NE	11° 9'58.49"N 77°28'13.42"E
6	AAQ-6	Parapalayam	4.8km West	11° 7'39.25"N 77°22'38.44"E
7	AAQ-7	Pappanpalayam	6.5km West	11° 8'8.62"N 77°28'57.85"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

**FIGURE 3.10 AMBIENT AIR QUALITY LOCATIONS AROUND 10 KM RADIUS**

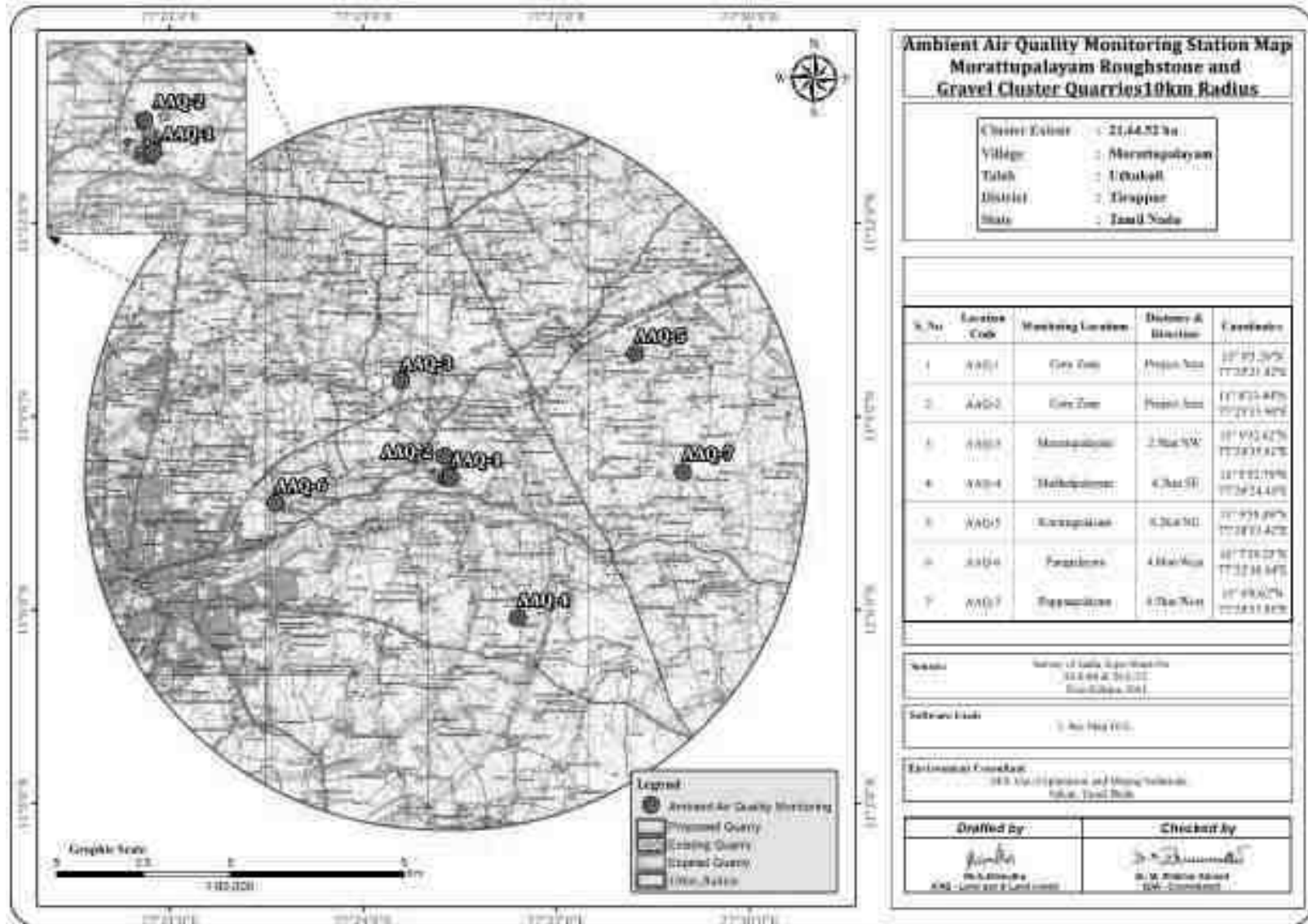


TABLE 3.18 AMBIENT AIR QUALITY DATA LOCATION AAQ1-:

Period: Mar – May 2022

Location: AAQ1- Core Zone

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase), µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM <sub>2.5</sub>	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	07.00-07.00	61.8	22.4	45.2	8.5	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	07.15-07.15	62.3	22.6	46.1	8.2	24.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	07.00-07.00	62.0	23.0	45.5	8.6	24.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	07.15-07.15	61.9	22.8	45.0	8.8	25.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	07.00-07.00	62.2	23.2	45.9	8.2	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	07.15-07.15	62.0	23.6	45.8	8.5	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	07.00-07.00	61.7	22.5	46.2	7.2	24.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	07.15-07.15	61.9	22.7	46.5	7.6	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	07.00-07.00	61.6	24.5	46.0	7.6	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	07.15-07.15	61.3	23.2	45.8	7.2	24.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	07.00-07.00	61.5	23.6	45.2	7.4	25.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	07.15-07.15	61.2	23.7	45.5	7.5	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	07.00-07.00	62.6	23.8	45.1	7.4	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07.15-07.15	62.3	22.9	45.6	8.3	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07.00-07.00	61.5	22.5	45.5	8.5	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07.15-07.15	61.7	22.3	46.7	7.5	24.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07.00-07.00	62.0	22.6	46.0	7.7	24.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07.15-07.15	62.2	23.1	46.1	7.2	25.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07.00-07.00	62.7	23.0	46.8	7.4	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07.15-07.15	62.3	23.5	46.7	7.5	25.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07.00-07.00	62.2	22.6	46.3	8.1	24.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07.15-07.15	62.5	22.3	46.2	8.3	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07.00-07.00	61.6	21.5	46.4	8.4	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07.15-07.15	62.0	21.5	44.2	8.4	24.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07.00-07.00	62.8	21.7	44.8	8.4	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07.15-07.15	62.7	21.6	44.3	8.9	25.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0

TABLE 3.19 AMBIENT AIR QUALITY DATA LOCATION AAQ2:-

Period: Mar – May 2022

Location: AAQ2- Project Area

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase) , µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	07.15-07.15	60.4	19.4	44.0	7.5	25.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	07.30-07:30	61.1	19.5	43.9	7.2	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	07.15-07.15	61.5	19.7	42.3	7.4	24.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	07.30-07:30	62.0	19.0	42.8	7.2	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	07.15-07.15	61.7	20.2	42.5	8.1	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	07.30-07:30	61.3	19.9	42.1	8.4	25.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	07.15-07.15	61.2	20.5	42.6	8.3	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	07.30-07:30	62.0	20.6	43.6	8.2	26.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	07.15-07.15	61.5	20.2	43.0	8.0	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	07.30-07:30	62.5	20.3	43.4	7.7	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	07.15-07.15	61.8	20.1	43.2	7.8	24.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	07.30-07:30	61.8	20.8	42.9	7.9	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	07.15-07.15	64.9	21.8	43.2	8.1	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07.15-07.15	64.2	21.1	43.4	8.4	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07.00-07.00	63.2	19.5	43.7	8.2	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07.15-07.15	61.2	19.7	43.2	8.5	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07.00-07.00	62.5	19.3	43.9	8.7	24.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07.15-07.15	63.0	19.3	42.0	8.4	24.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07.00-07.00	61.5	19.9	41.8	8.4	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07.15-07.15	61.4	19.8	41.0	8.6	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07.00-07.00	62.5	20.1	42.4	8.7	25.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07.15-07.15	62.4	20.4	42.7	8.3	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07.00-07.00	62.2	20.7	42.0	7.8	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07.15-07.15	61.8	20.9	42.2	7.2	25.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07.00-07.00	62.8	19.2	42.6	7.9	25.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07.15-07.15	61.3	19.8	42.7	7.3	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0

TABLE 3.20 AMBIENT AIR QUALITY DATA LOCATION AAQ3-:

Period: Mar – May 2022

: AAQ3- Morattupalayam

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase) , µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	07.15-07.15	62.3	21.5	41.4	7.0	26.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	07.30-07:30	63.2	21.4	41.5	6.8	26.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	07.15-07.15	64.0	21.7	42.2	7.8	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	07.30-07:30	65.5	21.2	42.7	7.2	25.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	07.15-07.15	64.4	20.8	42.3	7.4	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	07.30-07:30	64.2	20.5	42.8	7.2	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	07.15-07.15	63.3	20.9	42.3	6.9	26.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	07.30-07:30	64.0	20.3	43.0	6.4	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	07.15-07.15	64.1	20.5	43.7	6.7	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	07.30-07:30	62.7	21.4	43.6	6.3	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	07.15-07.15	62.6	21.6	45.4	6.7	25.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	07.30-07:30	63.1	21.7	43.5	7.0	25.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	07.15-07.15	64.8	20.2	44.0	7.4	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07.15-07.15	62.0	20.3	43.2	7.1	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07.00-07.00	61.4	20.5	42.1	7.5	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07.15-07.15	62.5	20.1	43.6	7.7	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07.00-07.00	62.3	21.4	42.7	7.3	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07.15-07.15	62.3	21.7	43.1	7.0	26.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07.00-07.00	61.7	21.5	43.5	7.6	26.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07.15-07.15	62.8	20.5	42.9	7.8	26.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07.00-07.00	63.0	20.7	43.5	6.6	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07.15-07.15	64.1	21.7	44.8	6.7	25.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07.00-07.00	61.4	21.5	43.6	6.9	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07.15-07.15	62.2	20.3	43.1	6.4	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07.00-07.00	62.6	20.6	42.9	6.4	26.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07.15-07.15	62.7	20.8	42.5	7.0	26.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0

TABLE 3.21 AMBIENT AIR QUALITY DATA LOCATION AAQ4:-

Period: Mar – May 2022

Location: AAQ4 – Mudhalipalayam

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase) , µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	07.00-07.00	66.5	20.5	41.7	6.6	25.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	07.15-07:15	66.1	20.6	41.2	6.8	27.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	07.00-07.00	66.6	20.4	41.5	6.3	26.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	07.15-07:15	66.3	20.9	41.0	6.8	26.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	07.00-07.00	66.0	21.3	41.5	6.5	26.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	07.15-07:15	66.5	21.5	41.5	6.5	25.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	07.00-07.00	67.8	21.7	42.3	7.1	25.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	07.15-07:15	68.5	20.8	42.7	7.6	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	07.00-07.00	67.4	20.6	42.5	7.0	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	07.15-07:15	68.9	21.3	42.7	6.9	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	07.00-07.00	69.1	21.5	42.8	7.5	27.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	07.15-07:15	68.8	21.6	42.0	7.6	27.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	07.00-07.00	68.5	21.2	41.6	6.2	27.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07.15-07.15	68.0	20.3	42.2	6.5	26.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07.00-07.00	68.4	21.0	42.7	6.8	26.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07.15-07.15	68.0	20.6	43.2	6.9	25.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07.00-07.00	68.6	21.3	41.5	6.2	23.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07.15-07.15	68.7	20.9	42.0	6.4	23.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07.00-07.00	69.0	21.8	42.6	6.1	23.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07.15-07.15	69.1	22.4	42.6	5.8	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07.00-07.00	68.9	22.5	42.1	5.6	25.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07.15-07.15	69.3	20.1	43.2	5.5	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07.00-07.00	68.3	19.8	43.7	5.3	24.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07.15-07.15	67.2	20.5	43.5	5.7	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07.00-07.00	67.9	20.4	43.0	5.6	26.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07.15-07.15	67.1	20.3	43.5	5.2	26.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0

TABLE 3.22 AMBIENT AIR QUALITY DATA LOCATION AAQ5-:

Period: Mar – May 2022

: AAQ5- Karattupalayam

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase) , µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	07:30-07:30	59.4	20.4	47.5	8.5	23.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	07:45-07:45	58.9	20.2	47.2	8.9	23.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	07:30-07:30	58.3	20.3	47.6	8.2	23.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	07:45-07:45	58.78	20.5	47.3	8.3	23.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	07:30-07:30	58.6	21.1	47.2	8.2	23.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	07:45-07:45	58.2	20.9	47.4	7.8	23.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	07:30-07:30	58.5	21.0	48.3	7.9	22.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	07:45-07:45	58.4	20.9	48.5	7.3	23.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	07:30-07:30	59.6	20.6	48.6	7.1	22.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	07:45-07:45	59.0	21.5	48.2	7.6	22.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	07:30-07:30	59.2	21.7	48.3	7.4	23.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	07:45-07:45	59.4	21.8	48.7	7.7	23.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	07:30-07:30	59.4	21.3	49.0	7.2	23.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07:15-07:15	59.7	21.0	47.5	7.4	23.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07:00-07:00	59.8	20.5	47.6	7.5	23.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07:15-07:15	59.5	21.7	47.6	7.0	23.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07:00-07:00	59.3	20.6	47.2	7.8	22.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07:15-07:15	58.7	21.4	48.4	8.4	22.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07:00-07:00	59.1	20.6	48.6	8.1	23.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07:15-07:15	58.2	21.5	47.0	8.3	22.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07:00-07:00	58.5	20.5	47.6	8.7	22.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07:15-07:15	58.2	21.4	48.3	6.9	22.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07:00-07:00	58.7	20.9	47.2	6.7	23.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07:15-07:15	59.5	20.2	48.2	6.4	23.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07:00-07:00	59.6	20.6	48.5	6.5	22.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07:15-07:15	59.5	21.4	48.3	6.1	23.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0

TABLE 3.23 AMBIENT AIR QUALITY DATA LOCATION AAQ6:-

Period: Mar – May 2022

Location: AAQ6 – Parapalayam

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase) , µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	08:00-08:00	59.5	18.8	40.1	6.6	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	08:15-08:15	58.2	19.6	39.8	6.4	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	08:00-08:00	57.0	19.2	39.5	6.3	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	08:15-08:15	57.4	19.5	39.5	6.4	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	08:00-08:00	57.3	19.4	38.7	6.5	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	08:15-08:15	57.5	19.3	38.6	6.2	25.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	08:00-08:00	57.4	19.0	38.0	6.7	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	08:15-08:15	57.3	18.6	39.3	5.9	26.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	08:00-08:00	57.3	18.9	40.6	5.8	26.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	08:15-08:15	57.7	18.5	39.8	6.1	26.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	08:00-08:00	58.3	20.7	40.3	5.9	26.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	08:15-08:15	58.8	20.6	40.4	5.6	26.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	08:00-08:00	56.8	19.3	40.6	5.5	26.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07.15-07.15	56.5	19.9	40.2	6.3	26.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07.00-07.00	56.7	19.7	39.9	6.6	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07.15-07.15	57.2	19.8	39.7	6.4	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07.00-07.00	58.9	20.1	40.1	6.6	24.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07.15-07.15	57.9	20.4	40.2	6.7	24.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07.00-07.00	57.3	20.5	40.6	6.3	24.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07.15-07.15	57.5	19.6	40.7	5.9	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07.00-07.00	57.2	19.2	40.4	5.4	25.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07.15-07.15	56.8	18.3	41.2	5.8	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07.00-07.00	56.4	18.0	41.7	6.0	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07.15-07.15	57.1	18.7	41.5	5.4	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07.00-07.00	56.4	18.4	41.8	5.7	25.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07.15-07.15	56.2	18.7	41.4	5.3	25.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0



**TABLE 3.24 AMBIENT AIR QUALITY DATA LOCATION AAQ7-:**

Period: Mar – May 2022

Location: AAQ7– Pappanpalayam

Sampling Time: 24-hourly

Monitoring		Particulates, µg/m <sup>3</sup>			Gaseous Pollutants, µg/m <sup>3</sup>					Other Pollutants (Particulate Phase) , µg/m <sup>3</sup>				
Date	Period, hrs.	SPM	PM2.5	PM10	SO <sub>2</sub>	NO <sub>2</sub>	NH <sub>3</sub>	O <sub>3</sub> (8-hly Avg.)	CO (8-hly Avg.)	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , ng/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*		(24 hrs.)	60(24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	08:00-08:00	64.9	23.2	48.4	7.9	24.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
10.03.2022	08:15-08:15	66.5	24.4	47.6	7.6	24.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
16.03.2022	08:00-08:00	63.1	25.6	45.2	7.7	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
17.03.2022	08:15-08:15	62.6	23.8	45.4	6.9	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
23.03.2022	08:00-08:00	63.4	23.4	42.8	7.2	23.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
24.03.2022	08:15-08:15	63.1	24.6	44.3	7.5	24.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
30.03.2022	08:00-08:00	62.8	25.7	45.6	8.2	24.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
31.03.2022	08:15-08:15	63.2	24.2	45.1	8.7	24.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
06.04.2022	08:00-08:00	66.4	24.4	45.2	8.1	23.3	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
07.04.2022	08:15-08:15	65.7	24.9	44.6	7.7	24.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
13.04.2022	08:00-08:00	65.3	25.2	43.8	7.9	23.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
14.04.2022	08:15-08:15	64.5	24.8	45.4	8.1	22.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
20.04.2022	08:00-08:00	63.8	23.5	46.0	7.9	24.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
21.04.2022	07.15-07.15	64.2	25.2	46.2	7.2	23.7	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
27.04.2022	07.00-07.00	63.7	23.7	45.9	6.8	24.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
28.04.2022	07.15-07.15	63.6	24.3	46.1	6.5	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
04.05.2022	07.00-07.00	64.4	23.1	43.9	6.8	25.4	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
05.05.2022	07.15-07.15	65.1	23.5	43.4	6.5	25.5	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
11.05.2022	07.00-07.00	65.2	21.1	43.5	6.7	25.6	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
12.05.2022	07.15-07.15	64.5	22.0	43.8	7.5	24.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
18.05.2022	07.00-07.00	63.1	23.5	43.0	6.9	25.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
19.05.2022	07.15-07.15	65.7	25.6	44.6	7.2	24.8	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
25.05.2022	07.00-07.00	65.2	25.7	45.9	7.0	25.2	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
26.05.2022	07.15-07.15	63.6	23.1	46.7	7.6	25.0	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
01.06.2022	07.00-07.00	65.8	22.8	45.6	7.8	25.9	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0
02.06.2022	07.15-07.15	65.2	23.0	45.4	7.7	26.1	<5	<5	<1.0	<0.01	<5	<3	<1.0	<3.0

**TABLE 3.25 – ABSTRACT OF AMBIENT AIR QUALITY DATA**

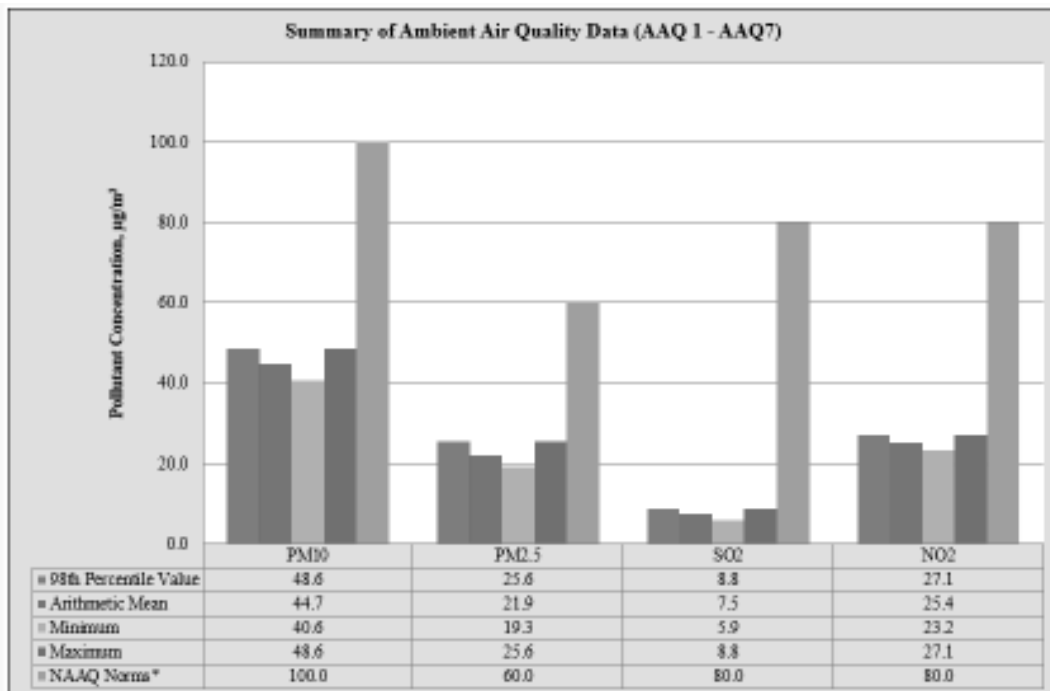
1	<b>Parameter</b>	<b>PM10</b>	<b>PM2.5</b>	<b>SO<sub>2</sub></b>	<b>NO<sub>2</sub></b>
2	No. of Observations	260	260	260	260
3	10 <sup>th</sup> Percentile Value	40.6	19.3	5.9	23.2
4	20 <sup>th</sup> Percentile Value	41.7	20.0	6.4	24.0
5	30 <sup>th</sup> Percentile Value	42.5	20.4	6.7	24.5
6	40 <sup>th</sup> Percentile Value	42.9	20.6	7.0	25.0
7	50 <sup>th</sup> Percentile Value	43.5	20.9	7.2	25.2
8	60 <sup>th</sup> Percentile Value	43.9	21.4	7.5	25.4
9	70 <sup>th</sup> Percentile Value	45.4	21.7	7.7	25.6
10	80 <sup>th</sup> Percentile Value	46.3	22.6	8.1	25.9
11	90 <sup>th</sup> Percentile Value	47.6	23.7	8.4	26.5
12	95 <sup>th</sup> Percentile Value	48.4	24.8	8.5	26.7
13	98 <sup>th</sup> Percentile Value	48.6	25.6	8.8	27.1
14	Arithmetic Mean	44.7	21.9	7.5	25.4
15	Geometric Mean	44.6	21.8	7.4	25.4
16	Standard Deviation	2.8	2.0	0.9	1.2
17	Minimum	40.6	19.3	5.9	23.2
18	Maximum	48.6	25.6	8.8	27.1
19	<b>NAAQ Norms*</b>	<b>100.0</b>	<b>60.0</b>	<b>80.0</b>	<b>80.0</b>
	% Values exceeding Norms*	0.0	0.0	0.0	0.0

**Legend:**PM<sub>2.5</sub>-Particulate Matter size less than 2.5 µm; PM<sub>10</sub>-Respirable Particulate Matter size less than 10 µm; SO<sub>2</sub>-Sulphur dioxide; NO<sub>2</sub>-Nitrogen Dioxide; CO-Carbon monoxide; O<sub>3</sub>-Ozone; NH<sub>3</sub>-Ammonia; Pb-Particulate Lead; As-Particulate Arsenic; Ni-Particulate Nickel; C<sub>6</sub>H<sub>6</sub>-Benzene & BaP- Benzo (a) pyrene in particulate phase levels were monitored below their respective detectable limits.

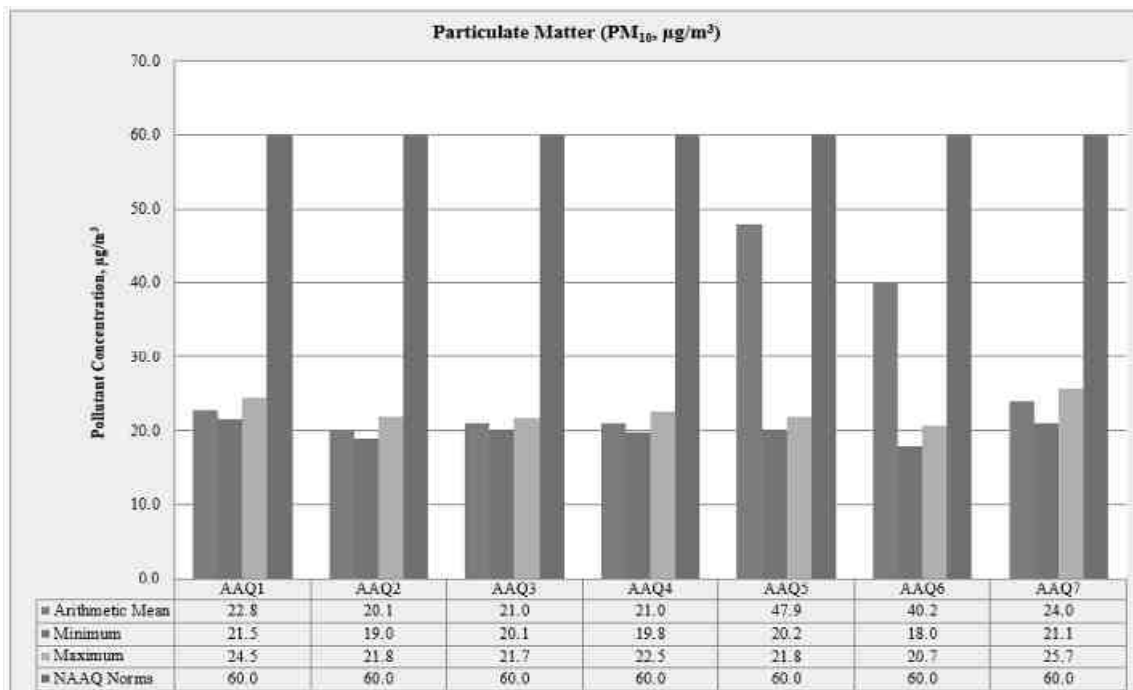
\* NAAQ Norms-National Ambient Air Quality Norms-Revised as per GSR 826(E) dated 16.11.2009 for Industrial, Residential, Rural and other Area.

**TABLE 3.26 –SUMMARY OF AMBIENT AIR QUALITY DATA**

<b>PM10</b>	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	45.7	42.8	43.1	42.3	47.9	47.9	45.1
Minimum	44.2	41.0	41.4	41.0	47.0	38.0	42.8
Maximum	46.8	44.0	45.4	43.7	49.0	41.8	48.4
<b>NAAQ Norms</b>	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>PM2.5</b>	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	22.8	20.1	21.0	21.0	47.9	40.2	24.0
Minimum	21.5	19.0	20.1	19.8	20.2	18.0	21.1
Maximum	24.5	21.8	21.7	22.5	21.8	20.7	25.7
<b>NAAQ Norms</b>	60.0	60.0	60.0	60.0	60.0	60.0	60.0
<b>SO2</b>	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	8.0	8.0	7.0	6.4	7.6	6.1	7.4
Minimum	7.2	7.2	6.3	5.2	6.1	5.3	6.5
Maximum	8.9	8.7	7.8	7.6	8.9	6.7	8.7
<b>NAAQ Norms</b>	80.0	80.0	80.0	80.0	80.0	80.0	80.0
<b>NO2</b>	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
Arithmetic Mean	24.9	25.3	25.9	25.6	23.1	25.6	24.7
Minimum	24.2	24.0	25.2	23.0	22.3	24.3	22.5
Maximum	25.9	26.5	26.7	27.5	23.8	26.8	26.1
<b>NAAQ Norms</b>	80.0	80.0	80.0	80.0	80.0	80.0	80.0

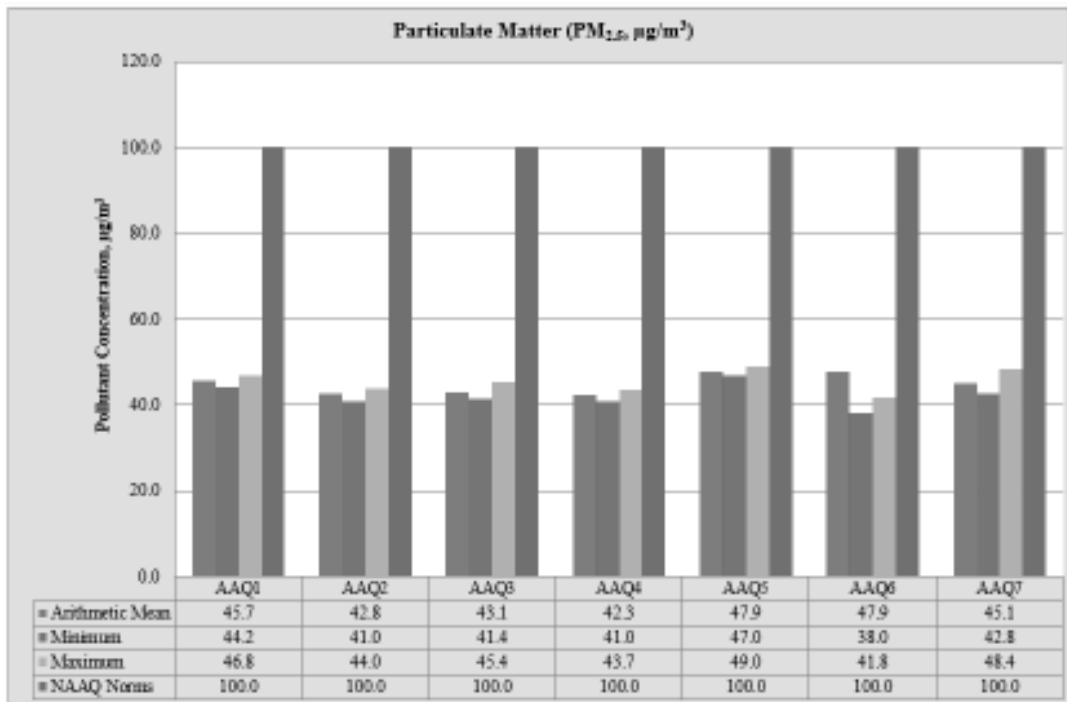


**FIGURE 3.11 : BAR DIAGRAM OF SUMMARY OF AAQ**

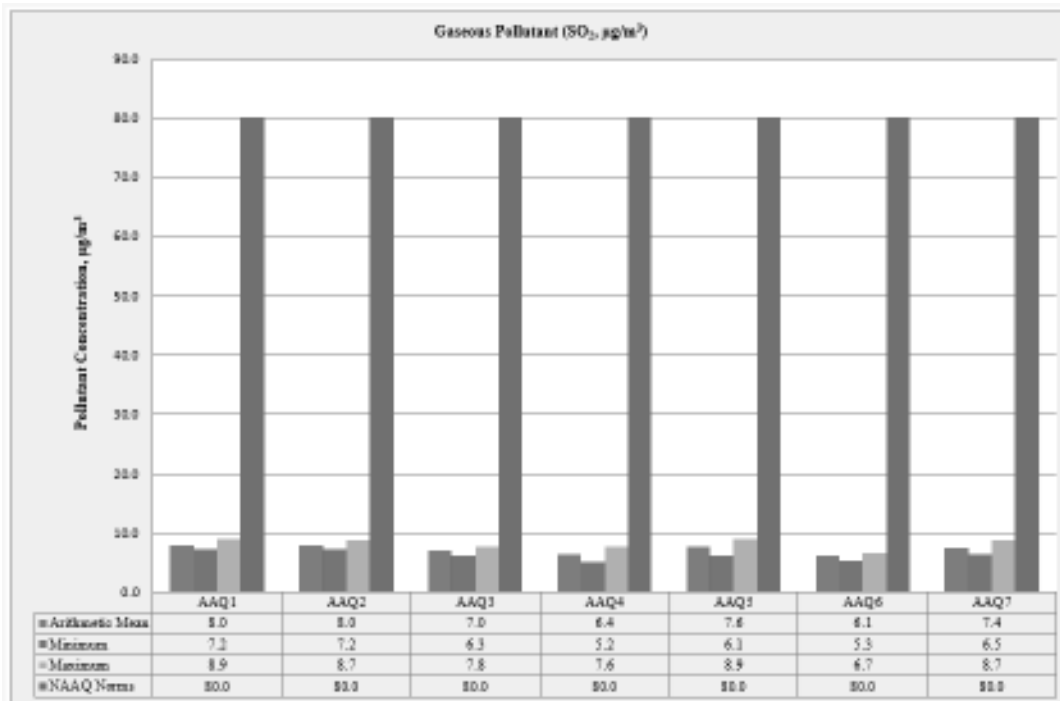


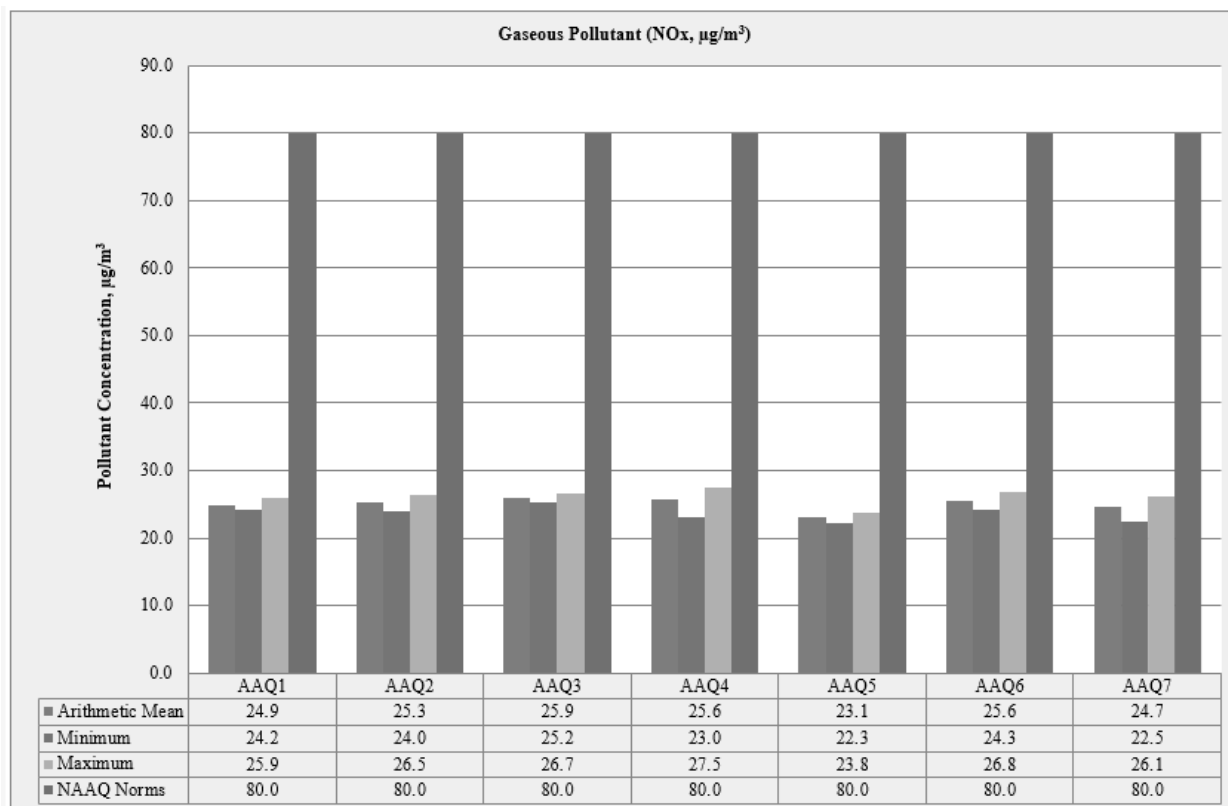
**FIGURE 3.12 : BAR DIAGRAM OF PARTICULATE MATTER (PM10)**

**FIGURE 3.13 : BAR DIAGRAM OF PARTICULATE MATTER (PM<sub>2.5</sub>)**



**FIGURE 3.14: BAR DIAGRAM OF PARTICULATE MATTER (SO<sub>2</sub>)**



**FIGURE 3.15: BAR DIAGRAM OF PARTICULATE MATTER (NO<sub>x</sub>)**

### 3.3.6 Interpretations & Conclusion

As per monitoring data, PM<sub>10</sub> ranges from 38 µg/m<sup>3</sup> to 49.0 µg/m<sup>3</sup>, PM<sub>2.5</sub> data ranges from 18.0 µg/m<sup>3</sup> to 25.7 µg/m<sup>3</sup>, SO<sub>2</sub> ranges from 5.2 µg/m<sup>3</sup> to 8.9 µg/m<sup>3</sup> and NO<sub>x</sub> data ranges from 22.3 µg/m<sup>3</sup> to 27.5 µg/m<sup>3</sup>. The concentration levels of the above criteria pollutants were observed to be well within the limits of NAAQS prescribed by CPCB. The minimum & maximum concentrations of PM<sub>10</sub> were found to be 38.0 µg/m<sup>3</sup> in Parapalayam Village & 49.0 µg/m<sup>3</sup> in Karattupalayam Village respectively. The minimum & maximum concentrations of PM<sub>2.5</sub> were found to be 18.0 µg/m<sup>3</sup> in Parapalayam Village and & 25.7 µg/m<sup>3</sup> in Pappanpalayam Village area respectively. The maximum concentration in the Buffer zone is due to the cluster of quarries situated within 500m radius.

### 3.3.7 FUGITIVE DUST EMISSION –

Fugitive dust was recorded at 7 AAQ monitoring stations for 30 days average during the study period.

**TABLE 3.27– AVERAGE FUGITIVE DUST SAMPLE VALUES IN µg/m<sup>3</sup>**

AAQ Locations	Avg SPM (µg/m <sup>3</sup> )
AAQ 1	62.02
AAQ 2	62.07
AAQ 3	63.05
AAQ 4	67.90
AAQ 5	59.00
AAQ 6	57.41
AAQ 7	64.41

Source: KGS Enviro Laboratory Private Limited

Source: Line Diagram of Table 3.29

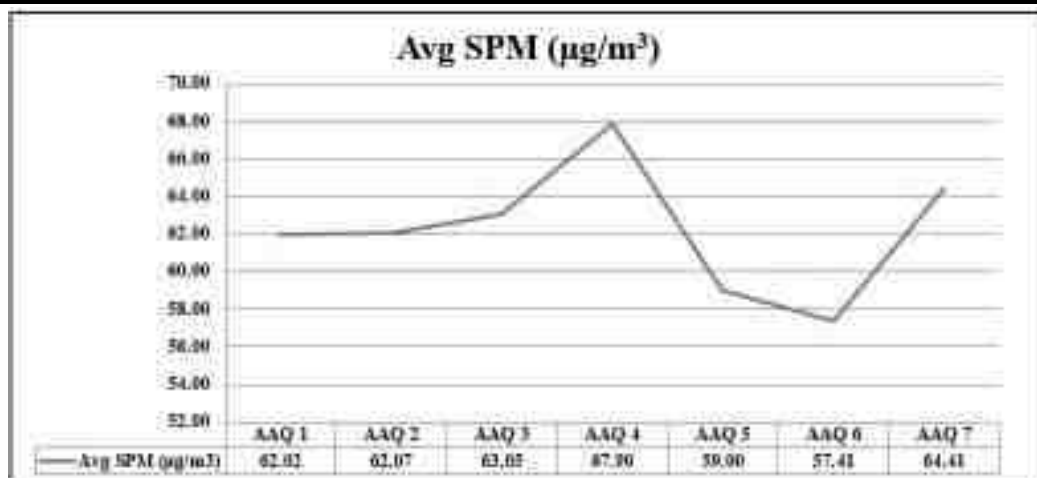
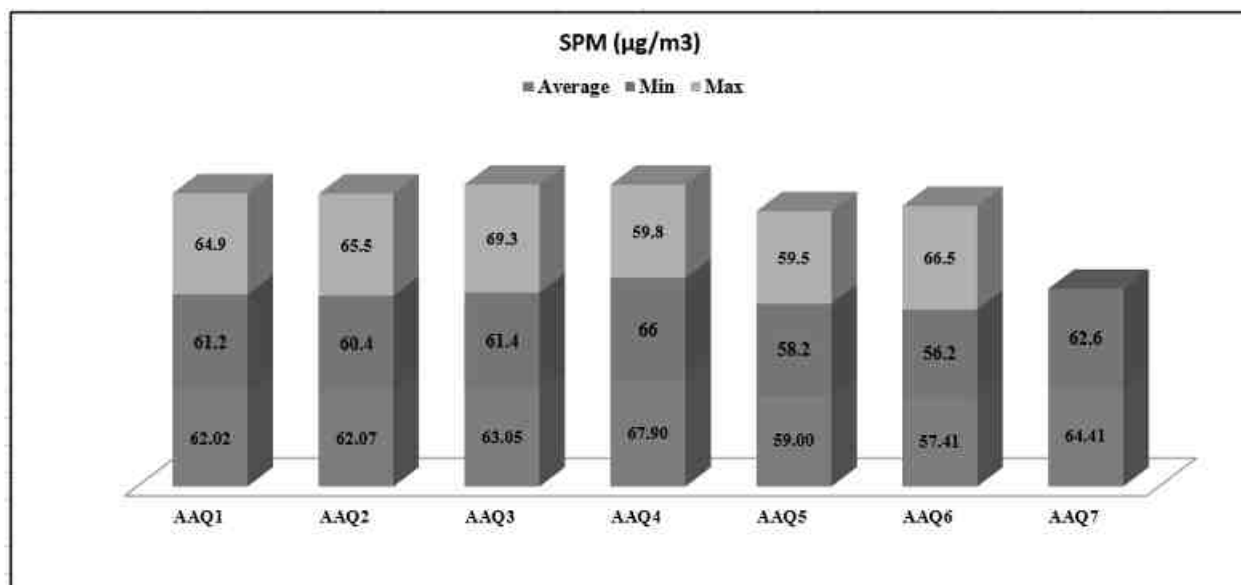


TABLE 3.28– FUGITIVE DUST SAMPLE VALUES IN  $\mu\text{g}/\text{m}^3$  –

SPM ( $\mu\text{g}/\text{m}^3$ )	AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7
<b>Average</b>	62.02	62.07	63.05	67.90	59.00	57.41	64.41
<b>Max</b>	61.2	60.4	61.4	66	58.2	56.2	62.6
<b>Min</b>	62.8	64.9	65.5	69.3	59.8	59.5	66.5

Source: Calculations from Lab Analysis Reports



Source: Bar Diagram of table 3.30

### 3.4 Noise Environment

The vehicular movement on road and mining activities is the major sources of noise in study area, the environmental assessment of noise from the mining activity and vehicular traffic can be undertaken by taking into consideration various factors like potential damage to hearing, physiological responses, and annoyance and general community responses.

The main objective of noise monitoring in the study area is to establish the baseline noise level and assess the impact of the total noise expected to be generated during the project operations around the project site.

### 3.4.1 Identification of Sampling Locations

In order to assess the ambient noise levels within the study area, noise monitoring was carried out at Seven (7) locations. The noise level monitoring locations were carried out by covering commercial, residential, rural areas within the radius of 10km. A noise monitoring methodology was chosen such that best suited the purpose and objectives of the study.

**TABLE 3.29 – DETAILS OF SURFACE NOISE MONITORING LOCATIONS**

S. No	Location code	Monitoring Locations	Distance & Direction	Coordinates
1	N-1	Core Zone	Project Area	11° 7'59.92"N 77°25'21.21"E
2	N-2	Core Zone	Project Area	11° 8'23.08"N 77°25'15.90"E
3	N-3	Morattupalayam	2.5km NW	11° 9'32.34"N 77°24'35.76"E
4	N-4	Mudhalipalayam	4.3km SE	11° 5'52.86"N 77°26'24.97"E
5	N-5	Karattupalayam	6.2km NE	11° 9'58.31"N 77°28'13.30"E
6	N-6	Parapalayam	4.8km West	11° 7'39.26"N 77°22'38.21"E
7	N-7	Pappanpalayam	6.5km West	11° 8'8.73"N 77°28'57.52"E

Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS

### 3.4.2 Method of Monitoring

Digital Sound Level Meter was used for the study. All reading was taken on the 'A-Weighting' frequency network, at a height of 1.5 meters from ground level. The sound level meter does not give a steady and consistent reading and it is quite difficult to assess the actual sound level over the entire monitoring period. To mitigate this shortcoming, the Continuous Equivalent Sound level, indicated by  $Leq$ , is used. Equivalent sound level, 'Leq', can be obtained from variable sound pressure level, 'L', over a time period by using following equation.

$$Leq = 10 \log L / T \sum (10L_n/10)$$

Where L = Sound pressure level at function of time dB (A)

T = Time interval of observation

### 3.4.3 Analysis of Ambient Noise Level in the Study Area

An analysis of the different  $Leq$  data obtained during the study period has been made. Variation was noted during the day-time as well as night-time. The results are presented in below Table 3.6

Day time : 6:00 hours to 22.00 hours.

Night time : 22:00 hours to 6.00 hours

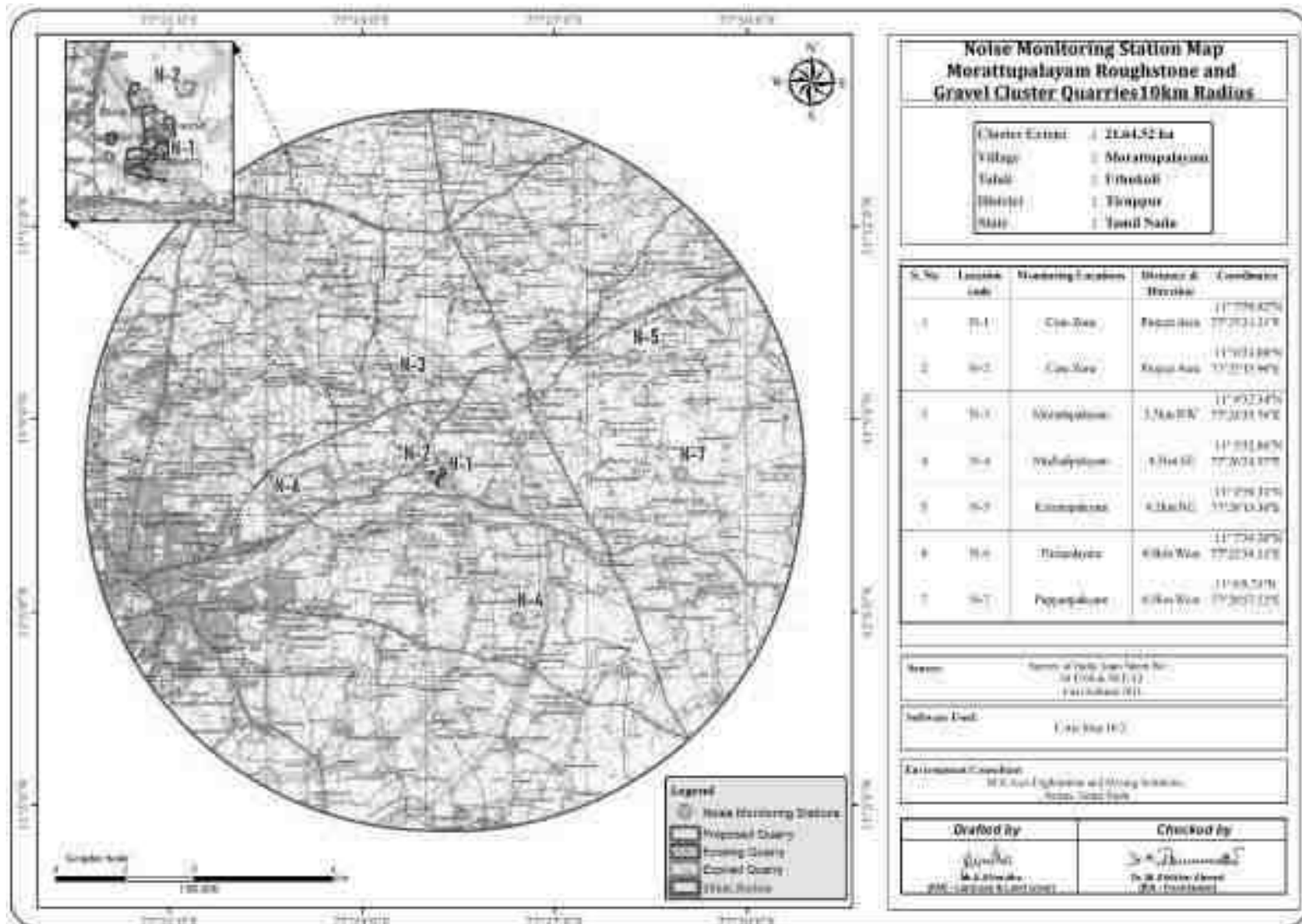
**TABLE 3.30 – NOISE MONITORING RESULTS IN CORE AND BUFFER ZONE**

S. No	Locations	Noise level (dB (A) $Leq$ )		Ambient Noise Standards
		Day Time	Night Time	
N-1	Core Zone	38.5	36.2	<b>Industrial</b> Day Time- 75 dB (A) Night Time- 70 dB (A)
N-2	Core Zone	42.1	35.1	
N-3	Morattupalayam	40.9	36.9	
N-4	Mudhalipalayam	40.3	36.2	
N-5	Karattupalayam	39.9	37.1	<b>Residential</b> Day Time- 55 dB (A) Night Time- 45 dB (A)
N-6	Parapalayam	38.5	35.2	
N-7	Pappanpalayam	39.5	37.2	

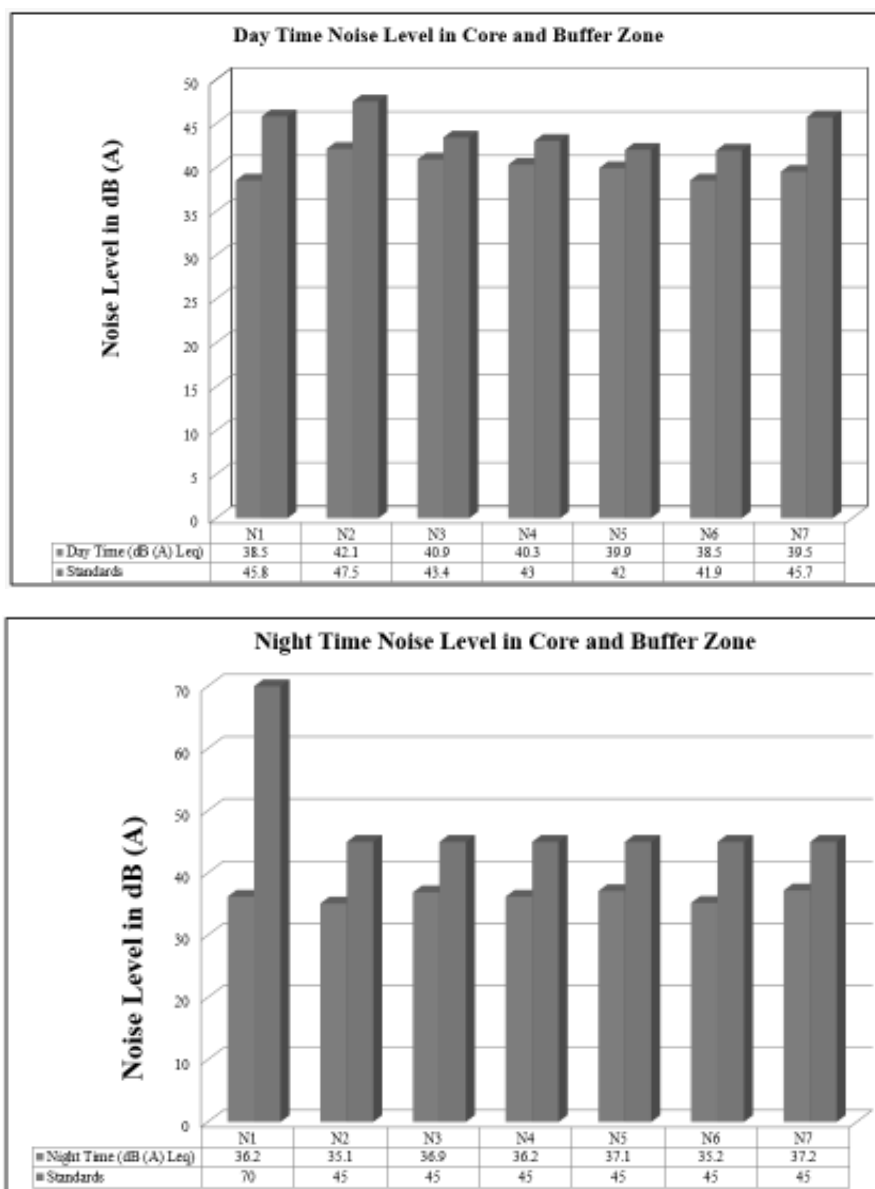
Source: On-site monitoring/sampling by KGS Enviro Laboratory Private Limited in association with GEMS



**FIGURE 3.16: NOISE MONITORING STATIONS AROUND 10 KM RADIUS**



**FIGURE 3.17: DAY & NIGHT TIME NOISE LEVELS IN CORE AND BUFFER ZONE**



**3.4.4 Interpretation & Conclusion:**

Ambient noise levels were measured at 7 (Seven) locations around the project area considering cluster quarries. Noise levels recorded in core zone during day time were from 38.5-42.1 dB (A) Leq and during night time were from 35.1-36.2 dB (A) Leq. Noise levels recorded in buffer zone during day time were from 38.5 – 40.9dB (A) Leq and during night time were from 35.1 -37.2 dB (A) Leq.

The values of noise observed in some of the areas are primarily owing to quarrying activities due to cluster of quarries within 500m radius, movement of vehicles and other anthropogenic activities. Noise monitoring results reveal that the minimum & maximum noise levels at day time were recorded in the range of 31.2 dB(A) in Core zone and Parapalayam Village and 35.75 dB(A) in Pappanpalaym Village. 31.1 db (A) Morattupalaym Village respectively minimum noise levels in night time. 43.6dB(A) maximum noise levels in Morattupalaym Village night time for Thus, the noise level for Industrial and Residential area meets the requirements of CPCB.

### 3.5. Biological Environment

#### 3.5.1. Study area Ecology

In this project, the total area of the Cluster within 10km radius from the periphery of this quarry is reported as **21,64.52Ha with cluster quarries**. In such a Cluster situation, a common Ecology and Biodiversity study for the entire cluster of quarries is enough to capture all the possible externalities. The common EIA/EMP data can be used for all quarries that fall under this cluster but the present work was carried out on the detailed study of the impacts of Morattupalayam Village Rough stone and gravel quarry on the ecology and biodiversity of the core lease area with the proper mitigation and sustainable management plan. The proposed mine lease applied area exhibits flat terrain. The following methods were applied during the baseline study of flora, fauna and diversity assessment.

#### 3.5.2. Objectives of Biological Studies

- a) To study the likely impact of the proposed mining project on the local biodiversity and to suggest mitigation measures, if required, for vulnerable biota.
- b) Undertake intensive field survey to assess the status of floral & faunal component in different habitats in the core and buffer areas of the project site.
- c) Identification and listing of flora and fauna which are important as per the Wildlife (Protection) Act 1972.
- d) Suggest Wildlife conservation (species specific/habitat specific) and management plan for the threatened (critically endangered & endangered species - schedule I) faunal species if any reported within the study area.
- e) To identify the impacts of mining on agricultural lands and how it affects.
- f) Proper collection of information about wildlife Sanctuaries/ national parks/ biosphere reserves of the project area.
- g) Devise management & conservation measures for biodiversity.

#### 3.5.3. Methodology of Sampling

Identification of vegetation in relation to the natural flora and crops was conducted through reconnaissance field surveys and onsite observations in core and buffer zone. The plant species identification was done based on the reference materials and also by examining the morphological characteristics and reproductive materials i.e. flowers, fruits and seeds. Land use pattern in relation to agriculture crop varieties were identified through physical verification of land and interaction with local villagers.

The faunal elements (animal species) of core and buffer zone were identified by direct sightings or indirect evidences viz. pug marks, skeletal remains, scats and droppings etc. (Jayson and Easa 2004). Standard binocular was used for the observations. The authenticity of faunal elements occurrence was confirmed by interaction with the local people. Avifauna identification was done with pictorial descriptions of published literature. Information pertaining to existence of any migratory corridors and paths were obtained from local inhabitants. The status of each faunal element was determined and wildlife schedule category was ascertained as per the IUCN-Red Data Book and Indian wildlife (Protection) Act, 1972.

Plot method is used in the floral documentation in the core and buffer zone. For trees (10x10-m), shrubs (5x5-m) and herbs (1x1-m) plots were taken. Birds and butterflies were mainly focused during faunal assessment, transect method was employed for birds and butterflies. Transect is a path along which one counts and records the occurrence of an individual for study. A straight-line walk covering desired distance, within a time span of one hour to 30 minutes was carried out in the proposed region. Bird species were recorded during the hours of peak activity. 0700 to 1100 Hrs and 1430 to 1730 Hrs (Bibby et al. 2000).

Direct observations and bird calls were used for bird documentation. Same transects were used for counting butterflies. Opportunistic observations were made for Amphibians, reptiles and ordinates. The presence of mammals was recorded by direct and indirect signs. All possible transects were taken for birds and butterflies. Birds and butterflies were classified into species level. Recorded bird species were identified to species level using standard books (Ali & Ripley 1987, Grimmett et al., 2016).

### 3.5.3.1. Sampling

A stratified simple random sampling procedure was employed to obtain a sample from study area. The study area was further stratified in different land use/ecosystems.

### 3.5.3.2. Sampling Size

Keeping in mind both random sampling technique and covering all land use patterns for the study following sampling locations were chosen depending up on the area of the proposed site.

### 3.5.3.3. Timing of Study

The study was carried out during morning and evening hours, to cover the different activity phases for important species such as time resting, feeding, hunting, and daily movements.

### 3.5.3.4. Observations from Sampling

The various observations relating to flora and fauna species are discussed in detail below, in separate sections.

### 3.5.3.5. Equipment/ References

- Canon Mark III Camera with 50-500mm lens– Snap shots taken
- Leica Binoculars (8x 20) to spot/identify species
- IUCN Red Data Book – <https://www.iucnredlist.org/species>

Ornithological/Entomological/Herpetological/Mammalian catalogues and pictorial descriptions from various authors and websites are followed for species identification.

## 3.5.4. Part I Field Sampling Techniques

### 3.5.4.1. Transect walk – Birds

Six no of transect lines with varying length (100m-300m) and fixed width (2m) were laid which cuts through the core and buffer areas of proposed site. The transect surveys were conducted from 0700 to 1100Hrs and 1430 to 1730Hrs (Bibby et al. 2000). All avifauna found along these transects were recorded for analysing of the data. Counts were conducted while there is no heavy rain, mist or strong wind.

### 3.5.4.2. Modified Pollard Walk – for Butterflies

The Modified Pollard Walk (Pollard 1977, 1993, Walpole 1999) using fixed width transect walk method were employed to investigate butterfly spatial distribution, diversity, and abundance at the different survey sites.

### 3.4.3. Visual Encounter Survey (VES) - reptiles and amphibians

VES is a time-constrained sampling technique (Campbell and Christman, 1982; Corn and Bury, 1990). It needs a systematic search through an area or habitat for a prescribed time period (Campbell and Christman, 1982). The result of VES is measured against the time spent for search. VES technique is one of the simplest methods and an appropriate technique for both inventory and monitoring Herpetofauna (Heyer et al. 1994).

### 3.5.4.4. Observational methods- Mammals

For the purpose of recording mammals, we used two different observational techniques: (1) direct observations, and (2) recording of occurrences like holes, markings, scats, hairs, and spines (Menon 2003). For identification confirmations, photographs with a scale reference were used, and locations were recorded using a portable GPS device. Indigenous knowledge particularly that of the locals, was occasionally employed to compile a preliminary list of species and/or aid in the recognition of indicators.

### 3.5.4.5. Multiple Stage Quadrat – Vegetation

A variety of habitat or vegetation structure variables were measured using the Multiple Stage Quadrat sampling protocol (Sykes and Horrill 1977). All of those areas were sampled, and the major corners were

temporarily delineated with colored ribbons. Each site was identified in the field using a compass and clinometer, and the plot's latitude, longitude, and elevation were recorded using a handheld Global Positioning System (Garmin 12XL).

### 3.5.5 Flora

The quadrat sampling technique was used for sampling vegetation. Sampling quadrats of the regular shape of dimensions 10 × 10 m, 5 × 5 m, and 1 × 1 m, were nested within each other and were defined as the units for sampling the area and measuring the diversity for trees, Shrubs, and herbs respectively.

### 3.5.6 Flora Composition in the Core Zone

Taxonomically a total of 24 species belonging to 15 families have been recorded from the core mining lease area. It is exhibit plain topography. Based on habitat classification of the enumerated plants the majority of species were Herbs 11 (46%) followed by Shrubs 5 (21%), Trees 4 (17%), Grasses 3 (12%), and Climbers/Creepers 1 (4%). Details of flora with the scientific name were mentioned in Table No. 3.31. The result of the core zone of flora studies shows that Fabaceae and Poaceae and Lamiaceae are the main dominating species in the study area mentioned in Table No.3.31. No species were found as a threatened category (Table No. 3.31).

**Table No: 3.31. Flora in the Core zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District.**

SI. No	English Name	Vernacular Name	Scientific Name	Family Name
<b>Trees</b>				
1.	Neem	Vembu	<i>Azadirachta indica</i>	Meliaceae
2.	Mesquite	Mullu maram	<i>Prosopis juliflora</i>	Fabaceae
3.	River tamarind	Saluda	<i>Leucaenaleucocephala</i>	Fabaceae
4.	Pala indigo	Pala maram	<i>Wrightia tinctoria</i>	Apocynaceae
<b>Shrubs</b>				
1.	Milk Weed	Erukku	<i>Calotropis gigantea</i>	Apocynaceae
2.	Avaram	Avarai	<i>Senna auriculata</i>	Fabaceae
3.	Thorn apple	Oomathai	<i>Datura stramonium</i>	Solanaceae
4.	Lantana	Unni chedi	<i>Lantana camara</i>	Verbenaceae
5.	Night shade plan	Sundaika	<i>Solanum torvum</i>	Solanaceae
<b>Herbs</b>				
1.	Common leucas	Thumbai	<i>Leucas aspera</i>	Lamiaceae
2.	Devil's thorn	Nerunji	<i>Tribulus terrestris</i>	Zygophyllales
3.	Asthma-plant	Amman pacharisi	<i>Euphorbia hirta</i>	Euphorbiaceae
4.	Indian Catmint Plant	Pei viratti	<i>Anisomeles malabarica</i>	Lamiaceae
5.	Indian mallow	Thuthi	<i>Abutilon indicum</i>	Meliaceae
6.	Common nut sedge	Korai	<i>Cyperus rotundus</i>	Cyperaceae
7.	Indian doab	Arugampul	<i>Cynodon dactylon</i>	Poaceae
8.	Holy basil	Thulasi	<i>Ocimum tenuiflorum</i>	Lamiaceae
9.	Ban Tulsi	Melakai poondu	<i>Croton bonplandianus</i>	Euphorbiaceae

10.	Prickly chaff flower	Nayuruv	<i>Achyranthes aspera</i>	Amaranthaceae
11.	Coat buttons	Thatha poo	<i>Tridax procumbens</i>	Asteraceae
<b>Creeper /Climbers</b>				
1	Stemmed vine	Perandai	<i>Cissus quadrangularis</i>	Vitaceae
<b>Grass</b>				
1.	Eragrostis	Pullu	<i>Eragrostis ferruginea</i>	Poaceae
2.	Great brome	Thodappam	<i>Bromus diandrus</i>	Poaceae
3.	Nut grass	Korai	<i>Cyperus rotandus</i>	Poaceae

Sources: Species observation in the field study



a. *Azadirachta indica*



b. *Calotropis gigantea*



c. *Leucaenaleucocephala*



d. *Datura stramonium*



e. *Wrightia tinctoria*



f. *Abutilon indicum*



g. *Tridax procumbens*



h. *Leucas aspera*



i. *Anisomeles malabarica*



j. *Croton bonplandianus*



k. *Prosopis juliflora*



l. *Cissus quadrangularis*

**Fig No: 3.18. Flora species observation in the Core zone area**



**Table No: 3.32. Flora in the Buffer zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District**

Sl.No.	English Name	Vernacular Name	Scientific Name	Resource use type *(E,M,EM)
<b>Trees</b>				
1.	Millettia pinnata	Pongam oiltree	Pongamia pinnata	E
2.	Tamarind	Puliyamaram	Tamarindus indica	EM
3.	Asian Palmyra palm	Panai maram	Borassus flabellifer	E
4.	Wild Date Palm	Pericham	Phoenix sylvestris	E
5.	Coconut	Thennai maram	Cocos nucifera	EM
6.	River tamarind	Savunda	Leucaenaleucocephala	E
7.	Lemon	Ezhumuchaipalam	Citrus lemon	EM
8.	Mango	Manga	Mangifera indica	E
9.	Banyan tree	Alamaram	Ficus benghalensis	E
10.	Neem or Indian lilac	Vembu	Azadirachta indica	M
11.	Creamy Peacock flower	Vadanarayani	Delonix elata	M
12.	Mesquite	Sema Karuvelam	Prosopis juliflora	E
13.	Beauty leaf	Punnai	Calophyllu inophyllum	M
14.	Madras Thorn	Kodukapuli	Pithecellobium dulce	E
15.	Castor oil plant	Amanakku	Ricinus communis	M
16.	Gum arabic tree	Karuvelam	Acacia nilotica	NE
17.	False ashoka	Asoka maram	Polyalthia longifolia	E
18.	Monkey pod tree	Thungumoonchi	Samanea saman	E

19.	Bitter Albizia	Arappu	Albizia amara	M
20.	Giant thorny bamboo	Perumungil	Bambusa bambos	M
21.	Wood-apple	Vilamaram	Limonia acidissima	M
22.	Orange jessamine	Venkarai	Murraya paniculata	E
23.	Black plum	Navalmaram	Sygygium cumini	EM
24.	Eucalyptus	Eucalyptus	Eucalyptus globules	EM
25.	Custard apple	Seethapazham	Annona reticulata	E
26.	Copperpod	Iyal Vaagai	copperpod	E
27.	Acacia Nilotica	Karuvelam maram	Vachellia nilotica	M
28.	Indian gooseberry	Nelli	Emblica officinalis	EM
29.	Henna	Marudaani	Lawsonia inermis	EM
30.	Sacred fig	Arasan	Ficus religiosa	E
31.	Indian mulberry	Nuan	Morinda tinctoria	E
32.	Teak	Thekku	Tectona grandis	E
33.	Papaya	Pappali maram	Carica papaya	EM
34.	Chinese chaste tree	Nochi	Vitex negundo	E
35.	Peepal	Arasanmaram	Ficus religiosa	M
36.	Indian fir tree	Nettilinkam	Polyalthia longifolia	E
37.	Guava	Koyya	Psidium guajava	EM
38.	Curry tree	Velipparuthi	Murraya koenigii	EM
39.	Bamboo	Moonghil	Bambusa bambo	E
40.	Drumstick tree	Murunga maram	Moringa oleifera	EM

41.	Indian almond	Padam maram	Terminalia catappa	EM
42.	Mesquite	Velikathan maram	Prosopis juliflora	M
43.	Portia tree	Poovarasam	Thespesia populnea	E
<b>Shrubs</b>				
1.	Avaram	Avarai	Senna auriculata	M
2.	Night shade plan	Sundaika	Solanum torvum	EM
3.	Lantana	Unnichedi	Lantana camara	M
4.	Rough cocklebu	Ottarachedi	Xanthium strumarium	M
5.	Triangular spruge	Chaturakalli	Euphorbia antiquorum	NE
6.	Indian jujube	Elanthai	Ziziphus mauritiana	M
7.	Coffee senna	Kattuttakarai	Senna occidentalis	M
8.	Rosy Periwinkle	Nithyakalyani	Cathranthus roseus	M
9.	Bush Morning Glory	Neyvelik Kattamanakku	Ipomoea carnea	E
10.	Chinese chastetree	Nochi	Vitex negundo	M
11.	Water spinach	Nalikam	Ipomoea aquatica	E
12.	Indian Oleander	Arali	Nerium indicum	M
13.	Shoe flower	Chemparuthi	Hibiscu rosa-sinensis	EM
14.	Puriging nut	Kattamanakku	Jatropha curcas	EM
15.	Columnar Cactus	Sappathikalli	Cereus pterogonus	M
16.	Thorn apple	Oomathai	Datura stramonium	E
17.	Century plant	Anaikathalai	Agave americana	M
18.	Jackal jujube	Soorai pazham	Ziziphus oenopolia	M

19.	Indian mallow	Thuthi	Abutilon indicum	M
20.	Flame of the Woods	Idlipoo	Xoracoc cineca	M
21.	Peacock Flower	Mayil Kontai	Caesalpinia pulcherrima	M
22.	Datura metel	Uumaththai	Datura metel	NE
23.	Milk Weed	Erukku	Calotropis gigantea	M
24.	Cassava	Maravalli kizhangu	Manihot esculenta	EM
25.	Hopbush	Virali	Dodonaea viscosa	E
26.	Paper flower	Kahitha poo	Bougainvillea glabra	M
27.	Tiger nail	Eli verandi	Martynia annua	M
<b>Herbs</b>				
1.	Prickly chaff flower	Nayuruv	Achyranthes aspera	M
2.	Tridax daisy	Veetukaayapoond	Tridax procumbens	M
3.	Indian Copperleaf	Kuppaimeni	Acalypha indica	M
4.	Indian doab	Arugampul	Cynodon dactylon	E
5.	Copperleaf	Kuppaimeni	Acalypha indica	M
6.	Indian Catmint Plant	Pei viratti	Anisomeles malabarica	M
7.	Cleome viscosa	Nai kadugu	Celome viscosa	M
8.	Porcupine flower	Shemmuli	Barleria prionitis	E
9.	Common Wireweed	Arivalmanai poond	Sida acuta	M
10.	Punarnava	Mukkirattai	Boerhaavia diffusa	EM
11.	Mexican prickly poppy	Kudiyotti	Argemone mexicana	M
12.	Common leucas	Thumbai	Leucas aspera	M

13.	Licorice weed	Kallurukki	Scoparia dulcis	M
14.	Chay root	Chaaya ver	Oldenlandia umbellata	M
15.	Slender dwarf morning-glory	Vittunu-k-kiranti	Evolvulus alsinoides	M
16.	Spiny amaranth	Mullu keera	Amaranthus spinosus	M
17.	Cracker plant	Tapas kaaya	Ruellia tuberosa	M
18.	Flannel Weed	Sida mutti	Sida cordifolia	M
19.	Green amaranth	Mulai keera	Amaranthus viridis	M
20.	Marsh barbel	Neermulli	Hygrophila auriculata	M
21.	Yellow-fruit nightshade	Kandakathirika	Solanum surattense	M
22.	Shameplant	Thottachenunki	Mimosa pudica	M
23.	Common Purslane	Paruppu keera	Portulaca oleracea	M
24.	Water willow	Kodakasalai	Justicia procumbens	M
25.	Threadstem carpetweed	Parpatakam	Mollugo cerviana	M
26.	Perennial Water Primrose	Muyalkathu Ilai	Ludwigia perennis	M
27.	Prostrate Globe Amaranth	-	Gomphrena serrata	M
28.	Node Flower	Kumattikkirai	Allmania nodiflora	M
29.	Sessile Joyweed	Ponnankanni	Alternanthera sessilis	M
30.	Asthma-plant	Ammanpacharisi	Euphorbia hirta	M
31.	Pignut	Nattapoochedi	Hyptis suaveolens	M
32.	Holy basil	Thulasi	Ocimum tenuiflorum	M
33.	Pink Blumea	Suvatru mullangi	Blumea mollis	M
34.	Madagascar Periwinkle	Nithykalyani Podi	Catharanthus roseus	E

35.	Asian spiderflower	Naaikaduku	Cleome viscosa L	M
36.	Digeria muricata	Thoiya keerai	Digeria muricata	EM
37.	Carrot grass	Partiniyam	Parthenium hysterophorus	NE
38.	Europeanblack nightshade	Manathakkali	Solanumnigrum	EM
39.	Mountain knotgrass	Thengaipoo kirai	Aerva lanata	M
40.	Bindii	Nerunchi	Tribulus terrestris	M
41.	Fish poison	Kolinchi	Tephrosia purpurea	M
42.	Chrysanthemum	Samanthi Poo	Chrysanthemum	E
43.	East Indian globe thistle	Kottakarantai	Sphaeranthus indicus	M
44.	Tomato	Thakkali	Solanum lycopersicum	EM
45.	False daisy	Karisalankanni	Eclipta alba	M
46.	Chilli	Milakai	Capsicum annum	EM
47.	Red Spiderling	Mukirattai	Boerhavia diffusa	M
48.	Aloe	Katrzhai	Aloe vera	M
49.	Eggplant	Kathrikkai	Solanum melongena	EM
50.	Coat buttons	Thatha poo	Tridax procumbens	M
51.	Indian mint	Karpura valli	Coleus amboinicus	EM
52.	Aloe barbadensis	Katrzhai	Aloe vera	EM
<b>Climber/ Creeper</b>				
1.	Stemmed vine	Perandai	Cissus quadrangularis	M
2.	Wild bitter	Pavarkai	Momordica charantia	EM
3.	Pointed gourd	Kovakkai	Trichosanthes dioica	EM

4.	Ivy gourd	Kovai	Coccinia grandis	M
5.	Bottle Guard	Sorakkai	Lagenaria siceraria	EM
6.	Ground Spurge	Sithrapaalavi	Euphorbia prostrata	EM
<b>Grass</b>				
1.	Jungle rice	Kuthirai vaalKattu arusi	Echinochloa colona	NE
2.	Mauritian Grass	Moongil pul	Apluda mutica	NE
3.	Swollen Windmill Grass	Kondai Pul	Chloris barbata	NE
4.	Needle Grass	Thodappam	Aristida adscensionis	E
5.	Eragrostis	Pullu	Eragrostis ferruginea	E
6.	Needle Grass	-	Aristida funiculata	NE
7.	Windmill grass	Chevvarakupul	Chloris barbata	NE
8.	Sugarcane	Karumbu	Saccharum	E
<b>Cactus</b>				
1.	Prickly pear	Nagathali	Opuntia dillenii	M

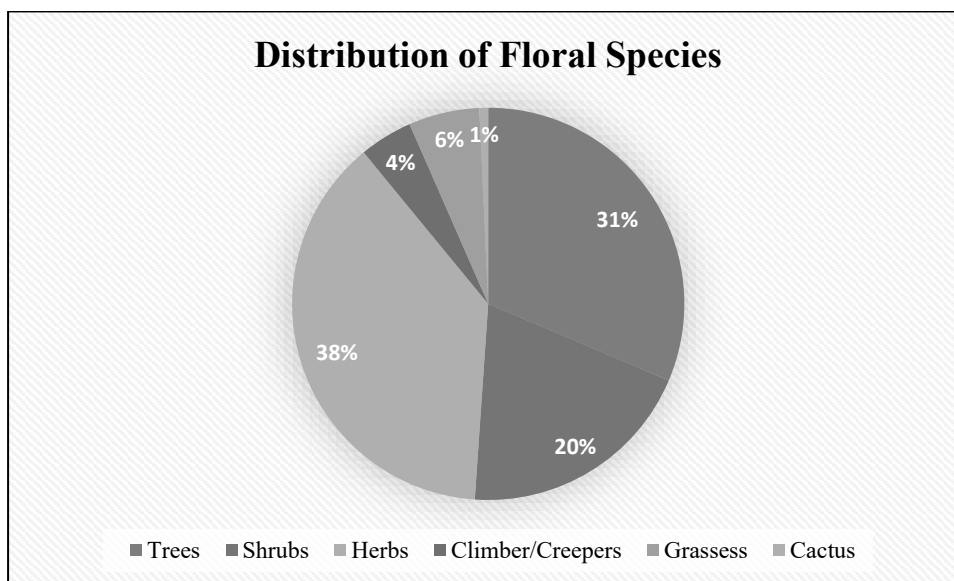
**Sources:** Species observation in the field study and secondary data

**3.5.7 Flora Composition in the Buffer Zone**

Similar habitats may be found in the buffer area as well, although there is a wider variety of plants there than in the core zone area. The proposed project site there are 137 species in the buffer zone study area in total, based on records. The floral (137) varieties among them Trees 43, Herbs 52, Shrubs 27, Climbers/ Creepers 6, Grasses 8, and Cactus 1 were identified. The result of the buffer zone of flora studies shows that Fabaceae and Cucurbitaceous, Euphorbiaceae is the main dominating species in the study area mentioned in Table No.3.32. There are no impacts due to this mining activity. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. Apart from the proposed project area, there is agricultural land. Horticulture and agricultural land are untouched. There are no Rare, Endangered, and Threatened Flora species in the mining area and their surrounding study area. A list of floral species has been prepared based on primary survey (site observations) and discussion with local people. The total number of different plant life forms under trees, shrubs, herbs, and climbers is shown in Table 3.33 and their % distribution is shown in Figure 3.19

**Table 3.33: Number of floral life forms in the Study Area**

S. No	Plant Life Form	Number of Species
1	Trees	43
2	Shrubs	27
3	Herbs	52
4	Climber/Creepers	6
6	Grasses	8
7	Cactus	1
Total No. of Species		137



**Fig No. 3.19: Diagram showing % distribution of floral life forms**





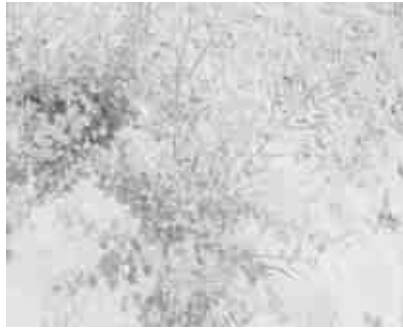
a. *Calotropis gigantea*



b. *Azadirachta indica*



c. *Ocimum tenuiflorum*



d. *Celome viscosa*



e. *Amaranthus spinosus*



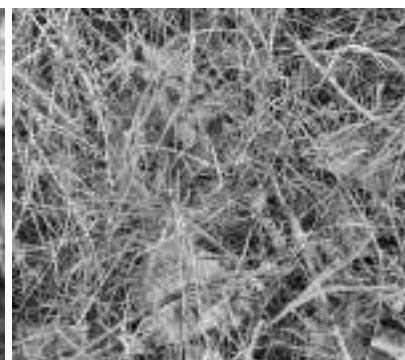
f. *Annona reticulata*



g. *Tridax procumbens*



h. *Pongamia pinnata*



i. *Cynodon dactylon*



j. *Boerhaavia diffusa*



k. *Jatropha curcas*



l. *Morinda tinctoria*



m. *Coleus amboinicus*



n. *Aloe vera*



o. *Solanum melongena*



p. *Carica papaya* L



q. *Thespesia populnea*



r. *Euphorbia antiquorum*



s. *Solanum nigrum*



t. *Chrysanthemum*



u. *Solanum lycopersicum*



v. *Solanum torvum*



w. *Datura stramonium*



x. *Abutilon indicum*



Hibiscus rosa-sinensis

Ficus benghalensis

Mangifera indica

**Fig No: 3.20. Flora species observation in the Buffer zone area****3.5.8. Major Agricultural Crops**

Tiruppur district though an industrial district plays important role in Agriculture also. The food production required to be enhanced to provide food and nutritional security to the growing district population. In Tiruppur more than 80% of the farmers belong to small and marginal category and they play a key role in overall development in Agriculture. The total area of cultivation is around 2,28,556 hectares, mainly food and commercial crops. The chief food crops are paddy, millets and pulses. The non-food or commercial crops in the district are cotton, oil seeds and coconut. Details of the major crops are given in Table No: 3.34.

**Table No: 3.34. Major crops in Tiruppur District**

S.No	Major crops	Scientific name	Families
1	Paddy	<i>Oryza sativa</i>	Grasses
2	Sorghum	<i>Sorghum bicolor</i>	Grasses
3	Maize	<i>Zea mays</i>	Grasses

(Source: Agriculture Contingency Plan– Tiruppur-2013)

**3.5.8.1. Horticulture**

Major horticulture crops cultivated in this district are fruits crops like mango, banana, aonla, sapota and papaya, vegetables like bhendi, tomato, brinjal, onion, tapioca, moringa, spices and condiments like chillies and turmeric, plantation crops like cocoa, flower crops like jasmine, tube rose, marigold, cock's comb and medicinal plants like gloriosa and coleus. Details of major field crops and horticulture in Tiruppur district is given in Table No: 3.35.

**Table No: 3.35. Major Field crops & horticulture in Tiruppur District.**

Sl.No	Common Name	Scientific Name	Family
<b>Major Horticultural Crops</b>			
1	Banana	<i>Musa</i>	Musaceae
2	Mango	<i>Mangifera indica</i>	Anacardiaceae
3	Jack	<i>Artocarpus heterophyllus</i>	Mulberry

4	Guava	<i>Psidium guajava</i>	Myrtle
5	Sapota	<i>Manilkara zapota</i>	Sapotaceae
6	Lemon	<i>Citrus × limon</i>	Rutaceae
<b>Vegetables</b>			
7	Onion	<i>Allium cepa</i>	Amaryllidaceae
8	Tapioca	<i>Manihot esculenta</i>	Spurges
9	Brinjal	<i>Solanum melongena</i>	Nightshade
10	Tomato	<i>Solanum lycopersicum</i>	Nightshade
11	Gourds	<i>Lagenaria siceraria</i>	Cucurbits
12	Bhendi	<i>Abelmoschus esculentus</i>	Mallows
13	Moringa	<i>Moringa oleifera</i>	Moringaceae
<b>Medicinal and Aromatic Plants</b>			
14	Gloriosa superba	<i>Colchicaceae</i>	Colchicaceae
15	Coleus	<i>Plectranthus scutellarioides</i>	Mints
<b>Flowers</b>			
16	Jasmine	<i>Jasminum</i>	Jasminaceae
17	Crossandra	<i>Crossandra infundibuliformis</i>	
18	Crysanthimum	<i>Asteraceae</i>	Asteraceae
19	Rose & Jathi	<i>Rosa</i>	Rosaceae
20	Tuberose	<i>Polianthes tuberosa</i>	Asparagus
<b>Spices and Condiments</b>			
21	Chillies	<i>Capsicum frutescens</i>	Solanaceae
22	Turmeric	<i>Curcuma longa</i>	Zingiberaceae
23	Tamarind	<i>Tamarindus indica</i>	Legumes
24	Curry leaf	<i>Murraya koenigii</i>	Rutaceae
<b>Plantation Crops</b>			
25	Cashew	<i>Anacardium occidentale</i>	Cashews
26	Cocoa	<i>Theobroma cacao</i>	Mallows

(Source: Statistical handbook of Tamil Nadu-2013)

### 3.5.8.2 Types of Irrigation

Irrigation is the artificial application of water to the soil for normal growth of plants. Water is an important determinant factor for production of crops in agriculture sector. Intensive and extensive cultivation of land depends mainly on the availability of water. Medium and minor irrigation schemes are implemented in the state for augmenting

the water supply for agriculture. The various sources of irrigation are canals, tanks, tube wells, ordinary wells, springs and channels. The Following Table No: 3.36. Shows the area irrigated in Tiruppur District.

**Table No: 3.36. Area irrigated in the district**

S.No	Irrigation	Area ('000 ha)
1	Net irrigated area	119.3
2	Gross irrigated area	123.1
3	Rain fed area	72.9

(Source: Statistical handbook of Tamil Nadu-2013)

Dug wells are the major source of water for irrigation in Tiruppur district, accounting for about 59.97 percent of the total area irrigated in this district. Tube wells accounting for about 9.48 percent of the total area irrigated in this district. Of the net area irrigated, the canal irrigated area is only 29.45 percent. The area irrigated under tank is 1.10 percent. (Source: Statistical handbook of Tamil Nadu-2013)

### 3.5.8.3 The vegetation in the RF / PF areas, ecologically sensitive areas

There are neither reserved (RF) nor protected (PF) forests either in the mine lease area or in the buffer zone. Thus, no forest land is involved in any manner. Hence, no certificate from the Forest department is required. There are no impacts due to this mining activity.

There are no protected or ecologically sensitive areas such as National parks or Important Bird Areas (IBAs), or Wetlands or migratory routes of fauna or water bodies or human settlements within the proposed mine lease area. There are no Biosphere reserves or wildlife sanctuaries or National parks or Important Bird Areas (IBAs), or migratory routes of fauna. Thus, the area under study (Mine lease area and the 10 Km buffer zone) is not ecologically sensitive. It is away from the proposed project site.

There are neither forests nor forest dwellers nor forest-dependent communities in the mine lease area. There shall be no forest-impacted families (PF) or people (PP). Thus, the rights of Traditional Forest Dwellers will not be compromised on account of the project.

### 3.5.9 Fauna

The faunal survey has been carried out as per the methodology cited and listed out Mammals, birds, Reptiles, Amphibians, and Butterflies. All the listed species were compared with the Red Data Book and the Indian Wildlife Protection Act, 1972. There are no rare, endangered, threatened (RET), and endemic species present in the core area.

### 3.5.10. Fauna Composition in the Core Zone

A total of 16 varieties of species were observed in the Core zone of Morattupalayam Village, Rough stone and gravel quarry (Table No.3.7) among them numbers of Insects 5 (31%), Reptiles 2 (13%), Mammals 2 (12%) and Avian 7 (44%). A total of 15 species belonging to 13 families have been recorded from the core mining lease area. None of these species are threatened or endemic in the study area and surroundings. There is no Schedule I species and six species are under schedule IV according to the Indian wild life Act 1972. A total of 7 species of bird were sighted in the mining lease area.

There are no critically endangered, endangered, vulnerable and endemic species were observed. Details of fauna in core zone with the scientific name were mentioned in Table No. 3.7.

**Table No: 3.37. Fauna in the Core zone of Morattupalayam Village, Cluster area, Rough stone and Gravel quarry, Uthukuli Taluk, Tiruppur District**

SI. No	Common name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
<b>Insects</b>			
1.	Mottled emigrant	Catopsilia pyranthe	NL
2.	Striped tiger	Danaus plexippus	Schedule IV
3.	Common Tiger	Danaus genutia	NL
4.	Red-veined darter	Sympetrum fonscolombii	NL
5.	Danaid egg fly	Hypolimnasmisippus	Schedule IV
<b>Reptiles</b>			
1.	Garden lizard	Calotes versicolor	Schedule IV
2.	Common skink	Mabuya carinatus	Schedule IV
<b>Mammals</b>			
1.	Indian Field Mouse	Mus booduga	Schedule IV
2.	Common rat	Rattus rattus	Schedule IV
<b>Aves</b>			
1.	Common myna	Acridotheres tristis	Schedule IV
2.	House crow	Corvus splendens	Schedule IV
3.	Common quail	Coturnix coturnix	Schedule IV
4.	Koel	Eudynamys	Schedule IV
5.	Cattle egret	Bubulcus ibis	Schedule IV
6.	Asian green bee-eater	Merops orientalis	Schedule IV
7.	Black drongo	Dicrurus macrocercus	Schedule IV

\*NL- Not listed, LC- Least Concern

(Sources: Species observation in the field study)

### 3.5.11 Fauna Composition in the Buffer Zone

As animals, especially vertebrates move from place to place in search of food, shelter, mate or other biological needs, separate lists for core and buffer areas are not feasible however, a separate list of fauna pertaining to core and buffer zone are listed separately. Though there is no reserved forests in the buffer zone. As such there are no chances of occurrence of any rare or endangered or endemic or threatened (REET) species within the core or buffer area.

There are no Sanctuaries, National Parks, Tiger Reserve or Biosphere reserves or Elephant Corridor or other protected areas within 10 km radius of from the core area. It is evident from the available records, reports, and circumstantial evidence that the entire study area including the core and buffer areas were free from any endangered animals. There were no resident birds other than common bird species such as Red-whiskered Bulbul, Asian Koel, House crow, Black drongos, Crows, Pond heron etc.

The list of Mammals (\*directly sighted animals & Secondary data) is given in table No.3.38. The list of bird species recorded during the field survey and literature from the study area are given in Table 3.39. The list of reptilian species recorded during the field survey and literature from the study area is given in Table 3.40. The list of insect species recorded during the field survey and literature from the study area are given in Table 3.41. The list of Butterflies species recorded during the field survey and literature from the study area are given in Table 3.42. It is apparent from the list that none of the species either spotted or reported is included in Schedule I of the Wildlife Protection Act. Similarly, none of them comes under the REET category.

Taxonomically a total of 71 species recorded were from the buffer zone area. Based on habitat classification the majority of species were birds 35, followed by Butterflies 12, Reptiles 10, Insects 5, Mammals 5, and Amphibians 4. There are five Schedule II species, two species are under the schedule III and fifty four species are under Schedule IV according to the Indian Wildlife Act 1972. A total of 35 species of bird were sighted in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed. There are no impacts on nearby fauna species.

Dominant species are mostly birds, butterflies, and insects, and four amphibian was observed during the extensive field visit *Sphaerotheca breviceps*, *Euphyctis hexadactylus*, *Bufo melanostictus*, etc. There is no Schedule I Species in the study area. There are no critically endangered, endangered, vulnerable, and endemic species were observed.

**Table 3.38. List of Fauna & Their Conservation Status,**

**Mammals: (\*directly sighted animals & Secondary data)**

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
1.	Indian palm squirrel	<i>Funambulus palmarum</i>	Schedule IV
2.	Indian Field Mouse	<i>Mus booduga</i>	Schedule IV
3.	Asian Small Mongoose	<i>Herpestes javanicus</i>	Schedule (Part II)
4.	Indian hare	<i>Lepus nigricollis</i>	Schedule (Part II)
5.	Brown rat	<i>Rattus norvegicus</i>	Schedule IV

**Table 3.39. Listed birds**

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
1.	Black kite	<i>Milvus migrans</i>	Schedule IV
2.	Jungle babbler	<i>Turdoides striata</i>	Schedule IV
3.	Indian robin	<i>Saxicoloides fulicatus</i>	Schedule IV
4.	Asian Koel	<i>Eudynamys</i>	Schedule IV
5.	Cattle egret	<i>Bubulcus ibis</i>	Schedule IV
6.	Rock pigeon	<i>Columbidae</i>	Schedule IV
7.	Common myna	<i>Acridotheres tristis</i>	Schedule IV
8.	House crow	<i>Corvus splendens</i>	Schedule IV
9.	Red Vented Bulbul	<i>Pycnonotus cafer</i>	Schedule IV
10.	Small Bee Eater	<i>Merops orientalis</i>	Schedule IV
11.	Purple sunbird	<i>Cinnyris asiaticus</i>	Schedule IV
12.	Common hawk-cuckoo	<i>Hierococcyx varius</i>	Schedule IV
13.	House sparrow	<i>Passer domesticus</i>	Schedule IV
14.	Brahminy myna	<i>Temenuchus pagodarum</i>	Schedule IV

15.	Small blue Kingfisher	Alcedo atthis	Schedule IV
16.	Rose-ringed parakeet	Psittacula krameri	Schedule IV
17.	The common woodshrike	Tephrodornis pondicerianus	Schedule IV
18.	Asian Palm Swift	Cypsiurus balasiensis	Schedule IV
19.	Common quail	Coturnix coturnix	Schedule IV
20.	Pond herons	Ardeola grayii	Schedule IV
21.	Black-headed Cuckooshrike	Lalage sykesi	Schedule IV
22.	Black drongo	Dicrurus macrocercus	Schedule IV
23.	Woodpecker bird	Picidae	Schedule IV
24.	Weaver bird	Ploceus philippines	Schedule IV
25.	Two-tailed Sparrow	Dicrurus macrocercus	Schedule IV
26.	Grey drongo	Dicrurus longicaudatus	Schedule IV
27.	Grey Francolin	Francolinus pondicerianus	Schedule IV
28.	Wood Sandpiper	Tringa glareola	Schedule IV
29.	Blue-Tailed Bee Eater	Merops philippinus	Schedule IV
30.	Indian Roller	Coracias benghalensis	Schedule IV
31.	Common Swallow	Hirundo rustica	Schedule IV
32.	Purple Rumped Sunbird	Leptocoma zeylonica	Schedule IV
33.	Common Tailor Bird	Orthotomus sutorius	NL
34.	Purple Sunbird	Cinnyris asiaticus	NL
35.	Lesser Golden Backed Woodpecker	Dinopium benghalense	Schedule IV

**Reference:** Ali, S. (2002). The Book of Indian Birds (13th revised edition). Oxford University Press, New Delhi. 326pp.

**Table 3.40. List of Reptiles either spotted or reported from the study area.**

(\*indicates direct observations & Secondary data)

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
1.	Oriental garden lizard	Calotes versicolor	NL
2.	House lizards	Hemidactylus flaviviridis	Schedule IV
3.	Indian cobra	Naja naja	Sch II (Part II)
4.	Green vine snake	Ahaetulla nasuta	Schedule IV
5.	Rat snake	Ptyas mucosa	Sch IV (Part II)
6.	Common krait	Bungarus caeruleus	Schedule IV
7.	Common skink	Mabuya carinatus	NL
8.	Russell's viper	Vipera russeli	Sch II (Part II)
9.	Fresh water snake	Nerodia piscator	Sch III (Part II)
10.	Fresh water tortoise	Groemyda bijuga	Sch III (Part II)



**Table 3.41. List of insects either spotted or reported from the study area**

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
1.	Indian honey bee	Apis cerana	-
2.	Termite	Hamitermes silvestri	NE
3.	Grasshopper	Hieroglyphus sp	NL
4.	Ant	Camponotus Vicinus	NL
5.	Dragonfly	Ceratogomphus pictus	-

**Table.3.42. List of Butterflies reported from the study area**

SI. No	Common Name/English Name	Scientific Name	Schedule
1.	Indian palm bob	Suastusgremius	Schedule IV
2.	Common Mormon	Papilio polytes	Schedule IV
3.	Common rose	Pachlioptaaristolochiaee	Schedule IV
4.	Spotless grass yellow	Eurema laeta	Schedule IV
5.	Common Tiger	Danaus genutia	Schedule IV
6.	Common emigrant	Catopsiliapomona	Schedule IV
7.	Crimson tip	Colotisdanae	Schedule IV
8.	Common Indian crow	Euploea core	Schedule IV
9.	Lime Butterfly	Papilio demoleus	Schedule IV
10.	Yellow Pansy	Junonia hierta	Schedule IV
11.	Chocolate Pansy	Junonia iphita	Schedule IV
12.	Double-branded Black Crow	Euploea sylvester	Schedule IV

### 3.5.12 Aquatic Ecology

Mining activities will not have an impact on aquatic ecosystems because no effluent discharge from the Limestone mine is planned. There are no natural perennial surface water bodies, such as marshes, rivers, streams, lakes, or agricultural sites, inside the mining lease area. The study region contains a few seasonal bodies of water. There is no aquatic flora and, aquatic faun. Hence, it does not harbour any significant aquatic life. Therefore, the project is not likely to affect the aquatic ecology. Aquatic weeds are found to be growing everywhere in 10 km radius area, in every water bog, pond, etc. *Typha angustata* can be found growing all along the drains of villages, small water-logged depressions, and agricultural fields lacking water but containing enough moisture to support its growth. And where water is present, *Eichhornia crassipes* has taken its roots and covers the entire water surface by its sprawl and invasion.

#### 3.5.12.1. Objectives of Aquatic Studies

- ✓ Generating data through actual field collection in these locations over the study period; and

- ✓ Impacts on aquatic fauna/flora
- ✓ Consulted with locals to obtain knowledge about aquatic flora and animals.

### 3.5.12.2. Macrophytes

The macrophytes observed within the study area are tabulated in Table 3.43

**Table No.3.43 Description of Macrophytes**

Sl.No	Scientific name	Common Name	Vernacular Name (Tamil)	IUCN Red List of Threatened Species
1.	<i>Eichornia crassipe</i>	Water hyacinth	Agayatamarai	NA
2.	<i>Aponogetonmatans</i>	Floating lace plant	Kottikizhnagu	NA
3.	<i>Nymphaea nouchali</i>	Blue water lily	Nellambal	LC
4.	<i>Typha angustifolia</i>	Sambu	Narrowleaf cattail	LC
5.	<i>Carex cruciata</i>	Cross Grass	Koraipullu	NA
6.	<i>Cyperus exaltatus</i>	Tall Flat Sedge	Koraikizhangu	LC

Sources: Species observation in the field study

### 3.5.12.3 Aquatic Faunal Diversity

Amphibian species like the common Indian Burrowing frog, and Green pond frog, and etc. were sighted near the water bodies located in the study area.

**Table no. 3.44. Amphibians Observed/Recorded from the Study Area**

SI. No	Common Name/English Name	Scientific Name	Schedule list wildlife Protection act 1972
1.	Indian Burrowing frog	Sphaerotheca breviceps	Schedule IV
2.	Green pond frog	Euphlyctis hexadactylus	Schedule IV
3.	Indian Toad	Bufo melanostictus	Schedule IV
4.	Skipper	Euphlyctis cynophlyctis	Schedule IV

### 3.5.13 Other Aquatic Fauna

#### 3.5.13.1. Fishes

The study area has low aquatic diversity, with few types of fish living. The species of fish reported during the primary visit are Rohu, Catla, Catfish, etc. Species of fish reported in the study area are given in table 3.45.

**Table 3.45. Based on Actual Sighting, based on inputs from locals and Perused from Secondary Data**

S.No	Common name	Scientific name	Family
1.	Ponthia	Puntius sophore	Cyprinidae
2.	Catla	Catla Catla	Cyprinidae
3.	Silver scabbardfish	Lepidopus caudatus	Trichiuridae
4.	Catfish	Siluriformes	-
5.	Rohu	Labeo rohita	Cyprinidae
6.	Eel fish	Electrophorus electricus	Gymnotidae

### 3.5.14 Findings/Results

The assessment was carried out during the summer season. The inspection day was quite alright with respectable weather. The details of the flora and fauna observed are given below.

#### **Records of threatened species in the area**

No threatened species were observed

#### **Endangered Species as per Wildlife (Protection) Act**

No Endangered fauna was recorded in the project area.

#### **Endemic Species of the Project areas**

No endemic species were observed in the project area.

#### **Migratory species of the Project areas**

No migratory fauna observed in project area.

#### **Migratory corridors and Flight paths**

No migratory corridors and Flight paths were observed in project area.

#### **Breeding and spawning grounds**

No breeding and spawning grounds were earmarked for the wildlife fauna in project area.

There are no critically endangered, endangered, vulnerable and endemic species were observed. As the rainfall in the area is scanty and as no toxic wastes are produced or discharged on account of mining, the proposed mining activity is not going to have any additional and adverse impacts on these RET species. There are no ecologically sensitive areas or protected areas within the 10km radius. Hence no specific conservation for conservation of any RET species or Wildlife is envisaged.

There are no National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar sites, Tiger/Elephant Reserves/(existing as well as proposed) within 10 km of the mine lease area. There are no protected forests within the project area. Hence submission of clearance from the National Board of Wildlife does not arise.

There is no endangered, endemic and RET Species. There is no Schedule I species in study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] The proposed project is not going to have any direct or indirect adverse impact on the species mentioned above.

### 3.9. Conclusion

The observations and assessment of the overall ecological scenario involve details such as classification of Biogeographic zone, eco-region, habitat types and land cover, distances from natural habitats, vegetation/forest types, and sensitive ecological habitats such as Wetlands sites, Important Bird areas, migration corridors of important wildlife etc. Such baseline information provides better understanding of the situation and overall ecological importance of the area. This baseline information viewed against proposed project activities help in predicting their impacts on the wildlife and their habitats in the region. Data collected and information gathered from secondary literature on flora, fauna, protected area, natural habitats, and wildlife species etc., and consulted and discussed with local people, from the villages, herders and farmers who inhabit close to the proposed project area.

### 3.6 Socio Economic Environment

The major developmental activities in mining /Industrial sector are required for economic development as well as creation of employment opportunities (direct and indirect) and to meet the basic/modern needs of the society, which ultimately results in overall improvement of the quality of life through upliftment of social, economic, health, education and nutritional status in the project region, state as well as the country. In this manner all developmental projects have direct as well as indirect relationships with socioeconomic aspects, which also include public acceptability for new developmental projects. Thus, the study of socioeconomic component incorporating various facets related to prevailing social and cultural conditions and economic status of the Roughstone and Gravel quarry project region is an important part of EIA study. The study of these parameters helps in identification, prediction and evaluation of the likely impacts on the socio economics and parameters of human interest due to the project.

#### 3.6.1 Objectives of the Study

*The objectives of the socio-economic impact assessment are as follows:*

- a) To study the socio-economic status of the people living in the study area of the project.

- b) To identify the basic needs of the nearby villages within the study area.
- c) To assess the impact on socio-economic environment due to the project.
- d) To provide the employment and improved living standards.
- e) To study the socio-economic status of the people living in the study area Roughstone and Gravel quarry project region.
- f) To assess the impact on socio-economic environment due to Roughstone and Gravel quarry project region.
- g) To analysis of impact of socio economic and Environmental Infrastructure facilities and road accessibility.

### 3.6.2 Scope of Work

- To study the Socio-economic Environment of area from the secondary sources
- Developing a questionnaire for Survey
- Data Collection and Analysis
- Identification of impacts due to the mining projects
- Mitigation Measures

### 3.6.3 Methodology

The methodology adopted for the socio-economic impact assessment is as follows:

- a) The details of the activities and population structure have been obtained from Census 2001 and 2011 and analyzed.
- b) Based on the above data, impacts due to plant operation on the community have been assessed and recommendations for further improvement have been made.

### 3.6.4 Sources of Information and Data Base

To achieve the above objectives, the information has been collected from both primary and secondary sources. Both primary data and secondary data have been analyzed by means of suitable statistical techniques for the purpose of verifying the above selected hypotheses concerned with the surrounding area.

### 3.6.5 Primary Survey

The primary data collection includes the collection of data through a structured interview schedule by direct observation method. The questionnaire survey includes both open and closed methods. The sample size is limited respondents, who were selected on the basis of simple random sampling from Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamilnadu State. in the field survey has been divided into three major segments namely Primary Zone (0 - 3 km), Secondary Zone (3 - 7 km) and tertiary Zone (7 - 10 km).

The questionnaires were designed to suit the subjects considering their rural background enabling to furnish correct information and data as far as possible. Data were collected at village level and household level by questionnaires and focused group discussions.

### 3.6.6 Collection of Data from Secondary Sources

Data from secondary sources were collected on following aspects:

- Demographic profile of the area
- Economic profile of the area

**Table 3.44 Type of Information and Sources**

Information	Source
Demography	District Census Handbook, Govt. of India
Economic profile of the area	Census of India, Tamil Nadu State

### b) Data Presentation and Analysis

The data collected were presented in a suitable, concise form i.e., tabular or diagrammatic or graphic form for further analysis. These tabulated data were interpreted and analyzed with the help of various qualitative techniques and ideographic approaches.

### 3.7 Background Information of the Area

**Tamil Nadu** is the 11th largest states in India in terms of area. The state is the seventh most populous state in the country and its main language Tamil has origins that date back to 500 BC. Chennai is the capital of Tamil Nadu and lies on the eastern coast line of India. Tamil Nadu is famous for its wonderful temples and monuments that have been built 1000s of years ago and has places that have been marked as heritage sites by the United Nations. In a 180-degree paradigm shift, this state with a rich historical importance is also one of the fastest developing centre for technology and trade.

The State can be divided broadly into two natural divisions (a) the Coastal plains of South India and (b) the hilly western area. Parallel to the coast and gradually rising from it is the broad strip of plain country. It can further be subdivided into coromandal plains comprising the districts of Viluppuram, Cuddalore and Vellore. The alluvial plains of the Cauvery delta extending over Thanjavur and part of Tiruchirapalli districts and dry southern plains in Madurai, Dindigul, Ramanathapuram, Sivaganga, Virudhunagar, Tirunelveli and Tuticorin districts. It extends a little beyond Western Ghats in Kanyakumari District. The Cauvery delta presents some extremely distinctive physical and human features, its power being a main factor in the remarkable growth, the towns of Tamilnadu have witnessed.

### 3.8 Geography of the Area

Tamil Nadu is one of the 28 states of India, located in the southernmost part of the country. It extends from 8°4'N to 13°35'N latitudes and from 76°18'E to 80°20'E longitudes. Its extremities are

- in eastern - Point Calimere
- in western - hills of Anaimalai
- in northern - Pulicat lake
- in southern - Cape Comorin

It covers an area of 1,30,058 sq.km and 11th largest state in India. It covers 4% of the area of our country. Tamil Nadu is bounded by the Bay of Bengal in the east, Kerala in the west, Andhra Pradesh in the north, Tamil Nadu in the northwest and Indian Ocean in the south. Gulf of Mannar and Palk Strait separate Tamil Nadu from the Island of Sri Lanka, which lies to the southeast of India.

Already we have learnt that the state of Tamil Nadu had only 13 districts at the time of its formation. After that, the state was reorganised several times for the administrative convenience. At present there are 37 districts in Tamil Nadu, including the newly created districts such as Kallakurichi, Tenkasi, Chengalpet, Ranipet and Tirupathur.

### 3.9 Population Growth Rate

In 1991, there were only 21 districts in the State of Tamil Nadu. In 2001, eight new districts were created by reorganising the territorial jurisdiction. The nine districts are – Viluppuram, Namakkal, Perambalur, Thiruvavur, Nagapattinam, and Theni. The population and its growth trend are important economic factors in a developing economy.

Year	Tamil Nadu	India
1941	11.91	14.22
1951	14.66	13.31
1961	11.85	21.51
1971	22.30	24.80
1981	17.50	24.66
1991	15.39	23.86

2001	11.19	21.34
2011	15.61	5.96
2021	5.96	1.0

### 3.10 Tiruppur District

Tiruppur district was formed after separating from Coimbatore and Erode districts in Tamilnadu by the year 2008. Taluks like Avinashi, Palladam, Udumalaipettai, and Tiruppur from Coimbatore and Taluks like Kangeyam, Dharapuram from Erode were separated and formed new district Tiruppur in Tamilnadu. The districts of Coimbatore, Erode, Karur and Dindigul and the state of Kerala border Tiruppur district.

Tiruppur is the 32nd district of Tamilnadu. Tiruppur is well known as the textile city of Tamilnadu. The district is famous for its cotton market and banyan mills. Tiruppur is a wonderful district which brings good income to India through banyan export.

There cannot be anyone who does not know about Uthukuli Butter near Tiruppur. Rivers like Noyyal, Amaravathi, Somanur, Uthukuli, Vanchipalayam, Koolipalayam flow here.

#### Tiruppur Administration

**Revenue Divisions** - 3 (Tiruppur, Dharapuram, Udumalaipettai)

**Taluks** - 7 (Avinashi, Dharapuram, Kangeyam, Madathukulam, Palladam, Tiruppur, Udumalaipettai)

**Corporation** - 1 (Tiruppur)

**Municipalities** - 7 (S.Nallur, Dharapuram, Palladam, Udumalaipettai, Velampalayam, Vellakoil, Kangeyam)

**Blocks** - Avinashi, Gudimangalam, Kundah Dam, Mulanur, Pongalur, Udumalaipettai, Vellakoil, Dharapuram, Kangeyam, Madathukulam, Palladam, Tiruppur, Uthukuli

**Town Panchayats** - Muthur, Kannivadi, Chinnakapalayam, Madathukulam, Samalapuram, Kunnathur, Kangeyam, Mulanur, Avinashi, Kaniyur, Sankararamanallur, Uthukuli, Ruthravathy, kolathupalayam, Thali, Kumaralingam, Thirumuruganpoondi

**Parliamentary Constituency** - 1 (Tiruppur)

**State Assembly Constituency** - 8 (Kangeyam, Avinashi, Palladam, Udumalaipettai, Tiruppur North, Tiruppur South, Dharapuram, Madathukulam)

### 3.11 Study Area

Detailed socio-economic survey was conducted in the study area (Core and buffer zone) within 10 km radius of the area at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamilnadu State. In order to determine the impact of the proposed project on nature and inhabitant. To get an overview of the villagers and their perspectives about this proposed activity, different demographic parameters and social aspects such as population density, sex ratio, literacy rate, worker ratio etc. has been identified, analyzed, studied together. These impacts may be beneficial or disadvantageous. If disadvantageous anticipated suggestions measures are advocated in order to have collective development.

### 3.12 Demographic pattern of 10km study area characteristics a comparative analysis

**Table 3.45 Shows the socio-economic profile of the study area as compared to district, state and national level socio-economic profile**

Particular	India	Tamil Nadu	Tiruppur District
Area (in sq. km.)	3,287,263	130058	5087

Particular	India	Tamil Nadu	Tiruppur District
Population Density/ sq. Km.	368	554	487
No. of Households	249454252	13357027	712210
Population	1210569573	72147030	2479052
Male	623121843	36137975	1246159
Female	587447730	36009055	1232893
Scheduled Tribes	104281034	794697	5458
Scheduled Castes	201378086	14438445	395876
Literacy Rate (%)	72.99	80	71
Sex Ratio (Females per 1000 Males)	943	996	989

Source: Census of India, 2011

### 3.12 Morattupalayam Town Population Census 2011 - 2023

**Morattupalayam is a Census Town** city in district of Tiruppur, Tamil Nadu. The Morattupalayam Census Town has population of 5,798 of which 2,900 are males while 2,898 are females as per report released by Census India 2011.

### Morattupalayam 2023 Population

Current estimated population of Morattupalayam Census Town in 2023 is approximately 7,900. The schedule census of 2021 for Morattupalayam city is postponed due to covid. We believe new population census for Morattupalayam city will be conducted in 2023 and same will be updated once its done. The current data for Morattupalayam town are estimated only but all 2011 figures are accurate. Source: <https://www.census2011.co.in/data/town/644778-morattupalayam-tamil-nadu.html>

### 3.13 Sex Ratio

Population of Children with age of 0-6 is 586 which is 10.11 % of total population of Morattupalayam (CT). In Morattupalayam Census Town, Female Sex Ratio is of 999 against state average of 996.

**Child Sex Ratio** in Morattupalayam is around 915 compared to Tamil Nadu state average of 943.

**3.14 Literacy rate** of Morattupalayam city is 70.53 % lower than state average of 80.09 %. In Morattupalayam, Male literacy is around 79.72 % while female literacy rate is 61.42 %.

Morattupalayam Census Town has total administration over 1,681 houses to which it supplies basic amenities like water and sewerage. It is also authorize to build roads within Census Town limits and impose taxes on properties coming under its jurisdiction.

### 3.15 Morattupalayam Project Population

Year	Population
2011	5,798
2021	7,500
2022	7,700
2023	7,900
2024	8,100
2025	8,300
2026	8,500
2027	8,700

2028	8,900
2029	9,100
2030	9,300
2031	9,500

### 3.16 Workers Population

Out of total population, 3,062 were engaged in work or business activity. Of this 1,891 were males while 1,171 were females. In census survey, worker is defined as person who does business, job, service, and cultivator and labour activity. Of total 3062 working population, 87.66 % were engaged in Main Work while 12.34 % of total workers were engaged in Marginal Work.

### 3.17 Basic Amenities

A better network of physical infrastructure facilities (well-built roads, rail links, irrigation, power and telecommunication, information technology, market-network and social infrastructure support, viz. health and education, water and sanitation, veterinary services and co-operatives) is essential for the development of the rural economy. A review of infrastructure facilities available in the area has been done based on the information from baseline survey of the study area. In this review, the villages which fall within 10Km radius round the site has been considered. Infrastructure facilities available in the area have been described in the subsequent sections as below:

#### 1. Educational Facilities

Education is considered to be one of the most dominant indicators towards the development of a region. According to baseline survey, education facilities are available in the villages within the study area. All the villages have schools only up to primary and middle level, higher level education facilities very less only one-degree college available in Tiruppur. Improved educational facilities will be provided by proponent, which will contribute Improvement in awareness level of the villagers.

#### 2. Health Facilities

Medical facilities are available. There are majorly non-Government medical facilities/medicine shop available in the area. There is only one dispensary / health center available and no Primary Health Sub-Centers available in the study area. There is no such case of epidemic or some special diseases in the region. Normal cases of diseases i.e. Cough, cold, fever, headache etc. are reported in the region.

#### 3. Other Infrastructure Facilities

Basic facilities are available in study area as educational facilities, health, transportation, electricity, drinking water, market, bank, post office, petrol pump; Aanganbadi Centers, Community Hall, Cooperative bank and Commercial Bank etc. are available.

##### ➤ Transport Facilities

The study area is served by road transport. Most of the villages connected by bus/other transport services. The area has a moderate road network, which includes state highway, major District Roads and other roads within 10 km radius of the lease boundary. Major District Road is passing through the adjacent of Quarry area.

##### ➤ Electrification in the Area

100% villages in the study area are electrified. Electricity is available for domestic, commercial, industrial agricultural and public lighting purposes.

##### ➤ Drinking Water Facility

Village people are availing Drinking water facilities generally from Tap water, Pond, Well, Tube well, Hand Pump, River etc. In few villages like Kullayur, Velliyampalayam, Kavundampalayam Villages, etc. there is problem of drinking water facility.

### 3.22 Interpretation

Based on the data, following inferences could be drawn:

- Total literacy rate in the study area is 70.53%.
- The study area had average educational facilities. The overall status depicts that the education is limited to primary and middle level.



- The study area is well connected by District/Village Road.
- The study area well health facilities of primary level.
- Considering the above facts, the proposed project will boost the socio-economic development activities in the area and hence will leave positive impact.
- The study area has mobile connectivity

### 3.18 Structure Map 300m Radius

**Figure .3.21 Structure map around 300m Radius-P3**



**Table 3.46 Structure map around 300m Radius-P3**

Distance Range	No. of Structures	Type of Structures (Kuchcha/ Brick/ Cement/ RCC/ Framed Structures)	Usage/ Purpose	No. of occupants	Ownership (Belongs to PP/ Not belongs to PP)	Remarks
0-100 Structure - Nil						
100-200m	2	Crusher Shed – 120m – SW	Used to Crusher Equipment's and martials	Nil	Not belongs to PP	Storage Purpose
		Mines Shed – 160m – East	Used to store Mines equipment's and Materials	Nil	Belongs to PP	Storage Purpose
200 - 300m	8	Crusher Shed– 210m – West	Crusher labour rest shed	Nil	Not belongs to PP	Crusher labour will stay

		Mines Shed – 210m – SW	Used to store Mines equipment's and Materials	Nil	Not belongs to PP	Storage Purpose
		Labour rest shelter - 230m NE	Rest shelter	Nil	Not belongs to PP	No Stay
		Labour Shed – 240m – NW	Used as a Mines labour rest shed	Nil	Belongs to PP	Mines Labour will stay
		Labour Shed – 250m – NW	Used to store shelter for the labours	Nil	Not belongs to PP	No Stay
		Crusher-250m SW	Produce Size reduced stone	Nil	Not belongs to PP	5 Numbers are working
		Store shed -250m NE	Belongs to Shri Angu tex	Nil	Not belongs to PP	Used to store the waste cloths – No Stay
		Sheet Shed 260m NE	Shri Angu Tex (Cloth unit)	Nil	Not belongs to PP	4 Persons working Watch man Stay at Night

### 3.18 Recommendations and Suggestion

- ❖ Education Awareness program is being/will be conducted to make the population aware and better treatment for livelihood.
- ❖ Vocational training session is being/will be organized to provide self-employment to the women and unemployment youth.
- ❖ Healthcare Centre and Ambulance facility is being/will be provided to make the population get easy medical facilities.
- ❖ Natural Resource Management and Environmental Conservation.
- ❖ On the basis of qualification and skills local youths is being/will be employed. Long term and short-term employments is being/will be generated.
- ❖ Health care center and ambulance facility is being/will be provided to make the population get easy medical facilities.
- ❖ Basic amenities and facilities are being/will be made available to the people and there will be proper maintenance of the facilities already provided by the government in the study area through various CSR activities conducted by Proposal proponent.

### 3.19 CONCLUSION

To evaluate the impacts of proposed rough stone and gravel quarry project on the surrounding area, it is vital to assess the baseline status of the environmental quality in the locality of the site. Socio-Economic Survey was also conducted during the study period which revealed that area further require improvement in the Economy and Infrastructure Development of the area. Hence it can be concluded that the present baseline environment status of the study area will not be affected by the proposed project as **Morattupalayam Rough Stone and Gravel Cluster Quarries** will adopt adequate control measures to protect the surrounding environment and will contribute in development of the study areas.

The proposed project will aim to provide preferential employment to the local people there by improving the employment opportunity in the area and in turn the social standards will improve.

## **CHAPTER – 4: ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES**

### **4.0 General**

The environmental impact can be categorized as either primary or secondary, primary impacts which are attributed directly by the project; secondary impacts are those which are indirectly induced. The open cast mining operations involve development of benches, Approach Road, Haul Road, Excavation and handling of material. If adequate control measures are not taken to prevent/mitigate the adverse environmental impacts/lead to damage of the eco-system.

In order to maintain the environmental commensuration with the mining operation, it is essential to undertake studies on the existing environmental scenario and assess the impact on different environmental components. This would help in formulating suitable management plans for sustainable resource extraction. Based on the baseline environmental status at the existing mine site, the environmental factors that are likely to be affected (Impacts) are identified, quantified and assessed. The various anticipated impacts will be on

- Land environment
- Water Environment
- Air Environment
- Noise Environment
- Socio economic environment
- Solid waste
- Soil environment

### **4.1 Land Environment**

#### **4.1.2 Anticipated Impact from all Proposed Projects**

- Permanent or temporary change on land use and land cover.
- Change in Topography: Topography of the ML area will change at the end of the life of the mine.
- Movement of heavy vehicles sometimes cause problems to agricultural land, human habitations due to dust, noise and it also causes traffic hazards.
- Due to degradation of land by pitting the aesthetic environment of the core zone may be affected.
- Earthworks during the rainy season increase the potential for soil erosion and sediment laden water entering the water ways.
- If no due care is taken wash off from the exposed working area may choke the water course & can also causes the siltation of water course

#### **4.1.2.1 Common Mitigation Measures for Respective Individual Proposed Projects**

- The mining activity will be gradual confined in blocks and excavation will be undertaken progressively along with other mitigative measures like phase wise development of greenbelt etc.,
- Construction of garland drains all around the quarry pits and construction of check dam at strategic location in lower elevations to prevent erosion due to surface runoff during rainfall and also to collect the storm water for various uses within the proposed area
- Green belt development along the boundary within safety zone. The small quantity of water stored in the mined-out pit will be used for greenbelt
- Thick plantation will be carried out on unutilized area, top benches of mined out pits, on safety barrier, etc.,
- At conceptual stage, the land use pattern of the quarry will be changed into Greenbelt area and temporary reservoir
- In terms of aesthetics, natural vegetation surrounding the quarry will be retained (such as in a buffer area i.e., 7.5 m safety barrier and other safety provided) so as to help minimise dust emissions.
- Proper fencing will be carried out at the conceptual stage, Security will be posted round the clock, to prevent inherent entry of the public and cattle

### 4.1.3 Soil Environment

#### 4.1.4 Impact on Soil Environment

The top layer of the project site in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low-lying areas. There is no disposal of Gravel. The excavated rough stone will be directly loaded into dumpers to the needy customers.

There will be no disposal of waste water from the quarry operation, No discharge of toxic effluent from the proposed projects. The dust emission at working face and haul roads will be controlled by water sprinkling and plantation.

**Erosion and Sedimentation** (Removal of protective vegetation cover; Exposure of underlying soil horizons that may be less pervious, or more erodible than the surface layers; Reduced capacity of soils to absorb rainfall; Increased energy in storm-water runoff due to concentration and velocity; and Exposure of subsurface materials which are unsuitable for vegetation establishment).

#### 4.1.5 Common Mitigation Measures for Respective Individual Proposed Projects

- Run-off diversion – Garland drains will be constructed all around the project boundary to prevent surface flows from entering the quarry works areas. And will be discharged into vegetated natural drainage lines, or as distributed flow across an area stabilised against erosion.
- Sedimentation ponds - Run-off from working areas will be routed towards sedimentation ponds. These trap sediment and reduce suspended sediment loads before runoff is discharged from the quarry site. Sedimentation ponds should be designed based on runoff, retention times, and soil characteristics. There may be a need to provide a series of sedimentation ponds to achieve the desired outcome.
- Retain vegetation – Retain existing or re-plant the vegetation at the site wherever possible.
- Monitoring and maintenance – Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season

#### 4.1.6 Waste Dump Management

There are no wastages anticipated in this rough stone and gravel quarrying operation. The entire quarried out materials will be utilized (100%).

The overburden in the form of gravel formation the gravel will be also sold to needy customers for the filling and levelling of low-lying areas.

## 4.2 Water Environment

### 4.2.1 Anticipated Impact on Surface and ground water

The impact due to quarrying on the water quality is expected to be insignificant because of no use of chemicals or hazardous substances during quarrying process. The quarrying activity will not intersect ground water table as the maximum depth of the quarry in the cluster is 30m and water table is found at a depth of 70-65m BGL-P1 maximum depth of the quarry in the cluster is 36m and water table is found at a depth of 78-73m BGL-P2. maximum depth of the quarry in the cluster is 37m and water table is found at a depth of 68m BGL-P3. The quarrying operation will be carried out well above the water table. There is no intersection of surface water bodies (Streams, Canal, Odai etc.) in the project area. During rainy season rain water will be collected in the quarry pit and later used for greenbelt development and for the water sprinkling in the haul roads. There is no proposal for discharging of quarry pit water outside the project area.

**TABLE 4.1: WATER REQUIREMENTS P1-P3**

PROPOSAL – P1
---------------

<b>*Purpose</b>	<b>Quantity</b>	<b>Source</b>
Domestic & Drinking purpose	0.2KLD	From existing, bore wells and drinking water will be sourced from Approved water vendors.
Dust Suppression	1.0KLD	From Existing bore wells from nearby area
Green Belt	0.3KLD	From Existing bore wells from nearby area
<b>Total</b>	<b>1.5 KLD</b>	
<b>PROPOSAL – P2</b>		
<b>*Purpose</b>	<b>Quantity</b>	<b>Source</b>
Domestic & Drinking purpose	0.5KLD	From Existing, bore wells and drinking water will be sourced from Approved Water vendors.
Dust Suppression	1.0KLD	From Existing bore wells from nearby area
Green Belt	0.5KLD	From Existing bore wells from nearby area
<b>Total</b>	<b>2.0 KLD</b>	
<b>PROPOSAL – P3</b>		
<b>*Purpose</b>	<b>Quantity</b>	<b>Source</b>
Dust Suppression	0.3KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
Green Belt	1.0KLD	The required water will be met from rainwater accumulated in mine pit (when available) and from the approved water vendors.
Sanitation & Drinking	0.7KLD	Approved water vendors
<b>Total</b>	<b>2.0 KLD</b>	

\* Water for drinking purpose will be brought from approved water vendors

Source: Approved Mining Plan Pre-Feasibility Report

Total water requirement in the cluster quarries is about 4.5 KLD, the water for dust suppression and greenbelt development will be sourced from the mine pit water collected during rainy seasons, the water for domestic purpose and drinking will be sourced from the approved water vendors.

#### **4.2.2 Common Mitigation measures:**

- Garland drain, settling tank will be constructed along the proposed mining lease area. The Garland drain will be connected to settling tank and sediments will be trapped in the settling traps and only clear water will be discharged out to the natural drainage
- Rainwater will be collected in sump in the mining pits and will be allowed to store and pumped out to surface setting tank of 15 m x 10m x 3m to remove suspended solids if any. This collected water will be judiciously used for dust suppression and such sites where dust likely to be generated and for developing green belt. The proponent will collect and judicially utilize the rainwater as part of rainwater harvesting system.
- Providing benches with inner slopes and through a system of drains and channels, allowing rain water to descent into surrounding drains, so as to minimize the effects of erosion & water logging arising out of uncontrolled descent of water.
- Reuse the water collected during storm for dust suppression and greenbelt development within the mines
- Installing interceptor traps/oil separators to remove oils and greases. Water from the tipper wash-down facility and machinery maintenance yard will pass through interceptor traps/oil separators prior to its reuse;
- Using flocculating or coagulating agents to assist in the settling of suspended solids during monsoon seasons;
- Periodic (every 6 month once) analysis of quarry pit water and ground water quality in nearby villages.
- Domestic sewage from site office & urinals/latrines provided in ML is discharged in septic tank followed by soak pits.
- Waste water discharge from mine will be treated in settling tanks before using for dust suppression and tree plantation purposes.
- De-silting will be carried out before and immediately after the monsoon season.
- Regular monitoring (every 6 month once) and analysing the quality of water in open well, bore wells and surface water

### 4.3 Air Environment

The air borne particulate matter is the main air pollutant in this opencast mining. The mining operation will be carried out by jackhammer drilling (35mm dia) and Hydraulic Excavators will be utilized for excavation of Rough Stone waste.

#### 4.3.1 Anticipated Impact

- During mining, at various stages activities such as excavation, drilling, blasting, and transportation of materials, particular matter (PM), gases such as Sulphur dioxide, oxides of Nitrogen from vehicular exhaust are the main air pollutants.
- Emissions of noxious gases due to incomplete detonation of explosive may sometimes pollute the air.
- The fugitive dust released from the mining operations may cause effect on the mine workers who are directly exposed to the fugitive dust.
- Simultaneously, the air-borne dust may travel to longer distances and settle in the villages located near the mine lease area.

##### 4.3.1.1. Modelling of Incremental Concentration from all Proposed Projects

Wind erosion of the exposed areas and the air borne particulate matter generated by quarrying operation, and transportation are mainly PM<sub>10</sub> & PM<sub>2.5</sub> and emissions of Sulphur dioxide (SO<sub>2</sub>) & Oxides of Nitrogen (NO<sub>x</sub>) due to excavation/loading equipment and vehicles plying on haul roads are the cause of air pollution in the project area.

Similarly, loading - unloading and transportation of Rough Stone, wind erosion of the exposed area and movement of light vehicles causes of pollution. This leads to an impact on the ambient air environment around the project area.

Anticipated incremental concentration due to this quarrying activity and net increase in emissions due to quarrying activities within 500 meters around the project area is predicted by Open Pit Source modelling using AERMOD Software.

The impact on Air Environment is due to the mining and allied activities during Land Development phase, Mining process and Transportation. The emissions of Sulphur dioxide (SO<sub>2</sub>), Oxides of Nitrogen (NO<sub>x</sub>) due to excavation/loading equipment and vehicles plying on haul roads are marginal. Loading - unloading and transportation of Rough Stone, wind erosion of the exposed area and movement of light vehicles will be the main polluting source in the mining activities releasing Particulate Matter (PM<sub>10</sub>) affecting Ambient Air of the area. Prediction of impacts on air environment has been carried out taking into consideration cumulative production three proposed quarries. Air environment and net increase in emissions by Open pit source modelling in AERMOD Software.

##### 4.3.1.2 Emission Estimation

An emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant.

The general equation for emissions estimation is:

$$E = A \times EF \times (1-ER/100)$$

Where:

E = emissions;

A = activity rate;

EF = emission factor, and

ER =overall emission reduction efficiency, %

The proposed mining activity includes various activities like ground preparation, excavation, handling and transport of ore. These activities have been analysed systematically basing on USEPA-Emission Estimation Technique Manual, for Mining AP-42, to arrive at possible emissions to the atmosphere and estimated emissions are given in Table 4-2.

**TABLE 4.2: ESTIMATED EMISSION RATE FOR P1, P2 & P3**

<b>EMISSION ESTIMATION FOR QUARRY “P1”- Tmt.V. Revathi</b>				
	<b>Activity</b>	<b>Source type</b>	<b>Value</b>	<b>Unit</b>
Estimated Emission Rate for PM <sub>10</sub>	Drilling	Point Source	0.074088129	g/s
	Blasting	Point Source	0.000539955	g/s
	Mineral Loading	Point Source	0.039999715	g/s
	Haul Road	Line Source	0.002487643	g/s/m
	Overall Mine	Area Source	0.053806198	g/s
	Estimated Emission Rate for SO <sub>2</sub>	Overall Mine	Area Source	0.000385867
Estimated Emission Rate for NO <sub>x</sub>	Overall Mine	Area Source	0.000019354	g/s
<b>EMISSION ESTIMATION FOR QUARRY “P2”- Thiru.U. Prabhakaran</b>				
	<b>Activity</b>	<b>Source type</b>	<b>Value</b>	<b>Unit</b>
Estimated Emission Rate for PM <sub>10</sub>	Drilling	Point Source	0.051661581	g/s
	Blasting	Point Source	0.000089013	g/s
	Mineral Loading	Point Source	0.035227965	g/s
	Haul Road	Line Source	0.002483699	g/s/m
	Overall Mine	Area Source	0.032955730	g/s
	Estimated Emission Rate for SO <sub>2</sub>	Overall Mine	Area Source	9.84731E-05
Estimated Emission Rate for NO <sub>x</sub>	Overall Mine	Area Source	0.000001680	g/s
<b>EMISSION ESTIMATION FOR QUARRY “P3”- Thiru.S. Rajasekar</b>				
	<b>Activity</b>	<b>Source type</b>	<b>Value</b>	<b>Unit</b>
Estimated Emission Rate for PM <sub>10</sub>	Drilling	Point Source	0.075892176	g/s
	Blasting	Point Source	0.000608975	g/s
	Mineral Loading	Point Source	0.040677672	g/s
	Haul Road	Line Source	0.002488647	g/s/m
	Overall Mine	Area Source	0.056133523	g/s
	Estimated Emission Rate for SO <sub>2</sub>	Overall Mine	Area Source	0.000452572
Estimated Emission Rate for NO <sub>x</sub>	Overall Mine	Area Source	0.000024830	g/s

#### 4.3.2 Frame work of Computation & Model details

The prediction included the impact of Excavation, Drilling, Blasting, loading and movement of vehicles during transportation and meteorological parameters such as wind speed, wind direction, temperature, rainfall, humidity and Cloud cover.

Impact was predicted over the distance of 10 km around the source to assess the impact at each receptor separately at the various locations and maximum incremental GLC value at the project site. Maximum impact of PM<sub>10</sub> was observed close to the source due to low to moderate wind speeds. Incremental value of PM<sub>10</sub> was superimposed on the base line data monitored at the proposed site to predict total GLC of PM<sub>10</sub> due to combined impacts

#### **Air Pollution Dispersion Modelling**

##### **Baseline Air Quality –**

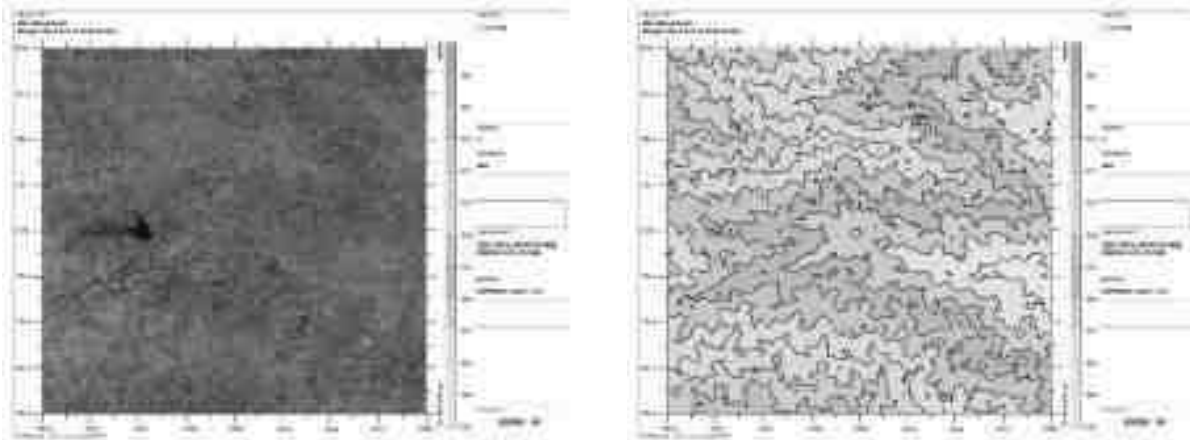
Baseline air quality has been measured at 2 locations in the cluster and 6 locations within the buffer zone of the study area. The 24 - hourly average samples of particulate matters (PM<sub>10</sub> and PM<sub>2.5</sub>), SO<sub>2</sub> and NO<sub>x</sub> were measured following the National Ambient Air Quality Standards (NAAQS), 2009. Monitoring data of 7 sampling stations are given below –

##### **Meteorological Data –**

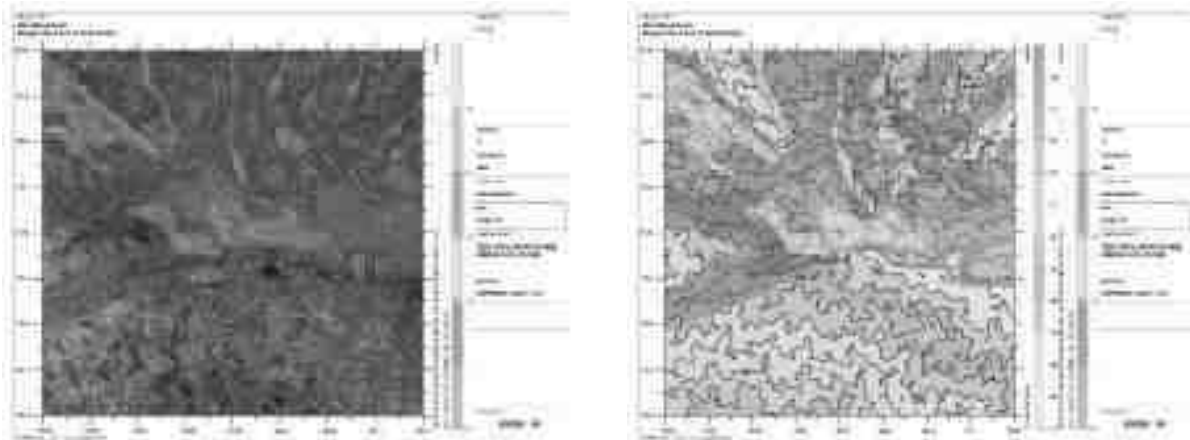
Meteorology is the key to understand the air quality. The essential relationship between meteorological condition and atmospheric dispersion involves the wind in the broadest sense. Wind fluctuations over a very wide range of time, accomplish dispersion and strongly influence other processes associated with them.

A temporary meteorological station was installed at project site and monitored continually for study period without break. The station was installed at a height of 4 m above the ground level in such a way that there are no obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature are recorded on hourly basis. A weather data was collected from IMD, Tiruppur agro for the month of Mar2022 – May2022 to correlate with site data and found not much of change in the parameters.

**FIGURE 4.1: AERMOD TERRAIN MAP**

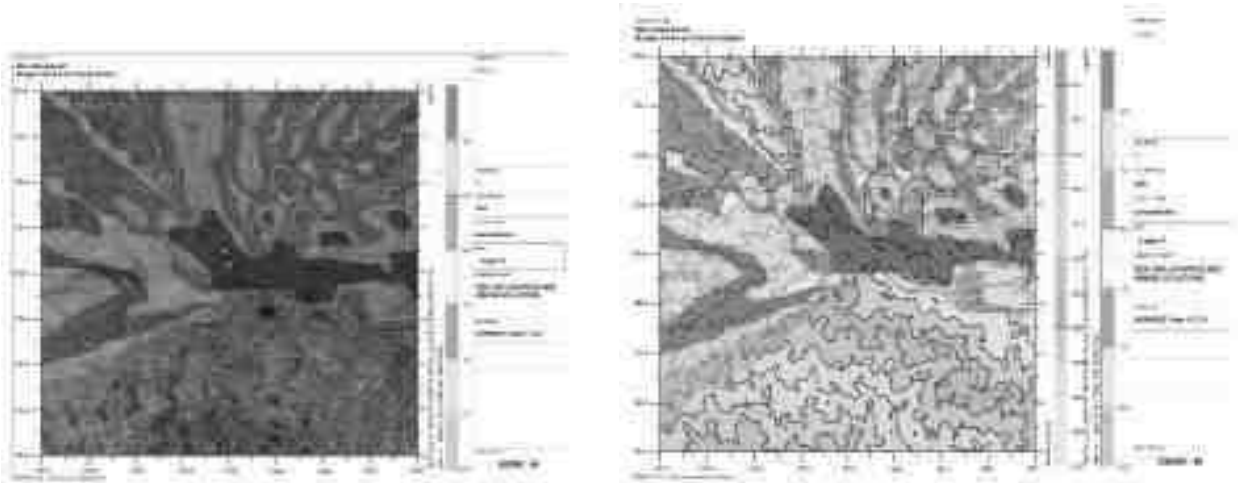


**FIGURE 4.2: PREDICTED INCREMENTAL CONCENTRATION OF PM<sub>10</sub>**

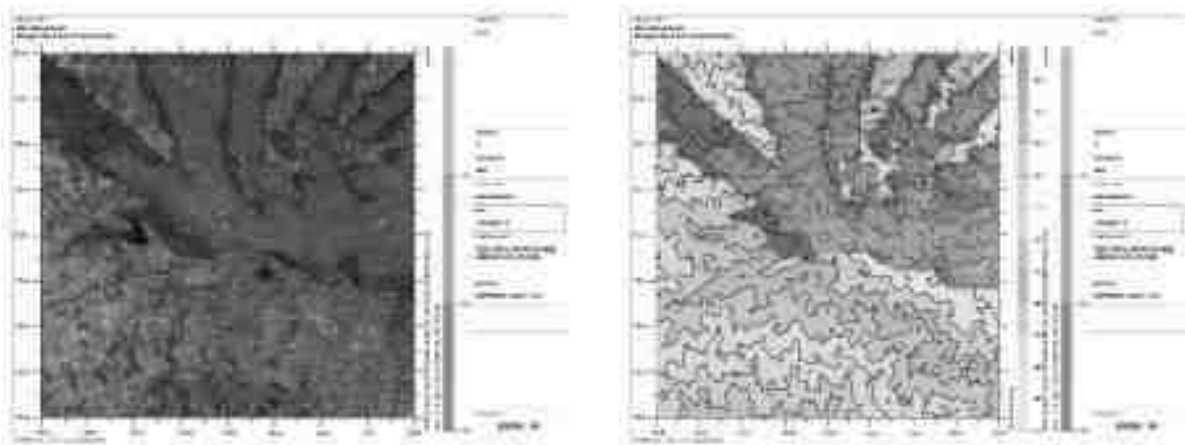




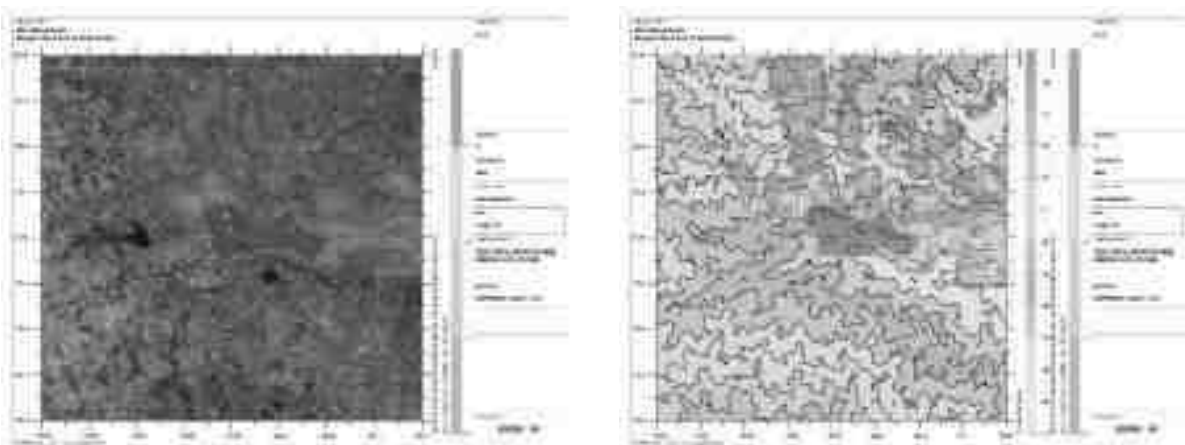
**FIGURE 4.3: PREDICTED INCREMENTAL CONCENTRATION OF PM<sub>25</sub>**

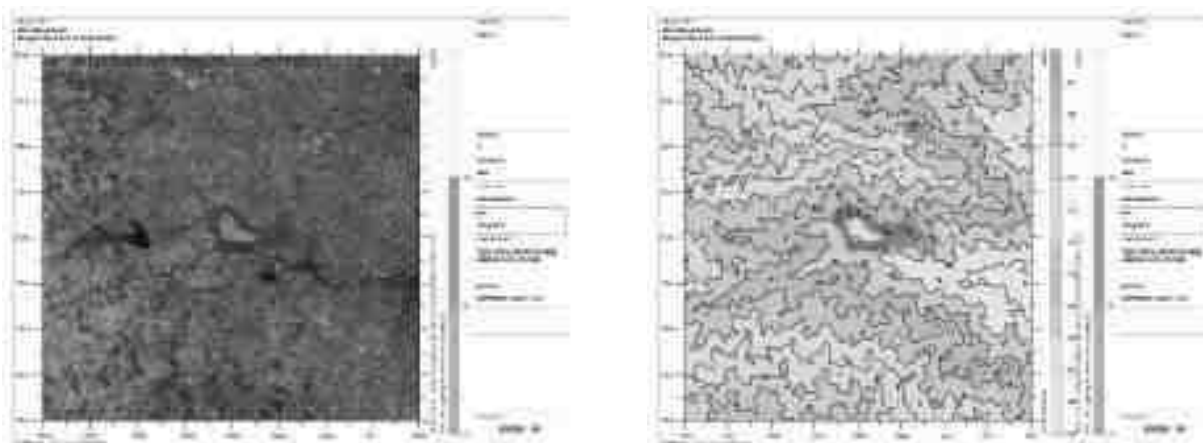


**FIGURE 4.4: PREDICTED INCREMENTAL CONCENTRATION OF SO<sub>2</sub>**



**FIGURE 4.5: PREDICTED INCREMENTAL CONCENTRATION OF NO<sub>x</sub>**



**FIGURE 4.6: PREDICTED INCREMENTAL CONCENTRATION OF FUGITIVE DUST**

#### 4.3.2.1 Model Results

The post project Resultant Concentrations of PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>& NO<sub>x</sub> (GLC) is given in Table below:

**TABLE 4.3: INCREMENTAL & RESULTANT GLC OF PM<sub>10</sub>**

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline PM <sub>10</sub> (µg/m <sup>3</sup> )	Incremental value of PM <sub>10</sub> due to mining (µg/m <sup>3</sup> )	Total PM <sub>10</sub> (µg/m <sup>3</sup> ) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	45.7	9.87	55.6
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	42.8	9.33	52.1
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	43.1	6.6	49.7
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	42.3	0	42.3
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	47.9	4	51.9
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	47.9	0.56	48.5
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	45.1	8.41	53.5

**TABLE 4.4: INCREMENTAL & RESULTANT GLC OF PM<sub>2.5</sub>**

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Incremental value of PM <sub>2.5</sub> due to mining (µg/m <sup>3</sup> )	Total PM <sub>2.5</sub> (µg/m <sup>3</sup> ) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	22.8	4.79	27.6
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	20.1	4.27	24.3
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	21.0	2.84	23.8
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	21.0	0	21.0
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	47.9	1.9	49.8
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	40.2	1.2	41.4
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	24.0	3.77	27.8

**TABLE 4.5: INCREMENTAL & RESULTANT GLC OF SO<sub>2</sub>**

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline So <sub>2</sub> (µg/m <sup>3</sup> )	Incremental value of So <sub>2</sub> due to mining (µg/m <sup>3</sup> )	Total So <sub>2</sub> (µg/m <sup>3</sup> ) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	8.0	1.19	9.2
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	8.0	1.1	9.1
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	7.0	0.72	7.8
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	6.4	0	6.4
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	7.6	0.21	7.8
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	6.1	0	6.1
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	7.4	1	8.4

**TABLE 4.6: INCREMENTAL & RESULTANT GLC OF NO<sub>x</sub>**

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline No <sub>x</sub> (µg/m <sup>3</sup> )	Incremental value of No <sub>x</sub> due to mining (µg/m <sup>3</sup> )	Total No <sub>x</sub> (µg/m <sup>3</sup> ) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	24.9	7.85	32.8
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	25.3	7.21	32.5
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	25.9	0.44	26.3
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	25.6	0	25.6
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	23.1	0	23.1
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	25.6	0	25.6
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	24.7	3.69	28.4

**TABLE 4.7: INCREMENTAL & RESULTANT GLC OF FUGITIVE DUST**

Station Code	Location	X Coordinate (m)	Y Coordinate (m)	Average Baseline Fugitive (µg/m <sup>3</sup> )	Incremental value of Fugitive due to mining (µg/m <sup>3</sup> )	Total Fugitive (µg/m <sup>3</sup> ) (5+6)
AAQ1	11° 8'3.26"N 77°25'21.82"E	-17	43	62.02	19.9	81.9
AAQ2	11° 8'23.44"N 77°25'15.90"E	-201	667	62.07	19	81.1
AAQ3	11° 9'31.21"N 77°24'30.82"E	-1576	2766	63.05	0	63.0
AAQ4	11° 5'52.79"N 77°26'24.43"E	1896	-3993	67.90	0	67.9
AAQ5	11° 9'58.51"N 77°28'12.67"E	5211	3609	59.00	0	59.0
AAQ6	11° 7'38.63"N 77°22'59.14"E	-4384	-717	57.41	0	57.4
AAQ7	11° 8'8.62"N 77°28'57.85"E	6589	208	64.41	0	64.4

From the resultant of cumulative concentration i.e., Backgr

ound + Incremental Concentration of pollutant in all the receptor locations without effective mitigation measures are still within the prescribed NAAQ limits of 100, 80 & 80 µg/m<sup>3</sup> for PM<sub>10</sub>, SO<sub>2</sub> & NO<sub>x</sub> respectively. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be further being controlled.

#### 4.3.4. Common Mitigation Measures for Respective Individual Proposed Projects

**Drilling** – To control dust at source, wet drilling will be practiced. Where there is a scarcity of water, suitably designed dust extractor will be provided for dry drilling along with dust hood at the mouth of the drill-hole collar.

**Advantages of Wet Drilling:** -

- In this system dust gets suppressed close to its formation. Dust suppression become very effective and the work environment will be improved from the point of occupational comfort and health.
- Due to dust free atmosphere, the life of engine, compressor etc., will be increased.
- The life of drill bit will be increased.
- The rate of penetration of drill will be increased.
- Due to the dust free atmosphere visibility will be improved resulting in safer working conditions.

#### **Blasting –**

- Establish time of blasting to suit the local conditions and water sprinkling on blasting face
- Avoid blasting i.e., when temperature inversion is likely to occur and strong wind blows towards residential areas
- Controlled blasting includes Adoption of suitable explosive charge and short delay detonators, adequate stemming of holes at collar zone and restricting blasting to a particular time of the day i.e., at the time lunch hours, controlled charge per hole as well as charge per round of hole
- Before loading of material water will be sprayed on blasted material
- Dust mask will be provided to the workers and their use will be strictly monitored

#### **Haul Road & Transportation –**

- Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation.
- Transportation of material will be carried out during day time and material will be covered with tarpaulin.
- The speed of tippers plying on the haul road will be limited below 20 km/hr to avoid generation of dust.
- Water sprinkling on haul roads & loading points will be carried out twice a day.
- Main source of gaseous pollution will be from vehicle used for transportation of mineral; therefore, weekly maintenance of machines improves combustion process & makes reduction in the pollution.
- The un-metalled haul roads will be compacted weekly before being put into use.
- Over loading of tippers will be avoided to prevent spillage.
- It will be ensured that all transportation vehicles carry a valid PUC certificate.
- Grading of haul roads and service roads to clear accumulation of loose materials.

#### **Green Belt –**

- Planting of trees all along main mine haul roads and regular grading of haul roads will be practiced to prevent the generation of dust due to movement of dumpers/trucks
- Green belt of adequate width will be developed around the project areas

#### **Occupational Health**

- Dust mask will be provided to the workers and their use will be strictly monitored
- Annual medical checkups, trainings and campaigns will be arranged to ensure awareness about importance of wearing dust masks among all mine workers & tipper drivers
- Ambient Air Quality Monitoring will be conducted six months once to assess effectiveness of mitigation measures proposed

### **4.4 Noise Environment (Impact & Mitigation Measures)**

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. These activities will not cause any problem to the inhabitants of this area because there is no human settlement in close proximity to the project area. Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities.

Predictions have been carried out to compute the noise level at various distances around the working pit due to these major noise-generating sources. Noise modelling has been carried out to assess the impact on surrounding ambient noise levels. Basic phenomenon of the model is the geometric attenuation of sound. Noise at a point generates spherical waves, which are propagated outwards from the source through the air at a speed of 1,100 ft/sec, with the first wave making an ever-increasing sphere with time. As the wave spreads the intensity of noise diminishes as the fixed amount of energy is spread over an increasing surface area of the sphere. The assumption of the model is based on point source relationship i.e., for every doubling of the distance the noise levels are decreased by 6 dB (A).

For hemispherical sound wave propagation through homogeneous loss free medium, one can estimate noise levels at various locations at different sources using model based on first principle.

$$Lp_2 = Lp_1 - 20 \log (r_2/r_1) - Ae_{1,2}$$

Where:

$Lp_1$  &  $Lp_2$  are sound levels at points located at distances  $r_1$  &  $r_2$  from the source.

$Ae_{1,2}$  is the excess attenuation due to environmental conditions. Combined effect of all sources can be determined at various locations by logarithmic addition.

$$Lp_{total} = 10 \log \{10^{(Lp1/10)} + 10^{(Lp2/10)} + 10^{(Lp3/10)} + \dots\}$$

#### 4.4.1 Anticipated Impact

Attenuation due to Green Belt has been taken to be 4.9 dB (A). The inputs required for the model are:

- Source data
- Receptor data
- Attenuation factor

Source data has been computed taking into account of all the machinery and activities used in the mining process. Same has been listed in Table 4-8.

**TABLE 4.8: ACTIVITY AND NOISE LEVEL PRODUCED BY MACHINERY**

Sl.No.	Machinery / Activity	Impact on Environment?	Noise Produced in dB(A) at 50 ft from source*
1	Blasting	Yes	94
2	Jack Hammer	Yes	88
3	Compressor	No	81
4	Excavator	No	85
5	Tipper	No	84
Total Noise Produced			95.8

\*50 feet from source = 15.24 meters

Source: U.S. Department of Transportation (Federal Highway Administration) – Construction Noise Handbook

The total noise to be produced by mining activity is calculated to be 95.8 dB (A). Generally, most mining operations produce noise between 100-109 dB (A). We have considered equipment and operation noise levels (max) to be approx. 109 dB (A) for noise prediction modelling.

**TABLE 4.9: PREDICTED NOISE INCREMENTAL VALUES**

Location ID	N1	N2	N3	N4	N5	N6	N7
Maximum Monitored Value (Day) dB(A)	48.2	48.2	48.9	49.3	45.4	43.2	43.99
Incremental Value dB(A)	47.30	66.12	32.14	27.43	24.25	26.48	23.84
Total Predicted Noise level dB(A)	46.30	66.19	48.99	49.33	45.43	43.29	44.03
NAAQ Standards	Industrial		Day Time- 75 dB (A)		Night Time- 70 dB (A)		
	Residential		Day Time- 55 dB (A)		Night Time- 45 dB (A)		

#### 4.4.2 Common Mitigation Measures for Respective Individual Proposed Projects

The following noise mitigation measures are proposed for control of Noise.

- Time intervals for each quarry during blasting.
- Use of personal protective devices i.e., earmuffs and earplugs by workers, who are working in high noise generating areas.
- Limiting time exposure of workers to excessive noise.
- Proper and regular maintenance of vehicles, machinery and other equipment's.
- The noise generated by the machinery will be reduced by proper lubrication of the machinery and other equipment's.
- Speed of trucks entering or leaving the quarry will be limited to moderate speed to prevent undue noise from empty vehicles...

- Noise levels will be controlled by using optimum explosive charge, proper delay detonators and proper stemming to prevent blow out of holes (occasionally).
- Providing proper noise proof enclosure for the workers separated from the noise source and noise prone equipment.
- Provision of Quiet areas, where employees can get relief from workplace noise.
- The development of green belts around the periphery of the quarry site to attenuate noise.
- Regular medical check-up and proper training to personnel to create awareness about adverse noise level effects.

#### 4.4.3 Ground Vibrations

Ground vibrations due to the proposed mining activities are anticipated due to operation of Mining Machines like Excavators, drilling and blasting, transportation vehicles, etc., However, the major source of ground vibration from the quarry is blasting. The major impact of the ground vibrations is observed on the domestic houses located in the villages nearby the mine lease area. The kuchha houses are more prone to cracks and damage due to the vibrations induced by blasting whereas RCC framed structures can withstand more ground vibrations. Apart from this, the ground vibrations may develop a fear factor in the nearby settlements.

Another impact due to blasting activities is fly rocks. These may fall on the houses or agricultural fields nearby the mining lease area and may cause injury to persons or damage to the structures. Nearest habitation from the project area is located 1km Southwest in Morattupalayam village. The ground vibrations due to the blasting in proposed mine are calculated using the empirical equation.

The empirical equation for assessment of peak particle velocity (PPV) is:

$$V = K [R/Q^{0.5}]^{-B}$$

Where –

V = peak particle velocity (mm/s)

K = site and rock factor constant

Q = maximum instantaneous charge (kg)

B = constant related to the rock and site (usually 1.6)

R = distance from charge (m)

**TABLE 4.10: PREDICTED PPV VALUES DUE TO BLASTING**

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in m/ms
P1	41	550m-SW	0.402
P2	14	730m-SW	0.108
P3	49	510m-NW	0.524



From the above, the charge per blast of Maximum 49Kg is well below the Peak Particle Velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997. It should be ensured that the explosives used for blasting at one blast should not exceed more than 28 Kg at any point of time. However, as per statutory requirement control measures will be adopted to avoid the impacts due to ground vibrations and fly rocks due to blasting.

#### **4.4.3.1 Common Mitigation Measures for Respective Individual Proposed Projects**

- The blasting operations in the cluster quarries are carried out without deep hole drilling and blasting using delay detonators, which reduces the ground vibrations;
- Proper quantity of explosive, suitable stemming materials and appropriate delay system will be adopted to avoid overcharging and for safe blasting;
- Adequate safe distance from blasting will be maintained as per DGMS guidelines;
- Blasting shelter will be provided as per DGMS guidelines;
- Blasting operations will be carried out only during day time;
- The charge per delay will be minimized and preferably a greater number of delays will be used per blasts;
- During blasting, other activities in the immediate vicinity will be temporarily stopped;
- Drilling parameters like depth, diameter and spacing will be properly designed to give proper blast;
- A fully trained explosives blast man (Mining Mate, Mines Foreman, 2<sup>nd</sup> Class Mines Manager/ 1<sup>st</sup> Class Mines Manager) will be appointed.
- A set of shot firing rules will be drawn up and blasting shall commence outlining the detailed operating procedures that will be followed to ensure that shot firing operations on site take place without endangering the workforce or public.
- Sufficient angular stemming material will be used to confine the explosive force and minimise environmental disturbance caused by venting / misfire.
- The detonators will be connected in a predetermined sequence to ensure that only one charge is detonated at any one time and a NONEL or similar type initiation system will be used.
- The detonation delay sequence shall be designed so as to ensure that firing of the holes is in the direction of free faces so as to minimise vibration effects.
- Appropriate blasting techniques shall be adopted such that the predicted peak particle velocity shall not exceed 8 Hz.
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices

### **4.5 Ecology and Biodiversity**

Environmental impact studies are required for systematic identification, qualification, and interpretation of the anticipated changes. The main environmental problems associated with mining activities are deforestation, land degradation (change in topography, soil erosion), visual intrusion, disturbance to the hydrological system, and water, air, and noise pollution which ultimately impact the floral and faunal status of the project area. However, the occurrence and magnitude of these impacts entirely depend on project location, mode of operation, and adoption of the latest technologies.

#### **4.5.1. Impact Identification and Evaluation**

In general, impact prediction methods argue that the foremost step in impact appraisal must consider and identify project actions that are likely to bring significant changes in the project environment. The present study determined to predict the likely impacts of the Proposed Rough and Gravel Quarry mining Project in the surrounding environment with a specific focus on biological attributes covering habitats/ecosystems and associated biodiversity. Likely impacts identified were categorized into different levels like direct or primary and indirect or secondary impacts based on the influence of sources of impacts. There is no National Park or Wildlife Sanctuary in the study area. In addition, No Biosphere Reserves, Wildlife corridors, or, Tiger / Elephant reserves within 10 km of the project area. No Schedule- I species were found in the buffer zone of the proposed project area during the biodiversity assessment.



## 4.5.2. Impact on Flora

The proposed mine lease exhibits plain topography and it is Patta land which is not fit for cultivation. It is mostly devoid of any considerable vegetation. The proposed mine lease area (core zone) does not encompass any designated forest land within it. The vegetation is very sparse and scanty. So, there will be no impact on flora from the mining operation. There will not be much contamination of soil or any other materials from the mining operation. No threatened plant species were reported in the core and buffer study area during the field survey.

### 4.5.2.1. Anticipated Impact on agricultural land associated with flora

1. There are no impacts on the nearby agricultural land due to this mining activity.
2. None of the plants will be cut during the operational phase of the mine.
3. There shall be negligible air emissions or effluents from the project site. During the loading of the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly.

Most of the land in the buffer area is undulating terrain with croplands, grass patches, and small shrubs. Hence, there will be no effect on the flora of the region.

## 4.5.3 Mitigation Measures

### 4.5.3.1. General Guidelines for Green Belt Development

In selecting plant species for green belt and plantation purposes in and around the proposed mine lease area native species, fruit-bearing trees, medicinal plants, and dense canopy trees should be selected. These species should be tolerant to pollution levels as per Bio- Geography zones of India.

After the operation of mining production capacity, Green belt, and Plantation species should be in accordance with the Terms and Conditions of the Environmental Clearance Green belt is created not only for the purpose of protecting sensitive areas or maintaining the ecological balance but because they also act as efficient biological filters or sinks for particulate and gaseous emissions, generated by vehicular movements and various industrial and mining activities.

### Characteristic features of plants to be used for Absorption of pollutant gases

- Plant species should be perennial and evergreen with thick canopy cover.
- The crown of the tree (mass of foliage/leaves and branches growing outward from the trunk of the tree) should be either Oblong, Round or Spreading for effective absorption of pollutant gases.
- Plants should have foliage of longer duration.
- The foliage should be freely exposed through the adequate height of the crown, Openness of foliage/leaves in the canopy, and Big leaves (long and broad laminar surfaces).

The project site should have land to develop a greenbelt in and around the limits of the mine, along roads, and another vacant area. The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. Although the project will not lead to any tree cutting, it is proposed to improve the greenery of the locality through plantation services. To avoid dust emissions, the mined materials will be covered with tarpaulin during transportation.

**Table No. 4.11. List of plant species proposed for Greenbelt development**

S. No	Scientific name	Tamil Name
1	<i>Aegle marmelos</i>	Vilva maram
2	<i>Albizia lebbeck</i>	Vaagai maram
3	<i>Cassia fistula</i>	Konrai tree
4	<i>Lannea coromandelica</i>	Othiyam
5	<i>Limonia acidissima</i>	Vila maram
6	<i>Syzygium cumini</i>	Naval maram

7	<i>Toona ciliata</i>	Santhana Vembu
8	<i>Ficus hispida</i>	Aththi maram
9	<i>Borassus flabellifer</i>	Panai-maram

**Table No. 4.12. Species suitable for abatement of noise and dust pollution**

S. No	Botanical name	Common name
1	<i>Azadirachta indica</i>	Vembhu maram
2	<i>Ficus religiosa</i>	Arasan maram
3	<i>Ficus hispida</i>	Aththi maram
4	<i>Bombax ceiba</i>	Mul Elavu
5	<i>Syzygium cumini</i>	Naval maram
6	<i>Tamarindus indica</i>	Puliyamaram
7	<i>Mangifera indica</i>	Manga maram
8	<i>Harwickia binata</i>	Anjan maram
9	<i>Delonix regia</i>	Neruppu Kondrai
10	<i>Cassia Fistula</i>	Sara Kondrai

The above-suggested list covers species with thick canopy cover, perennial green nature, native origin, and a large leaf area index. The proposed species will help in forming an effective barrier between the mine site area and the surroundings.

#### 4.5.4. Anticipated Impact on Fauna

- Since the terrestrial fauna in the study area is distributed away from the mine site, the impacts of the project are likely to be much low on the terrestrial fauna of the region. The proposed mining lease area is devoid of any significant vegetation, it is not suitable for permanent habitat for any specific wildlife.
- Habitat degradation and disturbance to the faunal group due to ground vibration and increase in noise level will be minimized or resolved by modern technologies. So, from the above facts, it is revealed that there will be no impact on fauna. No threatened fauna species were reported in the core and buffer study area.

##### 4.5.4.1. Measures for protection and conservation of wildlife species

- Topsoil has a large number of seeds of native plant species in the mining area.
- Checks and controls the movement of vehicles in and out of the mine.
- Undertaking mitigative measures for a conducive environment for the flora and fauna in consultation with the Forest Department.
- Plantation around the mine area will help in creating habitats for small faunal species and create a better environment for various fauna. Creating and developing awareness for nature and wildlife in the adjoining villages.

#### 4.5.5. Impact on Aquatic Biodiversity

Mining activities will not disturb the aquatic ecology as there is no effluent discharge proposed from the Rough Stone and Gravel quarry. There is no natural perennial surface water body within the mine lease area, like wetlands, rivers streams, lakes, and farmer sites. There is no impact on fish habitats and the food WEB/ food chain in the water body and Reservoir. There are a few seasonal water bodies located away from the proposed project site (10 km radius). Aquatic biodiversity is observed in the study area. Please refer the clause No.3.7. The project is not likely to affect the aquatic ecology.

**Table No: 4.13. General Impacts vs. Mitigation Matrix**

Particulars	Issues	Reason/Status in relation to the mine site	Reference/Method	Suggestions
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Species	Rare/ Endangered/ Threatened species	Not reported	Field observation, interviews of local people	Nil
	Endemic Species	No endemic species of any flora, fauna or wildlife are present in the study area.	Field survey, Literature review	Nil
Important Natural Habitats	Protected Areas	No National Park, Wildlife Sanctuary, Tiger reserve, and Biosphere Reserve falls in the 10-km radius study area	ENVIS, Government of Tamil Nadu protected area website, Google Earth, Project Maps, etc.	Nil
	Important Bird Areas	No Important Bird Areas are falling in the 10-km radius area for Migratory Bird Habitat	ENVIS Centre on Wildlife & Protected Areas, Important Bird Area in India, IBA Book (Birdlife International)	Nil
	Ramsar site	No Ramsar sites present in the surrounding area region	Ramsar Web site	Nil
	Wetlands of National Importance	Nil	ENVIS Centre on Wildlife & Protected Areas, Wetlands directory of Government of India	Nil
	Wetlands of International Importance	Nil	Nil	Nil
	Wildlife Corridors	No Wildlife Corridor is falling in 10 km radius project study area	Protected Areas, Consultation with local naturalists & authenticated location map.	Nil
	Eco-sensitive zone identified by the government	No Eco-sensitive zone is falling 10 km radius project study area	ENVIS, Consultation with local naturalists & authenticated location map	Nil
	Forest Areas	No Reserve forest is falling in 10 km radius project study area	ENVIS, Government of Tamil Nadu protected area website, Google Earth, Project Maps, etc.	NIL, Applicant will create the green belt plantation on the periphery of mine sites.
	Water bodies	Nil	Project Map and local maps, Google Earth	Ensure minimum destruction during in operation phase.
	Breeding/nesting areas	No breeding/Nesting site are falling in the study area	Literature Survey Project Map and local maps, Google Earth	NIL

TABLE 4.14: GREENBELT DEVELOPMENT PLAN

PROPOSAL – P1					
Year	No. of trees proposed to be planted	Survial %	Area to be covered	Name of the species	No. of trees expected to be grown
I	1130	80	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	904
PROPOSAL – P2					
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	350	80%	Near 7.5m safety distance, panchayat	Neem, Pongamia Pinnata, Casuarina etc.,	280

Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	1250	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	1000

TABLE 4.15: BUDGET FOR GREEBELT DEVELOPMENT PLAN-P1

ACTIVITY		YEAR					RATE	AMOUNT (INR)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	20	20	20	20	20	@100 Rs Per sapling	Rs.10,000/-
	Cost	2000	2000	2000	2000	2000		Rs.20,000/-
Plantation cost in the quarried out top benches, approach road and panchayat road	Nos.	40	40	40	40	40		Rs.20,000/-
	Cost	4000	4000	4000	4000	4000		
Wire Fencing (In Mtrs) 480		1,44,000	-	-	-	-	@300 Rs Per Meter	Rs.1,44,000/-
Garland drain (In Mtrs) 400		1,20,000	-	-	-	-	@300 Rs Per Meter	Rs.1,20,000/-
<b>TOTAL</b>								<b>Rs.2,94,000/-</b>

TABLE 4.16: BUDGET FOR GREEBELT DEVELOPMENT PLAN-P2

ACTIVITY		YEAR					RATE	COST (Rs.)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	20	20	20	20	20	@100 Rs Per sapling	10,000/-
	Cost	2000	2000	2000	2000	2000		10,000/-
Plantation in the approach road and nearby village road	Nos.	20	20	20	20	20		10,000/-
	Cost	2000	2000	2000	2000	2000		
Wire Fencing (In Mtrs) 320 Mtrs		96000	-	-	-	-	@300 Rs Per Meter	96,000/-
Garland drain (In Mtrs) 250 Mtrs		75000	-	-	-	-	@300 Rs Per Meter	75,000/-
<b>TOTAL</b>								<b>1,91,000/-</b>

TABLE 4.17: BUDGET FOR GREEBELT DEVELOPMENT PLAN-P3

ACTIVITY		YEARS					RATE	COST (Rs.)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	30	30	30	30	30	@200 Rs Per sapling	30,000/-
	Cost	6000	6000	6000	6000	6000		30,000/-
Plantation in the quarried out top benches	Nos.	-	-	-	75	75		30,000/-
	Cost	-	-	-	15000	15000		
Plantation in the approach road and nearby village road	Nos.	100	-	-	-	-		20,000/-
	Cost	20000	-	-	-	-		

Wire Fencing (In Mtrs) 450 Mtrs	135000	@300 Rs Per Meter	1,35,000/-
Garland Drain (In Mtrs) 300 Mtrs	90000		90,000/-
<b>TOTAL</b>			<b>3,05,000/-</b>

After complete extraction of mineral, the excavated pits will be allowed to collect rainwater and seepage water to serve as a reservoir to charge the nearby wells. Fish culture will also be attempted. A bund will be constructed around the pits. In order to minimize the impact of mining on the vegetation outside the mine lease area, it is recommended that adequate protection measures must be implemented. As mining involves movement of vehicles and increased anthropogenic activities, some of the areas can be fenced by involving local people and educating them about increased benefits of such activities.

## 4.6 Socio Economic

### 4.6.1 Anticipated Impact from all Proposed Projects

- Dust generation from mining activity can have negative impact on the health of the workers and people in the nearby area.
- Approach roads can be damaged by the movement of tippers
- Increase in Employment opportunities both direct and indirect thereby increasing economic status of people of the region

### 4.6.2 Common Mitigation Measures for Respective Individual Proposed Projects

- Good maintenance practices will be adopted for all machinery and equipment, which will help to avert potential noise problems.
- Green belt will be developed in and around the project site as per Central Pollution Control Board (CPCB) guidelines.
- Air pollution control measure will be taken to minimize the environmental impact within the core zone.
- For the safety of workers, personal protective appliances like hand gloves, helmets, safety shoes, goggles, aprons, nose masks and ear protecting devices will be provided as per mines act and rules.
- Benefit to the State and the Central governments through financial revenues by way of royalty, tax, duties, etc., from this project directly and indirectly.
- From above details, the quarry operations will have highly beneficial positive impact in the area

## 4.7 Occupational Health and Safety

Occupational health and safety hazards occur during the operational phase of mining and primarily include the following:

- Respiratory hazards
- Noise
- Physical hazards
- Explosive storage and handling

### 4.7.1 Respiratory Hazards

Long-term exposure to silica dust may cause silicosis the following measures are proposed:

- Cabins of excavators and tippers will be enclosed with AC and sound proof
- Use of personal dust masks will be made compulsory

### 4.7.2 Noise

Workers are likely to get exposed to excessive noise levels during mining activities. The following measures are proposed for implementation

- No employee will be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection

- The use of hearing protection will be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110 dB(A)
- Ear muffs provided will be capable of reducing sound levels at the ear to at least 85 dB(A)
- Periodic medical hearing checks will be performed on workers exposed to high noise levels

#### 4.7.3 Physical Hazards

The following measures are proposed for control of physical hazards

- Specific personnel training on work-site safety management will be taken up;
- Work site assessment will be done by rock scaling of each surface exposed to workers to prevent accidental rock falling and / or landslide, especially after blasting activities;
- Natural barriers, temporary railing, or specific danger signals will be provided along rock benches or other pit areas where work is performed at heights more than 2m from ground level;
- Maintenance of yards, roads and footpaths, providing sufficient water drainage and preventing slippery surfaces with an all-weather surface, such as coarse gravel will be taken up

#### 4.7.4 Occupational Health Survey

All the persons will undergo pre-employment and periodic medical examination. Employees will be monitored for occupational diseases by conducting the following tests

- General physical tests
- Audiometric tests
- Full chest, X-ray, Lung function tests, Spirometric tests
- Periodic medical examination – yearly
- Lung function test – yearly, those who are exposed to dust
- Eye test

Essential medicines will be provided at the site. The medicines and other test facilities will be provided at free of cost. The first aid box will be made available at the mine for immediate treatment.

First aid training will be imparted to the selected employees regularly. The lists of first aid trained members shall be displayed at strategic places.

#### 4.8 *Mine Waste Management*

No waste is anticipated from any of the proposed quarries.

#### 4.9 *Mine Closure*

Mine closure plan is the most important environmental requirement in mining projects. The mine closure plan should cover technical, environmental, social, legal and financial aspects dealing with progressive and post closure activities. The closure operation is a continuous series of activities starting from the decommissioning of the project. Therefore, progressive mine closure plan should be specifically dealt with in the mining plan and is to be reviewed along with mining plan. As progressive mine closure is a continuous series of activities, it is obvious that the proposals of scientific mining have included most of the activities to be included in the closure plan. While formulating the closure objectives for the site, it is important to consider the existing or the pre-mining land use of the site; and how the operation will affect this activity.

The primary aim is to ensure that the following broad objectives along with the abandonment of the mine can be successfully achieved:

- To create a productive and sustainable after-use for the site, acceptable to mine owners, regulatory agencies, and the public
- To protect public health and safety of the surrounding habitation
- To minimize environmental damage
- To conserve valuable attributes and aesthetics

- To overcome adverse socio-economic impacts.

#### **4.9.1 Mine Closure Criteria**

The criteria involved in mine closure are discussed below:

##### **4.9.1.1 Physical Stability**

All anthropogenic structures, which include mine workings, buildings, rest shelters etc., remaining after mine decommissioning should be physically stable. They should present no hazard to public health and safety as a result of failure or physical deterioration and they should continue to perform the functions for which they were designed. The design periods and factors of safety proposed should take full account of extreme events such as floods, hurricane, winds or earthquakes, etc. and other natural perpetual forces like erosion, etc.,

##### **4.9.1.2 Chemical Stability**

The solid wastes on the mine site should be chemically stable. This means that the consequences of chemical changes or conditions leading to leaching of metals, salts or organic compounds should not endanger public health and safety nor result in the deterioration of environmental attributes. If the pollutant discharge likely to cause adverse impacts is predicted in advance, appropriate mitigation measures like settling of suspended solids or passive treatment to improve water quality as well as quantity, etc., could be planned. Monitoring should demonstrate that there is no adverse effect of pollutant concentrations exceeding the statutory limits for the water, soil and air qualities in the area around the closed mine.

##### **4.9.1.3 Biological Stability**

The stability of the surrounding environment is primarily dependent upon the physical and chemical characteristics of the site, whereas the biological stability of the mine site itself is closely related to rehabilitation and final land use. Nevertheless, biological stability can significantly influence physical or chemical stability by stabilizing soil cover, prevention of erosion/wash off, leaching, etc.,

A vegetation cover over the disturbed site is usually one of the main objectives of the rehabilitation programme, as vegetation cover is the best long-term method of stabilizing the site. When the major earthwork components of the rehabilitation programme have been completed, the process of establishing a stable vegetation community begins. For revegetation, management of soil nutrient levels is an important consideration. Additions of nutrients are useful under three situations.

- Where the nutrient level of spread topsoil is lower than material in-situ e.g. for development of social forestry
- Where it is intended to grow plants with a higher nutrient requirement than those occurring naturally e.g. planning for agriculture
- Where it is desirable to get a quick growth response from the native flora during those times when moisture is not a limiting factor e.g. development of green barriers

The Mine closure plan should be as per the approved mining plan. The mine closure is a part of approved mine plan and activities of closure shall be carried out as per the process described in mine closure plan.

## CHAPTER – 5: ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

### 5.0 Introduction:

Consideration of alternatives to a project proposal is a requirement of EIA process. This quarry is site specific. The site has been selected based on geological investigation and exploration and from the Existing quarry pits around the project site. Drilling, Blasting, Excavation, Loading & Transportation will be carried out in this quarrying operation.

- This area denotes the indicative of flow pattern of the rock mass in N30<sup>0</sup>E to S30<sup>0</sup>W with dipping SE60<sup>0</sup>.
- Transportation facility for materials & manpower.
- Overall impact on environment and mitigation feasibility.
- Socio – economic background.

Enough infrastructure exists and lesser resources are required to be deployed. Since, any major construction for infrastructure is not required and hence does not affect the environment considerably.

### 5.1 Factors Behind the Selection of Project Site

Rough Stone and Gravel Cluster Quarry Projects at Morattupalayam Village are a site specific. The proposed mining lease area has following advantages: -

- The mineral deposit occurs in a non-forest area.
- There is no habitation within the project area; hence no R & R issues exist.
- There is no river, stream, nallah and water bodies in the applied mine lease area.
- Availability of skilled, semi-skilled and unskilled workers in this region.
- All the basic amenities such as medical, fire fighting, education, transportation, communication and infrastructural facilities are well connected and accessible.
- The mining operations will not intersect the ground water level. Hence, no impact on ground water environment.
- Study area falls in seismic zone – III, there is no major history of landslides, earthquake, subsidence etc., recorded in the past history.

### 5.2 Analysis of Alternative Site

The mineral deposits are site specific in nature; hence, question of seeking alternate site does not arise for this project.

### 5.3 Factors Behind Selection of Proposed Technology

Mechanized open cast mining operation with drilling and blasting method will be used to extract Rough Stone and Gravel in the area. The quarry areas fall in the clusters has following advantages –

- As the mineral deposition is homogeneous and batholith formation, therefore opencast method of working out deposit is preferred over underground method.
- The material will be loaded after sprinkling with water with the help of excavators into dumpers / trippers and transported to the needy customers.
- Blasting and availability of drills along with controlled blasting technology gives desired fragmentation so that the mineral is handled safely and used without secondary blasting.

Semi skilled labours fit for quarrying operations are easily available around the nearby villages.

### 5.4 Analysis of Alternative Technology

Open cast mechanized method has been selected for this project. This technology is having least gestation period, economically viable, safest and less labour intensive. The method has inbuilt flexibility for increasing or decreasing the production as per market condition.



## CHAPTER – 6: ENVIRONMENTAL MONITORING PROGRAMME

### 6.0 General

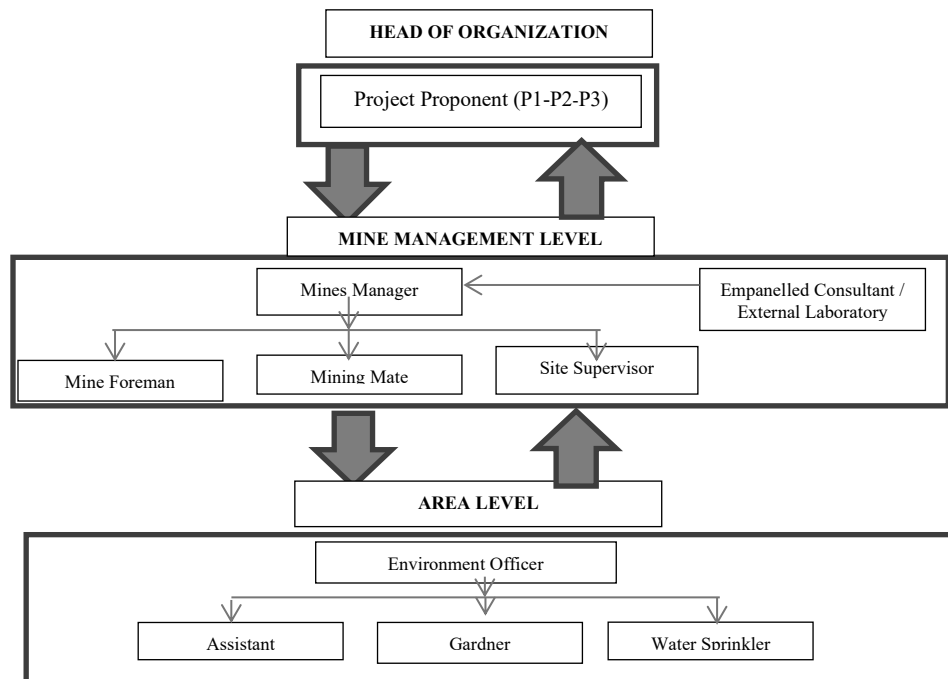
Environmental Monitoring will be taken up for various environmental components as per conditions stipulated in Environmental Clearance Letter issued by MoEF & Consent to Operate issued by the State Pollution Control Board. Monitoring reports will be submitted to regulator as per statutory requirements. The entire monitoring work will be carried out by MoEF & CC / NABL recognized laboratories.

The monitoring and evaluation of environmental parameters indicates potential changes occurring in the environment, which paves way for implementation of rectifying measures wherever required to maintain the status of the natural environment. Evaluation is also a very effective tool to judge the effectiveness or deficiency of the measures adopted and provides insight for future corrections.

### 6.1 Methodology of Monitoring Mechanism

Implementation of EMP and periodic monitoring will be carried out by the proponents and respective quarry owners in the cluster quarries. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project; Mine Management Level environmental protection measures like dust suppression, treatment and recycling of waste water, control of noise due to blasting and Ground vibration, maintenance of machinery and vehicles, housekeeping in the mine premises, plantation, implementation of other hand, implementation of area level protection measures like plantation and green Environmental Management Plan and environmental clearance conditions will be monitored by the proponent. On the belt development, environmental quality monitoring etc., An environment monitoring cell (EMC) will be constituted at the quarry consisting of following members to monitor the implementation of EMP and other environmental protection measures.

**FIGURE 6.1 ENVIRONMENTAL MONITORING CELL**



The responsibilities of this cell will be:

- Implementation of pollution control measures
- Monitoring programme implementation
- Post-plantation care
- To check the efficiency of pollution control measures taken
- Any other activity as may be related to environment
- Seeking expert's advice when needed

The environmental monitoring cell will co-ordinate all monitoring programs at site and data thus generated will be regularly furnished to the State regulatory agencies. The sampling and analysis report of the monitored environmental attributes will be submitted to the Tamil Nadu Pollution Control Board (TNPCB) at a frequency of monthly, half-yearly and yearly. The half-yearly reports will be submitted to Ministry of Environment and Forest, Regional Office and SEIAA as well.

The sampling and analysis of the environmental attributes will be as per the guidelines of Central Pollution Control Board (CPCB)/Ministry of Environment, Forest and Climate Change (MoEF & CC).

### **6.2 Implementation Schedule of Mitigation Measures**

The mitigation measures proposed in Chapter-4 will be implemented so as to reduce the impact on the environment due to the operations of the proposed project. Implementation schedule of mitigation measures is given in Table 6.1.

**TABLE 6.1 IMPLEMENTATION SCHEDULE**

Sl No.	Recommendations	Time Period	Schedule
1	Land Environment Control Measures	Before commissioning of the project	Immediately after the commencement of the project
2	Soil Quality Control Measures	Before commissioning of the project	Immediately after the commencement of the project
3	Water Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
4	Air Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
5	Noise Pollution Control Measures	Before commissioning of the project and along with mining operation	Immediately and as project progress
6	Ecological Environment	Phase wise implementation every year along with mine operations	Immediately and as project progress

### **6.3 Monitoring Schedule and Frequency**

The environmental monitoring will be conducted in the mine operations as follows:

- Air quality;
- Water and wastewater quality;
- Noise levels;
- Soil Quality; and
- Greenbelt Development

The details of monitoring are detailed in Table 6.2

**TABLE 6.2: PROPOSED MONITORING SCHEDULE POST EC FOR P1 TO P2**

S. No.	Environment Attributes	Location	Monitoring		Parameters
			Duration	Frequency	
1	Air Quality	2 Locations (1 Core & 1 Buffer)	24 hours	Once in 6 months	Fugitive Dust, PM <sub>2.5</sub> , PM <sub>10</sub> , SO <sub>2</sub> and NO <sub>x</sub> .
2	Meteorology	At mine site before start of Air Quality Monitoring & IMD Secondary Data	Hourly / Daily	Continuous online monitoring	Wind speed, Wind direction, Temperature, Relative humidity and Rainfall
3	Water Quality Monitoring	2 Locations (1SW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open wells in buffer zone around 1 km at specific wells	-	Once in 6 months	Depth in bgl
5	Noise	2 Locations (1 Core & 1 Buffer)	Hourly – 1 Day	Once in 6 months	Leq, Lmax, Lmin, Leq Day & Leq Night
6	Vibration	At the nearest habitation (in case of reporting)	-	During blasting Operation	Peak Particle Velocity
7	Soil	2 Locations (1 Core & 1 Buffer)	-	Once in six months	Physical and Chemical Characteristics
8	Greenbelt	Within the Project Area	Daily	Monthly	Maintenance

Source: Guidance of manual for mining of minerals, February 2010

#### **6.4 Environmental Policy of the Proponents**

The project proponents in the proposed quarries are committed to ensure that:

- Protect the environment by control and prevention of pollution and promote green environment.
- To operate the quarry with an objective of no injuries and accidents at the work place and provide a safe work place for our employees, contractors and others who perform their duties.
- Adequate health care will be taken to all the employees and create process to reduce the adverse effect of the operations on Health of the employees.
- Provide safety appliance and continuous training in safety to employees to ensure safe production and achieve the target of zero accidents.
- Develop safe working methods and practices, remove unsafe work conditions and consider all the aspects at the early stages of process development to provide safe working atmosphere.
- Communicate Safety, Health and Environmental Policy to all employees for better understanding and practice.

#### **6.5 Budgetary Provision for Environmental Monitoring Programme**

The cost in respect of monitoring of environmental attributes, parameter to be monitored, sampling/monitoring locations with frequency and cost provision against each proposal is shown in Table 6.3. Monitoring work will be outsourced to external laboratory approved by NABL / MoEF.

The proposed total cost for Environmental Monitoring Programme for two proposed quarries in cluster for the mining plan period is Rs 7,60,000/-

**TABLE 6.3 ENVIRONMENT MONITORING BUDGET P1-P2-P3**

<b>Parameter</b>	<b>Sl. Nos</b>	<b>Capital Cost</b>
Air Quality, Meteorology, Water Quality, Hydrology, Soil Quality Noise Quality, Vibration Study Greenbelt	P1	Rs.3,80,000/-
	P2	Rs.3,80,000/-
	P3	Rs.3,80,000/-
	<b>Total</b>	<b>Rs. 11,40,000/-</b>

Source: Approved Mining Plan

### **6.6 Reporting Schedules of Monitored Data**

The monitored data on Air quality, Water quality, Noise levels and other environmental attributes will be periodically examined by the proponent with Environmental Monitoring cell and necessary corrective measures will be carried out. The monitoring data will be submitted to Tamil Nadu State Pollution Control Board in the Compliance to CTO Conditions & environmental audit statements every year to MoEF & CC and Half-Yearly Compliance Monitoring Reports to MoEF & CC Regional Office and SEIAA.

Periodical reports to be submitted to: -

- MoEF & CC – Half yearly status report
- TNPCB - Half yearly status report
- Department of Geology and Mining: quarterly, half yearly annual reports
- SEIAA, Chennai, Tamil Nadu

Besides the Mines Manager/Agent will submit the periodical reports to –

- Director of mines safety,
- Labour enforcement officer,
- Controller of explosives as per the norms stipulated by the department.

## CHAPTER – 7: ADDITIONAL STUDIES

### 7.0 General

The following Additional Studies were done as per items identified by project proponent and items identified by regulatory authority. Items identified by public and other stakeholders will be incorporated after Public Hearing.

- Public Consultation
- Risk Assessment
- Disaster Management Plan
- Cumulative Impact Study
- Plastic Waste Management
- Post-COVID Health Management Plan

#### 7.1. **Public Consultation:**

Application to The Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing in a systematic, time bound and transparent manner ensuring widest possible public participation at the project site or in its close proximity in the district is submitted along with this Draft EIA / EMP Report and the outcome of public hearing proceedings will be detailed in the Final EIA/EMP Report.

#### 7.2 **Risk Assessment**

The methodology for the risk assessment has been based on the specific risk assessment guidance issued by the Directorate General of Mine Safety (DGMS), Dhanbad, vide Circular No.13 of 2002, dated 31<sup>st</sup> December, 2002. The DGMS risk assessment process is intended to identify existing and probable hazards in the work environment and all operations and assess the risk levels of those hazards in order to prioritize those that need immediate attention. Further, mechanisms responsible for these hazards are identified and their control measures, set to timetable are recorded along with pinpointed responsibilities.

The cluster quarry operation will be carried out under the direction of a Qualified Competent Mine manager holding certificate of competency to manage a metalliferous mine granted by the DGMS, Dhanbad. Risk Assessment is all about prevention of accidents and to take necessary steps to prevent it from happening. Factors of risks involved due to human induced activities in connection with mining & allied activities with detailed analysis of causes and control measures for the mine is given in below Table 7.1.

**TABLE 7.1 RISK ASSESSMENT & CONTROL MEASURES**

S. No	Risk factors	Causes of risk	Control measures
1	Accidents due to explosives and heavy mining machineries	Improper handling and unsafe working practice	<ul style="list-style-type: none"> <li>▪ All safety precautions and provisions of Mine Act, 1952, Metalliferous Mines Regulation, 1961 and Mines Rules, 1955 will be strictly followed during all mining operations;</li> <li>▪ Entry of unauthorized persons will be prohibited;</li> <li>▪ Fire fighting and first-aid provisions in the mine office complex and mining area;</li> <li>▪ Provisions of all the safety appliances such as safety boot, helmets, goggles etc. will be made available to the employees and regular check for their use.</li> <li>▪ Working of quarry, as per approved plans and regularly updating the mine plans;</li> <li>▪ Cleaning of mine faces shall be daily done in order to avoid any overhang or undercut;</li> <li>▪ Handling of explosives, charging and firing shall be carried out by competent persons only under the supervision of a Mine Manager;</li> </ul>

			<ul style="list-style-type: none"> <li>▪ Maintenance and testing of all mining equipment as per manufacturer 's guidelines.</li> </ul>
2	Drilling& Blasting	<p>Due to improper and unsafe practices</p> <p>Due to high pressure of compressed air, hoses may burst</p> <p>Drill Rod may break</p>	<ul style="list-style-type: none"> <li>▪ Safe operating procedure established for drilling (SOP) will be strictly followed.</li> <li>▪ Only trained operators will be deployed.</li> <li>▪ No drilling shall be commenced in an area where shots have been fired until the blaster/blasting foreman has made a thorough Examination of all places.</li> <li>▪ Drilling shall not be carried on simultaneously on the benches at places directly one above the other.</li> <li>▪ Periodical preventive maintenance and replacement of worn-out accessories in the compressor and drill equipment as per operator manual.</li> <li>▪ All drills unit shall be provided with wet drilling shall be maintained in efficient working in condition.</li> <li>▪ Operator shall regularly use all the personal protective equipment.</li> </ul>
3	Blasting	<p>Fly rock, ground vibration, Noise and dust.</p> <p>Improper charging, stemming &amp; Blasting/fining of blast holes</p> <p>Vibration due to movement of vehicles.</p>	<ul style="list-style-type: none"> <li>▪ The maximum charge per delay and by optimum blast hole pattern, vibrations will be controlled within the permissible limit and blast can be conducted safely.</li> <li>▪ SOP for Charging, Stemming &amp; Blasting/Firing of Blast Holes will be followed by blasting crew during initial stage of operation.</li> <li>▪ Shots are fired during daytime only.</li> <li>▪ All holes charged on any one day shall be fired on the same day.</li> <li>▪ The danger zone is and will be distinctly demarcated (by means of red flags)</li> </ul>
4	Transportation	<p>Potential hazards and unsafe workings contributing to accident and injuries overloading of material</p> <p>While reversal &amp; overtaking of vehicle</p> <p>Operator of truck leaving his cabin when it is loaded.</p>	<ul style="list-style-type: none"> <li>▪ Before commencing work, drivers personally check the dumper/truck/tipper for oil(s), fuel and water levels, tyre inflation, general cleanliness and inspect the brakes, steering system, warning devices including automatically operated audio-visual reversing alarm, rear view mirrors, side indicator lights etc., are in good condition.</li> <li>▪ Not allow any unauthorized person to ride on the vehicle nor allow any unauthorized person to operate the vehicle.</li> <li>▪ Concave mirrors should be kept at all corners.</li> <li>▪ All vehicles should be fitted with reverse horn with one spotter at every tipping point.</li> </ul>

			<ul style="list-style-type: none"> <li>▪ Loading according to the vehicle capacity</li> <li>▪ Periodical maintenance of vehicles as per operator manual</li> </ul>
5	Natural calamities	Unexpected happenings	<ul style="list-style-type: none"> <li>▪ Escape Routes will be provided to prevent inundation of storm water</li> <li>▪ Fire Extinguishers &amp; Sand Buckets</li> </ul>
6	Failure of Mine Benches and Pit Slope	Slope geometry, Geological structure	<ul style="list-style-type: none"> <li>▪ Ultimate or over all pit slope shall be below 60° and each bench height shall be 5m height.</li> </ul>

### 7.3 Disaster Management Plan

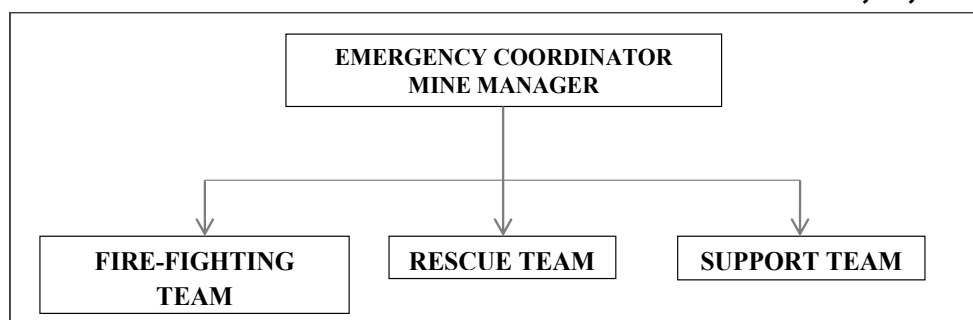
Natural disasters like Earthquake, Land slides has not been recorded in the past history as the terrain is categorized under seismic zone III. The area is far away from the sea hence the disaster due to heavy floods and tsunamis are not anticipated. The Disaster Management Plan is aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and salvage operations in this same order of priorities.

The objective of the Disaster Management Plan is to make use of the combined resources of the mine and the outside services to achieve the following:

- Rescue and medical treatment of casualties;
- Safeguard other people;
- Minimize damage to property and the environment;
- Initially contain and ultimately bring the incident under control;
- Secure the safe rehabilitation of affected area; and
- Preserve relevant records and equipment for the subsequent inquiry into the cause and circumstances of the emergency.

In case a disaster takes place, despite preventive actions, disaster management will have to be done in line with the descriptions below. There is an organization proposed for dealing with the emergency situations and the coordination among key personnel and their team has been shown in Fig 7.1.

**FIGURE 7.1: DISASTER MANAGEMENT TEAM LAYOUT FOR P1,P2,P3**



The emergency organization shall be headed by emergency coordinator who will be qualified competent mine manager. There would be three teams for taking care of emergency situations – Fire-Fighting Team, Rescue Team and Support Team. The proposed composition of the teams is given in Table 7.2.

**TABLE 7.2: PROPOSED TEAMS TO DEAL WITH EMERGENCY SITUATION**

DESIGNATION	QUALIFICATION
<b>FIRE-FIGHTING TEAM</b>	
Team Leader/ Emergency Coordinator (EC)	Mines Manager
Team Member	Mines Foreman

Team Member	Mining Mate
<b>RESCUE TEAM</b>	
Team Leader/ Emergency Coordinator (EC)	Mines Manager
Team Member/ Incident Controller (IC)	Environment Officer
Team Member	Mining Foreman
<b>SUPPORT TEAM</b>	
Team Leader/ Emergency Coordinator (EC)	Mines Manager
Assistant Team Leader	Environment Officer
Team Member	Mining Mate
Security Team Leader/ Emergency Security Controller	Mines Foreman

Once the mine becomes operational, the above table along with names of personnel will be prepared and made easily available to workers. A mobile communication network and wireless shall connect Mine Emergency Control Room (MECR) to control various departments of the mine, fire station and neighbouring industrial units/mines.

### **Roles and responsibilities of emergency team –**

(a) Emergency coordinator (EC)

The emergency coordinator shall assume absolute control of site

(b) Incident controller (IC)

Incident controller shall be a person who shall go to the scene of emergency and supervise the action plan to overcome or contain the emergency. Shift supervisor or Environmental Officer shall assume the charge of IC.

(c) Communication and advisory team

The advisory and communication team shall consist of heads of Mining Departments i.e., Mines Manager

(d) Roll call coordinator

The Mine Foreman shall be Roll Call Coordinator. The roll call coordinator will conduct the roll call and will evacuate the mine personnel to assembly point. His prime function shall be to account for all personnel on duty.

(e) Search and rescue team

There shall be a group of people trained and equipped to carryout rescue operation of trapped personnel. The people trained in first aid and fire-fighting shall be included in search and rescue team

(f) Emergency security controller

Emergency Security Controller shall be senior most security person located at main gate office and directing the outside agencies e.g., fire brigade, police, doctor and media men etc.,

### **Emergency control procedure –**

The onset of emergency, will in all probability, commence with a major fire or explosion or collapse of wall along excavation and shall be detected by various safety devices and also by members of operational staff on duty. If located by a staff member on duty, he (as per site emergency procedure of which he is adequately briefed) will go to nearest alarm call point, break glass and trigger off the alarms. He will also try his best to inform about location and nature of accident to the emergency control room. In accordance with work emergency procedure the following key activities will immediately take place to interpret and take control of emergency.

- On site fire crew led by a fireman will arrive at the site of incident with fire foam tenders and necessary equipment.
- Emergency security controller will commence his role from main gate office



- Incident controller shall rush to the site of emergency and with the help of rescue team and will start handling the emergency.
- Site main controller will arrive at MECR with members of his advisory and communication team and will assume absolute control of the site.
  - He will receive information continuously from incident controller and give decisions and directions to:
    - Incident controller
    - Mine control rooms
    - Emergency security controller

### **Proposed fire extinguishers at different locations**

The following type of fire extinguishers is proposed at strategic locations within the quarry.

Location	Type of Fire Extinguishers
Electrical Equipment's	CO <sub>2</sub> type, foam type, dry chemical powder type
Fuel Storage Area	CO <sub>2</sub> type, foam type, dry chemical powder type, Sand bucket
Office Area	Dry chemical type, foam type

### **Alarm system to be followed during disaster –**

On receiving the message of disaster from Site Controller, fire-fighting team, the mine control room attendant will sound siren wailing for 5 minutes. Incident controller will arrange to broadcast disaster message through public address system.

On receiving the message of "Emergency Over" from Incident Controller the emergency control room attendant will give "All Clear Signal", by sounding alarm straight for 2 minutes.

The features of alarm system will be explained to one and all to avoid panic or misunderstanding during disaster.

### **In order to prevent or take care of hazard / disasters if any the following control measures have been adopted.**

- All safety precautions and provisions of Metalliferous Mines Regulations (MMR), 1961 is strictly followed during all mining operations
- Fire fighting and first-aid provisions in the mines office complex and mining area will be provided.
- Provisions of all the safety appliances such as safety boot, helmets, goggles, dust masks, ear plugs and ear muffs etc. are made available to the employees and the use of same is strictly adhered to through regular monitoring
- Training and refresher courses for all the employees working in the quarry in phase manner
- Cleaning of mine faces will be carried out regularly
- Provision of high-capacity standby pumps with generator sets with enough quantity of diesel for emergency pumping especially during monsoon.
- A blasting SIREN will be used at the time of blasting for audio signal.
- Checking of blasting area for any un-blasted hole or material.
- Warning notice boards indicating the time of blasting and NOT TO TRESPASS will be displayed at prominent places

## **7.4 CUMULATIVE IMPACT STUDY**

There are Six (6) proposed and five (5) existing quarries, 4 abandoned & expired quarry falls in the cluster. The list of quarries is as below –

**TABLE 7.3: LIST OF QUARRIES WITHIN 500 METER RADIUS FROM THIS PROPOSAL**

<b>*PROPOSED QUARRIES</b>				
<b>CODE</b>	<b>Name of the Proponent and Address</b>	<b>S.F. Nos &amp; Village</b>	<b>Extent in Ha</b>	<b>Status</b>
<b>P1</b>	<b>Tmt.V.Revathi</b>	209/1A(P), 209/1B(P) & 209/2 (P) Morattupalayam Village,	2.25.5 Ha	Obtained ToR vide, Lr No.SEIAA- TN/F.No.9731/2023/SEAC/ToR- 1566/2023 Dated: 20.09.2023.
<b>P2</b>	<b>Thiru.U.Prabhakaran</b>	389/1C2, Morattupalayam Village,	0.68.8 Ha	Obtained ToR vide, Lr No.SEIAA- TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021
<b>P3</b>	<b>Thiru.S.Rajasekar</b>	382/2A (P), Morattupalayam Village	2.48.50Ha	Obtained ToR vide, Lr No. SEIAA- TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024
<b>P4</b>	<b>Thiru.N.Ayyadurai</b>	392(Part)	0.99.50Ha	Under process
<b>P5</b>	<b>Thiru.M.Thangaraj</b>	383/2B2, Morattupalayam Village	0.84.5 Ha	EC Granted
<b>Total</b>			<b>7.26.8 Ha</b>	
<b>*EXISTING QUARRIES</b>				
<b>CODE</b>	<b>Name of the Proponent and Address</b>	<b>S.F.Nos , Village &amp; Taluk</b>	<b>Extent in Ha</b>	<b>Lease Period</b>
<b>E-1</b>	<b>Thiru.N. Chithambaram</b>	<b>209/1A (P),</b> Morattupalayam Village	<b>0.79.0</b>	<b>20.06.2022 to 19.06.2027</b>
<b>E-2</b>	<b>Thiru.N. Ayyadurai</b>	<b>392 (P),</b> Morattupalayam Village	<b>2.02.5</b>	<b>28.09.2018 to 27.09.2023</b>
<b>E-3</b>	<b>Thiru.T.S. Udhayakumar</b>	<b>388 (P-A),</b> Morattupalayam Village	<b>1.26.5</b>	<b>06.04.2018 to 05.04.2023</b>
<b>E-4</b>	<b>Thiru.S. Raju</b>	<b>388 (P) (Bit-B) (Old pit B</b> & C) Morattupalayam Village	<b>1.58.0</b>	<b>09.04.2018 to 08.04.2023</b>
<b>E-5</b>	<b>Thiru. K.Senthilkumar</b>	<b>383/1, 383/2A2A1,</b> Morattupalayam Village,	0.71.5 Ha	<b>13.04.2023 to 12.04.2028</b>
<b>E-6</b>	<b>Thiru.Thangamuthusamy</b>	<b>383/2A1, 382/2B,</b> Morattupalayam Village	2.63.0 Ha	<b>12.04.2023 to 11.04.2028</b>
<b>E-7</b>	<b>Thiru.T.Thangaraj</b>	<b>383/2A2B, 383/2A 2A2A2</b> Morattupalayam Village	1.88.72 Ha	<b>09.11.2022 to 08.11.2027</b>
<b>E-8</b>	<b>Thiru.M.Thangaraju</b>	<b>389/1B1A,1B1B,1B2</b>	2.19.50 Ha	<b>09.11.2022 to 08.11.2027</b>
<b>E-9</b>	<b>Thiru,M.Devaraj</b>	<b>389/1A</b>	1.29.0 Ha	<b>25.08.2022 to 24.08.2027</b>
<b>Total</b>			<b>14.37.72Ha</b>	
<b>ABANDONED/EXPIRED QURRIES</b>				
<b>CODE</b>	<b>Name of the Proponent and Address</b>	<b>S.F. Nos, Village &amp; Taluk</b>	<b>Extent in Ha</b>	<b>Lease Period</b>
<b>A-1</b>	<b>Thiru.N. Ayyadurai</b>	392 (P), Morattupalayam Village	3.52.0	23.09.2016 to 22.09.2021
<b>A-2</b>	<b>Thiru.A.A. Kumaresan</b>	377/1, Morattupalayam Village	2.10.5	21.09.2016 to 20.09.2021
<b>A-4</b>	<b>Thiru.M. Palanisamy</b>	385/2(P), Morattupalayam Village	0.59.5	21.01.2016 to 20.01.2021 Lease expired
<b>Total</b>			<b>6.22.0Ha</b>	
<b>*TOTAL CLUSTER EXTENT</b>			<b>21.64.52 Ha</b>	

Note:-

- Cluster area is calculated as per MoEF & CC Notification – S.O. 2269 (E) Dated: 01.07.2016

As per above notification S.O.2269(E) dated : 01.07.2016 in para (b) in Appendix XI,- (ii)(5): The lease not operative for three years or more and leases which have got environmental clearance as on 15th January, 2016 shall not be counted for calculating the area of cluster, but shall be included in the Environment Management Plan and the Regional Environmental Management Plan”

**TABLE 7.4: SALIENT FEATURES OF THE PROPOSED PROJECTS IN CLUSTER**

<b>SALIENT FEATURES OF PROPOSAL “P1”</b>		
Name of the Mine	<b>Tmt.V. Revathi, Rough Stone &amp; Gravel Quarry Project</b>	
Land type & details	<b>It is a Patta land</b> classified as punjai (Barren land) It is a Patta land, S.F.No. 209/1A (P) is registered in the name of Thiru.K. Krishnasamy, Thiru.N. Chidambaram & Thiru.M. Vijayakumar, S.F.No. 209/1B (P) is registered in the name of K. Krishnasamy & Thiru.M. Vijayakumar, S.F.No. 209/2 (P) is registered in the name of K. Krishnasamy & Thiru.M. Vijayakumar. The applicant has obtained consent from the pattadhar.	
Previous Land Ownership details	It is a fresh lease application. But The quarry lease was previously granted in the favour of Thiru.P.K. Krishnasamy & Thiru.K. Muthusamy, over an extent of 2.25.5 hectares, obtained Environmental Clearance from the State Level Environment Impact Assessment Authority vide Letter No. SEIAA-TN/F.No.5470/1(a)/EC. No:3292/2016 Dated:11.07.2016. The applicant has applied a quarry lease on 28.06.2022, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos.209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the <b>period of five years.</b>	
S.F. Nos	209/1A(P), 209/1B(P) & 209/2 (P)	
Extent	2.25.5 Ha	
Maximum dimension of the existing quarry pit	Pit I: 66m (L) x 57m (W) x 20m(D) Pit II: 140m (L) x 93m (W) x 18m(D)	
Geological Reserves	Rough Stone	Gravel
	<b>3,26,788m<sup>3</sup></b>	<b>7,820m<sup>3</sup></b>
Mineable Reserves	Rough Stone	Gravel
	<b>1,41,283m<sup>3</sup></b>	<b>4,860m<sup>3</sup></b>
Proposed Quantity of Reserves/Production for mining Period	<b>1,41,283m<sup>3</sup></b>	<b>4,860m<sup>3</sup></b>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	121m (L) x 169m (W) x 30m (D) Max	
Proposed Depth of mining	30m (2m Gravel + 28m Rough Stone) Bgl.	
Toposheet No	58 E/08	
Latitude	11°08'18.54"N to 11°08'23.95"N	
Longitude	77°25'10.51"E to 77°25'16.84"E	
Elevation	276m Amsl.	
Water table depth	The Ground water occurrence in this area is 70-65m depth below the ground level.	
Previous TNPCB Pollution certificate copy of letter	Proceedings no F.0181PN/RS/DEE/TNPCB/TPN/W/2016 dated 04.08.2016	
Explosive certificate	Sri Selvanayagamman Explosives E/SC/TN/22/339(E10241)	
Previous obtained Environmental Clearance	SEIAA-TN/F.No.5470/1(a)/EC. No:3292/2016 Dated:11.07.2016.	
DFO Letter by AD -Anamalai Tiger Reserved, Tiruppur Forest Zone,	No 13382/2022 dated 20.12.2022	
Machinery proposed	Jack Hammer	4
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	

Water requirement & source	Total water requirement for 1.5KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	18 Nos	
Total Project Cost	Operational Cost	Rs. 46,74,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 50,54,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	550m-SW	
<b>SALIENT FEATURES OF PROPOSAL "P2"</b>		
Name of the Mine	<b>Thiru.U. Prabhakaran, Rough Stone &amp; Gravel Quarry Project</b>	
Land type & details	It is a Patta land. Registered in the name of the applicant (Thiru.U.Prabhakaran), vide Patta No.1088.	
Previous Land Ownership details	It is a fresh lease application. But favour of Thiru.T.S. Udhayakumar, over an extent of 0.89.0hectares of Patta land in S.F.No.389/1C of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No.195/Mines/2014, Dated: 23.05.2015 for five years. The applicant has once again applied a quarry lease on 31.03.2021, over an extent of 0.68.8hectares of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years.	
S.F. Nos	389/1C2	
Extent	0.68.8 Ha	
Maximum dimension of the existing quarry pit	Pit1: 94m (L) x 42m (W) x 11m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	1,66,730m <sup>3</sup>	288m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	48,125m <sup>3</sup>	-
Proposed Quantity of Reserves /Production for mining Period	48,125m <sup>3</sup>	-
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	94m (L) x 42m (W) x 36m Bgl (D) Max	
Proposed Depth of mining	36m (1m Gravel + 35m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°07'59.75"N to 11°08'03.55"N	
Longitude	77°25'21.19"E to 77°25'23.61"E	
Elevation	260m Amsl.	
Water table depth	The Ground water occurrence in this area is 78-73m depth below the ground level.	
Previous Pollution certificate copy of letter	Proceedings no F.0181TPN/RS/DEE/TNPCB/TPN/W/2016 dated 04.08.2016	
Explosive certificate	Sri Selvanayagamman Explosives E/SC/TN/22/339(E10241)	
Previous obtained Environmental Clearance	SEIAA-TN/F.No.3021/EC/1(a)/ No:2158/2014 Dated:01.04.2015.	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Water requirement & source	Total water requirement for 2.0KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	14 Nos	
Total Project Cost	Operational Cost	Rs. 21,01,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 24,81,000/-

CER cost	Rs.5,00,000/-
Nearest Habitation	730m-SW
Source: Approved Mining Plan of the respective proposals	

Source: Approved Mining Plan of the respective proposals

<b>SALIENT FEATURES OF PROPOSAL "P3"</b>		
Name of the Mine	<b>Thiru.S.Rajasekar Rough Stone &amp; Gravel Quarry Project</b>	
Land type & details	It is a Patta land. Jointly Registered in the name of the applicant (Thiru. S. Rajasekar), Tmt.R.Palaniyammal, Thiru.R.Hariprasath, Thiru.R.Harisankar and Thiru.K.Thirumoorthi, vide Patta No. 421.	
Previous Land Ownership details	It is a fresh lease application but, the applied area has been considered quarrying operation earlier	
Previous Environmental clearance	Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018	
DFO Letter No	O.M.No:13737/2022/F. Dated: 04.01.2024	
S.F. Nos	382/2A (P),	
Extent	2.48.5 Ha	
Geological Reserves	Rough Stone	Gravel
	4,10,685m <sup>3</sup>	9,166m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	1,63,614m <sup>3</sup>	6,052
Proposed Quantity of Reserves /Production for mining Period	1,63,614m <sup>3</sup>	6,052
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	PitI: 65m (L) x 115m (W) x 37m Bgl (D) PitII: 163m (L) x 87m (W) x 37m Bgl (D)	
Existing Pit Dimension	Pit:1 160m (L) x 87m (W) x 30m(D) below from the existing ground profile Pit:1 35m (L) x 115m (W) x 22m(D) below from the existing ground profile	
Proposed Depth of mining	37m (2m Gravel + 35m Rough stone) below ground level	
Existing depth	22m (Max) Bgl.	
Toposheet No	58 E/08	
Latitude	11°08'12.23"N to 11°08'20.17"N	
Longitude	77°25'14.88"E to 77°25'19.13"E	
Elevation	292m Amsl.	
Water table depth	The Ground water occurrence in this area is 68m depth below the ground level.	
Explosive certificate	Senthamarai Explosives E/SC/TN/22/66 (E-10217), dated:04.08.2023	
Machinery proposed	Jack Hammer	5
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	3
Blasting	Usage of Slurry Explosive with MSD detonators	
Water requirement & source	Total water requirement for 2.0KLD from from existing, bore wells and drinking water will be sourced from Approved water vendors.	
Manpower Deployment	23 Nos	
Total Project Cost	Operational Cost	Rs.57,89,000/-
	EMP Cost	Rs.3,80,000/-
	Total Project cost	Rs.61,69,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	510m-NW	
RF area distance	Chennimalai R.F – 14.39 Km – NE	

Wildlife distance	<ul style="list-style-type: none"> <li>Vellode Bird Sanctuary – 27.0 km – NE</li> <li>Anamalai Tiger Reserve– 77.7 km – SW</li> </ul>	
Archaeological places/ Dams/ Reservoirs	Kodumanal Archaeological Excavation – 11.5 Km – South East	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL “P5”</b>		
Name of the Mine	<b>Thiru.M. Thangaraj</b> , Rough Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Registered in the name of the applicant ( <b>Thiru.M.Thangaraj</b> ), vide Patta No.655	
Previous Land Ownership details	It is a fresh lease application. But favour of Thiru.M.P Marimuthu, over an extent of 2.76.0 hectares of Patta land in S.F.No.383/2B & 389/1B2 of Morattupalayam Village, Perundurair Taluk, Erode District vide Rc.No.3476/2000/XIMines Dated: 04.08.2000 for five years.(04.08.2000 to 03.08.2005) Now Applicant has apply a quarry lease on 25.04.2019.	
S.F. Nos	383/2B2	
Extent	0.84.5 Ha	
Maximum dimension of the existing quarry pit	Pit1: 130m (L) x 32m (W) x 15m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	1,90,906m <sup>3</sup>	3,976m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	37,931m <sup>3</sup>	640m <sup>3</sup>
Proposed Quantity of Reserves /Production for mining Period	37,931m <sup>3</sup>	640m <sup>3</sup>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	94m (L) x 42m (W) x 36m Bgl (D) Max	
Proposed Depth of mining	31m (1m Gravel + 30m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°08'00.42"N to 11°08'03.16"N	
Longitude	77°25'09.31"E to 77°25'15.38"E	
Elevation	265m Amsl.	
Water table depth	The Ground water occurrence in this area is 62-58m depth below the ground level.	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	2
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	15 Nos	
Total Project Cost	Operational Cost	Rs. 19,12,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 22,92,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	750m-W	
<b>SALIENT FEATURES OF PROPOSAL “E1”</b>		
Name of the Mine	<b>Thiru.N. Chidambaram</b> , Rough Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Registered in the name of the applicant ( <b>Thiru.N.Chidambaram</b> ), Krishnasamy and Muthusamy vide Patta No.273 consent from joint pattadhars.	
Previous Land Ownership details	It is a fresh lease application.	
S.F. Nos	209/1A(P)	
Extent	0.79.0 Ha	
Maximum dimension of the existing quarry pit	Pit1: 130m (L) x 32m (W) x 15m Bgl (D)	

Geological Reserves	Rough Stone	Gravel
	2,37,000m <sup>3</sup>	15,800m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	61,850m <sup>3</sup>	10,384m <sup>3</sup>
Proposed Quantity of Reserves /Production for mining Period	61,850m <sup>3</sup>	10,384m <sup>3</sup>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	94m (L) x 42m (W) x 36m Bgl (D) Max	
Proposed Depth of mining	32m below ground level	
Toposheet No	58 E/08	
Latitude	11°08'23.65"N to 11°08'27.26"N	
Longitude	77°25'10.44"E to 77°25'13.66"E	
Elevation	278m Amsl.	
Water table depth	The Ground water occurrence in this area is 50-45m depth below the ground level.	
Machinery proposed	Jack Hammer	3
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	15 Nos	
Total Project Cost	Operational Cost	Rs. 18,50,700/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 22,30,700/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	320m-W	
<b>SALIENT FEATURES OF PROPOSAL "E2"</b>		
Name of the Mine	<b>Thiru.N. Ayyadurai, Rough Stone Quarry Project</b>	
Land type & details	It is a Patta land. Registered in the name of the applicant ( <b>Thiru.N. Ayyadurai &amp;Thiru.N. Thangaraj</b> ), vide Patta No.43.	
Previous Land Ownership details	The area is under quarry operation.	
S.F. Nos	392 (P)	
Extent	2.02.5 Ha	
Maximum dimension of the existing quarry pit	Pit1: 126m (L) x 94m (W) x 22m Bgl (D)	
Gravel Dump Dimension	Pit1: 60m (L) x 30m (W) x 6m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	6,93,735m <sup>3</sup>	39,642m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	90,000m <sup>3</sup>	-
Proposed Quantity of Reserves /Production for mining Period	90,000m <sup>3</sup>	-
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	126m (L) x 91m (W) x 37m Bgl (D) Max	
Proposed Depth of mining	37m below ground level	
Toposheet No	58 E/08	
Latitude	11°08'08.02"N to 11°08'12.79"N	
Longitude	77°25'18.87"E to 77°25'25.50"E	
Elevation	275m Amsl.	
Water table depth	The Ground water occurrence in this area is 45-40m depth below the ground level.	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1

Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	11 Nos	
Total Project Cost	Operational Cost	Rs. 49,05,000/-
	EMP Cost	Rs. 7,30,000/-
	Total	Rs. 56,35,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	750m-W	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E3"</b>		
Name of the Mine	<b>Thiru.T.S. Udhayakumar, Rough Stone Quarry Project</b>	
Land type & details	It is a Government Poramboke land. Awarded tender from the government.	
Previous Land Ownership details	It is a fresh lease application.	
S.F. Nos	<b>388 (P), (Bit-A) (Old Bit D)</b>	
Extent	1.26.5 Ha	
Maximum dimension of the existing quarry pit	Pit1: 158m (L) x 89m (W) x 24m Bgl (D)	
Geological Reserves	Rough Stone	Topsoil
	5,06,000m <sup>3</sup>	12,650m <sup>3</sup>
Mineable Reserves	Rough Stone	Topsoil
	1,06,708m <sup>3</sup>	-
Proposed Quantity of Reserves /Production for mining Period	1,06,708m <sup>3</sup>	-
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	158m (L) x 89m (W) x 41m Bgl (D) Max	
Proposed Depth of mining	41m (1m Topsoil+ 40m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°07'56.15"N to 11°08'00.50"N	
Longitude	77°25'15.37"E to 77°25'22.98"E	
Elevation	284m Amsl.	
Water table depth	The Ground water occurrence in this area is 60-57m depth below the ground level.	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	14 Nos	
Total Project Cost	Operational Cost	Rs. 83,50,000/-
	EMP Cost	Rs. 7,10,000/-
	Total	Rs. 90,60,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	646m-S	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E4"</b>		
Name of the Mine	<b>Thiru.S.Raju, Rough Stone Quarry Project</b>	
Land type & details	It is a Government Poramboke land. The applicant has awarded tender from the Government.	
Previous Land Ownership details	It is a fresh lease.(the area has been quarrying earlier during previous lease period.	
S.F. Nos	388 (P) (Bit-B) (Old pit B & C)	
Extent	1.58.0 Ha	
Maximum dimension of the existing quarry pit	Pit I: 116m (L) x 26m (W) x 22m Bgl (D) Pit II: 152m (L) x 67m (W) x 24m Bgl (D)	
Geological Reserves	Rough Stone	Topsoil



	6,32,000 m <sup>3</sup>	15,800 m <sup>3</sup>
Mineable Reserves	Rough Stone	Topsoil
	35,650m <sup>3</sup>	-
Proposed Quantity of Reserves /Production for mining Period	35,650m <sup>3</sup>	-
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	Pit I: 116m (L) x 26m (W) x 31m Bgl (D) Pit II: 152m (L) x 67m (W) x 41m Bgl (D)	
Proposed Depth of mining	41m (1m topsoil+ 40m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°07'56.70"N to 11°08'01.19"N	
Longitude	77°25'09.58"E to 77°25'17.07"E	
Elevation	265m Amsl.	
Water table depth	The Ground water occurrence in this area is 62-58m depth below the ground level.	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	14 Nos	
Total Project Cost	Operational Cost	Rs. 89,05,000/-
	EMP Cost	Rs. 7,10,000/-
	<b>Total</b>	<b>Rs. 96,15,000/-</b>
CER cost	Rs.5,00,000/-	
Nearest Habitation	640m-S	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E5"</b>		
Name of the Mine	<b>Thiru. K. Senthilkumar</b> Rough Stone & Gravel Quarry Project	
Land type & details	It is a Patta land. Registered in the name of the applicant ( <b>Thiru. K. Senthilkumar</b> ), vide Patta No.1030&1029.	
Previous Land Ownership details	It is a fresh lease application. But favour of Thiru.K.Karuppasamy, over an extent of 0.71.5hectares of Patta land in S.F.No.383/1(P) and 383/2A2A1 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No.467/Mines/2009, Dated: 24.10.2019 for five years.(24.10.2011 to 23.10.2016) The applicant has once again applied a quarry lease on 02.09.2020, over an extent of 0.71.5 hectares of Patta land in S.F.No.383/1(P) and 383/2A2A1 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years.	
S.F. Nos	383/1(P) and 383/2A2A1 (P)	
Extent	0.71.5 Ha	
Maximum dimension of the existing quarry pit	Pit1: 97m (L) x 63m (W) x 32m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	1,17,947m <sup>3</sup>	272m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	24,050m <sup>3</sup>	-
Proposed Quantity of Reserves /Production for mining Period	24,050m <sup>3</sup>	-
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	97m (L) x 63m (W) x 42m Bgl (D) Max	
Proposed Depth of mining	42m (2m Gravel + 40m Rough stone) Bgl	
Toposheet No	58 E/08	
Latitude	11°08'07.70"N to 11°08'11.35"N	
Longitude	77°25'03.46"E to 77°25'06.97"E	

Elevation	260m Amsl.	
Machinery proposed	Jack Hammer	1
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	13 Nos	
Total Project Cost	Operational Cost	Rs. 13,72,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 17,52,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	370m-NW	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E6"</b>		
Name of the Mine	<b>Thiru.P. Thangamuthusamy, Rough Stone &amp; Gravel Quarry Project</b>	
Land type & details	It is a Patta land. Registered in the name of the applicant ( <b>Thiru.P.Thangamuthusamy</b> ), vide Patta No.541 &617	
Previous Land Ownership details	It is a fresh lease application. But favour of <b>Thiru.P. Thangamuthusamy</b> , over an extent of 3.24.0 hectares of Patta land in S.F.No.383/2A1&382/2B of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No.301/Mines/2015, Dated: 15.01.2016 for five years. The applicant has once again applied a quarry lease on 25.04.2019, over an extent of 2.63.0hectares of Patta land in S.F.No.383/2A1(P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years.	
S.F. Nos	383/2A1(P), 382/2B,	
Extent	2.63.0 Ha	
Maximum dimension of the existing quarry pit	PitI: 80m (L) x 100m (W) x 14m Bgl (D) PitII: 120m (L) x 90m (W) x 30m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	5,79,717m <sup>3</sup>	4,876m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	2,30,090m <sup>3</sup>	2352 m <sup>3</sup>
Proposed Quantity of Reserves /Production for mining Period	2,30,090m <sup>3</sup>	2352 m <sup>3</sup>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	190m (L) x 127m (W) x 42m Bgl (D) Max	
Proposed Depth of mining	42m (2m Gravel + 40m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°08'05.49"N to 11°08'12.66"N	
Longitude	77°25'14.04"E to 77°25'20.06"E	
Elevation	282m amsl.	
Water table depth	The Ground water occurrence in this area is 62-58m depth below the ground level.	
Machinery proposed	Jack Hammer	6
	Compressor	2
	Excavator with Bucket and Rock Breaker	1
	Tipper	2
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	23Nos	
Total Project Cost	Operational Cost	Rs. 57,50,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 61,30,000/-

CER cost	Rs.5,00,000/-	
Nearest Habitation	690m-W	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E7"</b>		
Name of the Mine	<b>Thiru.T. Thangaraj, Rough Stone &amp; Gravel Quarry Project</b>	
Land type & details	It is a Patta land. Registered in the name of Tmt.T. Sumathi vide patta No.614 (S.F No 383/2A2B) and Thiru.T.Thangaraj vide patta no.957 (S.F.No 383/2A2A2A2).	
Previous Land Ownership details	It is a fresh lease application. The quarry lease was previously granted for four times for a period of 5 years each in favour of Thiru.Marimuthu (i.e.10 years) and Tmt.Sumathi (i.e.10 years) over an extent of 0.89.5ha of patta lands in S.F.No 383/2A2B of Morattupalayam village, Uthukuli Taluk, Tiruppur District. Then the lease was granted for another 5 years (Period 20.01.2016 to 19.01.2021) to Tmt.Sumathi vide collector's proceedings letter Rc.No 299/Mines/2015 dated: 13.01.2016 for quarrying of Roughstone and gravel. Now the applicant has applied a quarry lease on 27.02.2020.	
S.F. Nos	383/2A2B, 383/2A2A2A2	
Extent	1.88.72 Ha	
Maximum dimension of the existing quarry pit	Pit1: 85m (L) x 70m (W) x 30m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	5,10,997m <sup>3</sup>	19,012m <sup>3</sup>
Mineable Reserves	Rough Stone	Gravel
	1,68,014m <sup>3</sup>	14104 m <sup>3</sup>
Proposed Quantity of Reserves /Production for mining Period	1,68,014m <sup>3</sup>	14104 m <sup>3</sup>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	186m (L) x 87m (W) x 42m Bgl (D) Max	
Proposed Depth of mining	36m (1m Gravel + 35m Rough stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°08'03.11"N to 11°08'06.69"N	
Longitude	77°25'09.67"E to 77°25'17.50"E	
Elevation	283m Amsl.	
Water table	62-58m	
Machinery proposed	Jack Hammer	4
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	2
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	19 Nos	
Total Project Cost	Operational Cost	Rs. 41,12,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 44,92,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	635m-NW	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E7"</b>		
Name of the Mine	<b>Thiru.M. Thangaraju Rough Stone &amp; Gravel Quarry Project</b>	
Land type & details	It is a Patta land, Registered in the name of applicant (Thiru. M. Thangaraj) vide Patta No. 226, 616, 514	
Previous Land Ownership details	It is a fresh lease application but, the applied area has been considered quarrying operation earlier. First the quarry lease was granted over an extent of 0.94.0 hectares of Patta lands in S.F.Nos. 389/1B2 (0.94.0 Ha) of Morattupalayam Village from 1985 to 2010	

	for five times, totally for 22 years. Second time the quarry lease was granted in favour of Thiru. M.P. Marimuthu, over an extent of 1.75.0 hectares of Patta lands in S.F.Nos. 389/1B1B (0.81.0 Ha), 389/1B2 (0.94.0 Ha) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Collector's proceedings letter Rc.No. 727/Mines/2010, dated: 21.12.2010 for the period of five years from 21.12.2010 to 20.12.2015. Third time the lease was granted in favour of Thiru. M. Thangaraj, S/o. M.P. Marimuthu over an extent of 2.19.5 Hectares of patta land in S.F.No. 389/1B1A (0.44.5 Ha), 389/1B1B (0.81.0 Ha), 389/1B2 (0.94.0 Ha) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide Rc.No. 357/Mines/2015, dated: 15.01.2016 for the period of five years from 21.01.2016 to 20.01.2021. The existing pit dimension when the lease was granted for the third time was 68.5m(L) x 56.5m(W) x 9.66m(D) in S.F.No. 389/1B1A, 87.5m(L) x 79m(W) x 20.7m(D) in S.F.No. 389/1B1B and 157.5m(L) x 77.5m(W) x 26.7m(D) in S.F.No. 389/1B2 and a proposal of additional depth of 5m (upto 32m from the surface) was given in previous approved Mining Plan for quarrying of Rough stone and Gravel. Now the applicant has applied a quarry lease on 27.02.2020. The application was meritoriously processed by the District Collector, Tiruppur and recommended the quarry lease for the period of five years.	
S.F. Nos	389/1B1A, 389/1B1B and 389/1B2	
Extent	2.19.50 Ha	
Existing quarry pit	215m (L) x 115m (W) x 27m Bgl (D)	
Geological Reserves	Rough Stone	Gravel
	<b>5,37,440m<sup>3</sup></b>	<b>1,877m<sup>3</sup></b>
Mineable Reserves	Rough Stone	Gravel
	<b>1,18,025m<sup>3</sup></b>	<b>1,260m<sup>3</sup></b>
Proposed Quantity of Reserves /Production for mining Period	<b>1,18,025m<sup>3</sup></b>	<b>1,260m<sup>3</sup></b>
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	219m (L) x 120m (W) x 47m Bgl (D) Max	
Proposed Depth of mining	47m (2m Gravel + 45m Rough Stone) below ground level	
Toposheet No	58 E/08	
Latitude	11°08'00.17"N to 11°08'07.99"N	
Longitude	77°25'17.40"E to 77°25'23.62 "E	
Elevation	283m Amsl.	
Water table	62-58m	
Machinery proposed	Jack Hammer	3
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Tipper	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	14 Nos	
Total Project Cost	Operational Cost	Rs. 39,82,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 43,62,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	350m-SE	
Source: Approved Mining Plan of the respective proposals		
<b>SALIENT FEATURES OF PROPOSAL "E8"</b>		
Name of the Mine	<b>Thiru,M.Devaraj</b> Rough Stone Quarry Project	
Land type & details	It is a Patta land. Registered in the name of <b>Thiru, M.Devaraj</b> vide patta No.854.	
Previous Land Ownership details	It is a fresh lease application, the area has been quarrying in earlier.	
S.F. Nos	389/1A	

Extent	1.29.0 Ha	
Geological Reserves	Rough Stone	
	4,51,500m <sup>3</sup>	
Mineable Reserves	Rough Stone	
	1,11,875m <sup>3</sup>	
Proposed Quantity of Reserves /Production for mining Period	1,11,875m <sup>3</sup>	
Mining Plan Period / Lease Period	5 Years	
Ultimate Pit Dimension	120m (L) x 78m (W) x 36m Bgl (D) Max	
Proposed Depth of mining	36m Bgl	
Toposheet No	58 E/08	
Latitude	11°08'00.35"N to 11°08'04.88"N	
Longitude	77°25'15.60"E to 77°25'19.92"E	
Elevation	267m Amsl.	
Water table	50-45m	
Machinery proposed	Jack Hammer	4
	Compressor	1
	Excavator with Bucket and Rock Breaker	1
	Dumpers	1
Blasting	Usage of Slurry Explosive with MSD detonators	
Manpower Deployment	21Nos	
Total Project Cost	Operational Cost	Rs. 41,12,000/-
	EMP Cost	Rs. 3,80,000/-
	Total	Rs. 44,92,000/-
CER cost	Rs.5,00,000/-	
Nearest Habitation	635m-NW	
Source: Approved Mining Plan of the respective proposals		

The Cumulative Impact is mainly anticipated due to drilling & blasting, excavation and transportation activities in all the quarries (proposed and existing) within the cluster and major impact anticipated is on Air & Noise Environment and Ground Vibrations due to blasting.

#### Impact on Air Environment –

Calculating the Cumulative Load of Mining within the cluster is as shown in table 7.5 & 7.6

**TABLE 7.5 CUMULATIVE PRODUCTION LOAD OF ROUGH STONE IN CLUSTER**

Quarry	Production for five-year plan period	Per Year Production in m <sup>3</sup>	Per Day Production in m <sup>3</sup>	Number of Lorry Load Per Day @ 6m <sup>3</sup> per load
P1	1,41,283	28257	94	16Trips /Day
P2	48,125	9625	32	5Trips /Day
P3	1,63,614	34,166	114	19 Trips /Day
P4	-	-	-	-
P5	37,931	7,586	25	4 Trips /Day
<b>Total</b>	<b>3,53,022</b>	<b>79,684</b>	<b>265</b>	<b>44Trips /Day</b>
E-1	61,850	12,370	41	7 Trips /Day
E-2	90,000	18,000	60	10 Trips /Day
E-3	1,06,708	21,342	71	12 Trips /Day
E-4	35,650	7,130	24	4Trips /Day
E-5	24,050	4810	16	3Trips /Day
E-6	2,30,090	46018	153	26 Trips /Day
E-7	1,68,014	33603	112	19 Trips /Day
E-8	1,18,025	23,605	79	13Trips /Day
E-9	1,11,875	22,375	75	13Trips /Day
<b>Total</b>	<b>9,46,262</b>	<b>1,89,253</b>	<b>631</b>	<b>107 Trips /Day</b>

<b>G.Total</b>	<b>12,99,284</b>	<b>2,68,937</b>	<b>896</b>	<b>151 Trips /Day</b>
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**TABLE 7.6: CUMULATIVE PRODUCTION OF GRAVEL IN CLUSTER**

Quarry	Mineable Reserves in m <sup>3</sup>	Per Year Production in m <sup>3</sup>	Per Day in m <sup>3</sup>	Number of Lorry Load @ 6m <sup>3</sup> per load
P1	4860	1620	5	1Trips /Day
P2	-	-	-	-
P3	6,052	6,052	20	3Trips /Day
P4				
P5	640	640	2	Trips /Day
<b>Total</b>	<b>11,552</b>	<b>8,312</b>	<b>27</b>	<b>4Trips\ day</b>
E-1	10,384	3,461	12	2Trips /Day
E-2	-	-	-	-
E-3	-	-	-	-
E-4	-	-	-	-
E-5	-	-	-	-
E-6	2,352			
E-7	14,104			
E-8	1,260			
E-9	-	-	-	-
<b>Total</b>	<b>28,100</b>	<b>3,461</b>	<b>12</b>	<b>2Trips /Day</b>
<b>G.Total</b>	<b>39,652</b>	<b>11,773</b>	<b>39</b>	<b>6Trips\ day</b>

Source: Approved Mining plans of the respective projects (Blue color shade is Proposed quarries)

Based on the above production quantities the emissions due to various activities in all the 3-proposal quarry various activities like ground preparation, excavation, handling and transport of mineral. These activities have been analysed systematically basing on USEPA-Emission Estimation Technique Manual, for Mining AP-42, to arrive at possible emissions to the atmosphere and estimated emissions are given in Table 7.7.

**TABLE 7.7: EMISSION ESTIMATION FROM CLUSTER**

<b>EMISSION ESTIMATION FOR QUARRY "P1"- Tmt.V. Revathi</b>				
Estimated Emission Rate for PM <sub>10</sub>	Activity	Source type	Value	Unit
	Drilling	Point Source	0.074088129	g/s
	Blasting	Point Source	0.000539955	g/s
	Mineral Loading	Point Source	0.039999715	g/s
	Haul Road	Line Source	0.002487643	g/s/m
	Overall Mine	Area Source	0.053806198	g/s
Estimated Emission Rate for SO <sub>2</sub>	Overall Mine	Area Source	0.000385867	g/s
Estimated Emission Rate for NO <sub>x</sub>	Overall Mine	Area Source	0.000019354	g/s
<b>EMISSION ESTIMATION FOR QUARRY "P2"- Thiru.U. Prabhakaran</b>				
Estimated Emission Rate for PM <sub>10</sub>	Activity	Source type	Value	Unit
	Drilling	Point Source	0.051661581	g/s
	Blasting	Point Source	0.000089013	g/s
	Mineral Loading	Point Source	0.035227965	g/s
	Haul Road	Line Source	0.002483699	g/s/m
	Overall Mine	Area Source	0.032955730	g/s
Estimated Emission Rate for SO <sub>2</sub>	Overall Mine	Area Source	9.84731E-05	g/s
Estimated Emission Rate for NO <sub>x</sub>	Overall Mine	Area Source	0.000001680	g/s
<b>EMISSION ESTIMATION FOR QUARRY "P3"- Thiru.S. Rajasekar</b>				
Estimated Emission Rate for PM <sub>10</sub>	Activity	Source type	Value	Unit
	Drilling	Point Source	0.075892176	g/s
	Blasting	Point Source	0.000608975	g/s
	Mineral Loading	Point Source	0.040677672	g/s
	Haul Road	Line Source	0.002488647	g/s/m
	Overall Mine	Area Source	0.056133523	g/s
Estimated Emission Rate for SO <sub>2</sub>	Overall Mine	Area Source	0.000452572	g/s
Estimated Emission Rate for NO <sub>x</sub>	Overall Mine	Area Source	0.000024830	g/s

Source: Emission Formula

**TABLE 7.8: INCREMENTAL & RESULTANT GLC WITHIN CLUSTER**

PM <sub>10</sub> in µg/m <sup>3</sup>	
Location	AAQ1 – CORE
Background (average)	45.7
Highest Incremental	9.87
Resultant	55.6
NAAQ Norms	100 µg/m <sup>3</sup>
PM <sub>2.5</sub> in µg/m <sup>3</sup>	
Background (average)	22.8
Highest Incremental	4.79
Resultant	27.6
NAAQ Norms	60 µg/m <sup>3</sup>
SO <sub>2</sub> in µg/m <sup>3</sup>	
Location	AAQ1 – CORE
Background (average)	8.0
Highest Incremental	1.19
Resultant	9.2
NAAQ Norms	80 µg/m <sup>3</sup>
NO <sub>x</sub> in µg/m <sup>3</sup>	
Location	AAQ1 – CORE
Background (average)	24.9
Incremental	7.85
Resultant	32.8
NAAQ Norms	80 µg/m <sup>3</sup>

**Noise Environment –**

Noise pollution is mainly due to operation like drilling & blasting and plying of trucks & HEMM. Cumulative Noise modelling has been carried out considering blasting and compressor operation (drilling) and transportation activities. Predictions have been carried out to compute the noise level at various distances around the different quarries within the 500 m radius.

For hemispherical sound wave propagation through homogeneous loss free medium, one can estimate noise levels at various locations at different sources using model based on first principle.

$$Lp_2 = Lp_1 - 20 \log (r_2/r_1) - Ae_{1,2}$$

Where:

$Lp_1$  &  $Lp_2$  are sound levels at points located at distances  $r_1$  &  $r_2$  from the source.

$Ae_{1,2}$  is the excess attenuation due to environmental conditions. Combined effect of all sources can be determined at various locations by logarithmic addition.

$$Lp_{total} = 10 \log \{10^{(Lp1/10)} + 10^{(Lp2/10)} + 10^{(Lp3/10)} + \dots\}$$

Attenuation due to Green Belt has been taken to be 4.9 dB (A). The inputs required for the model are:

Source data has been computed taking into account of all the machinery and activities used in the mining process.

**TABLE 7.9: PREDICTED NOISE INCREMENTAL VALUES FROM MINES**

Location ID	N1	N2	N3	N4	N5	N6	N7
Maximum Monitored Value (Day) dB(A)	48.2	48.2	48.9	49.3	45.4	43.2	43.99
Incremental Value dB(A)	47.30	66.12	32.14	27.43	24.25	26.48	23.84
Total Predicted Noise level dB(A)	46.30	66.19	48.99	49.33	45.43	43.29	44.03
NAAQ Standards	<b>Industrial</b>	<b>Day Time- 75 dB (A)</b>		<b>Night Time- 70 dB (A)</b>			
	<b>Residential</b>	<b>Day Time- 55 dB (A)</b>		<b>Night Time- 45 dB (A)</b>			

Source: Lab Monitoring Data

The incremental noise level is found within the range of 27.04 – 35.49dB (A) in Buffer zone. The noise level at different receptors in buffer zone is lower due to the distance involved and other topographical features adding to the noise attenuation. The resultant Noise level due to monitored values and calculated values at the receptors are based on the mathematical formula considering attenuation due to Green Belt as 4.9 dB (A) the barrier effect. From the above table, it can be seen that the ambient noise levels at all the locations near habitations

are within permissible limits of Residential Area (buffer zone) as per THE NOISE POLLUTION (REGULATION AND CONTROL) RULES, 2000 (The Principal Rules were published in the Gazette of India, vide S.O. 123(E), dated 14.2.2000 and subsequently amended vide S.O. 1046(E), dated 22.11.2000, S.O. 1088(E), dated 11.10.2002, S.O. 1569 (E), dated 19.09.2006 and S.O. 50 (E) dated 11.01.2010 under the Environment (Protection) Act, 1986.).

### Ground Vibrations

Ground vibrations due to mining activities in the all the 3-proposal quarry within cluster are anticipated due to operation of Mining Machines like Excavators, drilling and blasting, transportation vehicles, etc. However, the major source of ground vibration from the all the 2 proposal quarries is blasting. The major impact of the ground vibrations is observed on the domestic houses located in the villages nearby the mine lease area. The kuchha houses are more prone to cracks and damage due to the vibrations induced by blasting whereas RCC framed structures can withstand more ground vibrations. Apart from this, the ground vibrations may develop a fear factor in the nearby settlements.

Another impact due to blasting activities is fly rocks. These may fall on the houses or agricultural fields nearby the mining areas and may cause injury to persons or damage to the structures. Nearest Habitations from 8mines respectively are as in below Table 7.9

**TABLE 7.10: NEAREST HABITATION FROM EACH MINE**

Location ID	Distance in Meters
Habitation Near P1	550-SW
Habitation Near P2	730-SW
Habitation Near P3	510m-NW
Habitation Near P4	-
Habitation Near P5	750-W

Source: Satellite Imagery and Field Data

The ground vibrations due to the blasting in all the mines are calculated using the empirical equation for assessment of peak particle velocity (PPV) is:

$$V = K [R/Q^{0.5}]^{-B}$$

Where –

V = peak particle velocity (mm/s)

K = site and rock factor constant

Q = maximum instantaneous charge (kg)

B = constant related to the rock and site (usually 1.6)

R = distance from charge (m)

**TABLE 7.11: GROUND VIBRATIONS AT 3MINES**

Location ID	Maximum Charge in kgs	Nearest Habitation in m	PPV in m/ms
P1	41	550-SW	0.402
P2	14	730-SW	0.108
P3	49	510-NW	0.524

Source: PPV Calculation

From the above table, the charge per blast is considered as maximum in each mine and the resultant PPV is well below the Peak Particle Velocity of 8 mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997.

### Socio Economic Environment –

The 7 mines shall provide employment and revenue will be created to government



**TABLE 7.12: SOCIO ECONOMIC BENEFITS FROM 3MINES**

Location Code	Employment	Project Cost	CER
P1	18	Rs. 50,54,000/-	Rs.5,00,000/-
P2	14	Rs. 24,81,000/	Rs.5,00,000/-
P3	23	Rs.61,69,000/-	Rs.5,00,000/-
<b>Total</b>	<b>55</b>	<b>Rs. 1,37,04,000/-</b>	<b>Rs.15,00,000/-</b>

A total of 43 people will get employment due to 3mines Proposal in cluster. Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, MoEF & CC Office Memorandum F.No.22-65/2017-IA.III, Dated: 01.05.2018 by all the mines.

As per para 6 (II) of the office memorandum, all the mines being a green field project & Capital Investment is  $\leq$  100 crores, they shall contribute 2% of Capital Investment towards CER as per directions of EAC/SEAC.

- 3mines Proposed projects shall fund towards CER – Rs 15,00,000/-

**TABLE 7.13: GREENBELT DEVELOPMENT BENEFITS FROM 3MINES**

PROPOSAL – P1					
Year	No. of trees proposed to be planted	Survial %	Area to be covered	Name of the species	No. of trees expected to be grown
I	1130	80	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	904
PROPOSAL – P2					
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	350	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	280
PROPOSAL – P3					
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	1250	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	1000

Based on the Proposed Mining Plans it's anticipated that there shall growth of native species of Neem, Casuarina, etc in the Cluster at a rate of 1,470Trees Planted over a period of 5 Years with Survival Rate of 80% and expected growth is around 118 Trees over an area.

## 7.5 PLASTIC WASTE MANAGEMENT PLAN FOR P1, P2 & P3

All the Project Proponent shall comply with Tamil Nadu Government Order (Ms) No. 84 Environment and Forest (EC.2) Department Dated: 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986.

### Objective –

- To investigate the actual supply chain network of plastic waste.
- To identify and propose a sustainable plastic waste management by installing bins for collection of recyclables with all the plastic waste
- Preparation of a system design layout, and necessary modalities for implementation and monitoring.

**TABLE 7.14: ACTION PLAN TO MANAGE PLASTIC WASTE**

<b>Sl.No.</b>	<b>Activity</b>	<b>Responsibility</b>
1	Framing of Layout Design by incorporating provision of the Rules, user fee to be charged from waste generators for plastic waste management, penalties/fines for littering, burning plastic waste or committing any other acts of public nuisance	Mines Manager
2	Enforcing waste generators to practice segregation of bio-degradable, recyclable and domestic hazardous waste	Mines Manager
3	Collection of plastic waste	Mines Foreman
4	Setting up of Material Recovery Facilities	Mines Manager
5	Segregation of Recyclable and Non-Recyclable plastic waste at Material Recovery Facilities	Mines Foreman
6	Channelization of Recyclable Plastic Waste to registered recyclers	Mines Foreman
7	Channelization of Non-Recyclable Plastic Waste for use either in Cement kilns, in Road Construction	Mines Foreman
8	Creating awareness among all the stakeholders about their responsibility	Mines Manager
9	Surprise checking's of littering, open burning of plastic waste or committing any other acts of public nuisance	Mine Owner

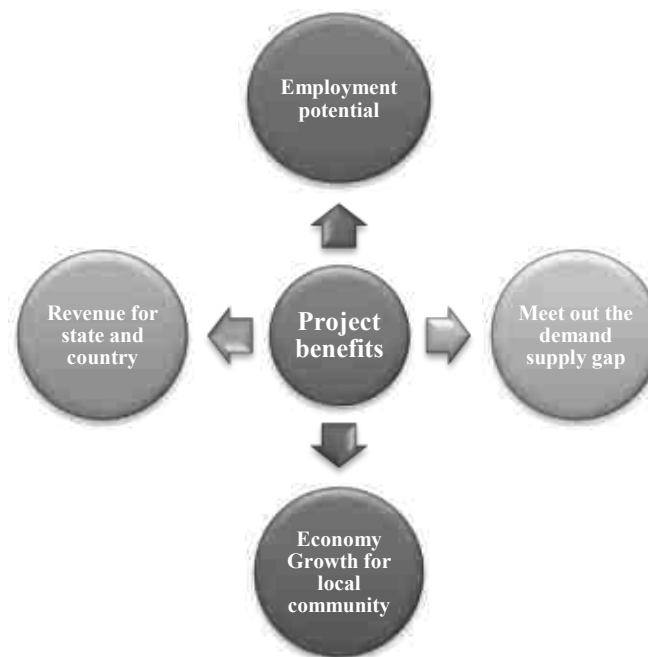
Source: Proposed by FAE's and EC

## CHAPTER – 8: PROJECT BENEFITS

### 8.0 General

The three Proposed Projects for Quarrying Rough Stone and Gravel at Morattupalayam Village aims to produce cumulatively 3,53,022m<sup>3</sup> Rough Stone over a period of 5 Years & 10,912m<sup>3</sup> of Gravel over a period of 1-2 Years. This will enhance the socio-economic activities in the adjoining areas and will result in the following benefits

- Increase in Employment Potential
- Improvement in Socio-Economic Welfare
- Improvement in Physical Infrastructure
- Improvement in Social infrastructure



### 8.1 Employment Potential

It is proposed to provide employment to about 55 persons for carrying out mining operations and give preference to the local people in providing employment. In addition, there will be opportunity for indirect employment to many people in the form of contractual jobs, business opportunities, service facilities etc. the economic status of the local people will be enhanced due to mining project.

### 8.2 Socio-Economic Welfare Measures Proposed

The impact of mining activity in the area will be more positive than negative on the socio-economic environment in the immediate project impact area. The employment opportunities both direct and indirect will contribute to enhanced money incomes to job seekers with minimal skill sets especially among the local communities.

### **8.3 Improvement in Physical Infrastructure**

The proposed project site is located in Morattupalayam Village, Uthukuli Taluk, Tiruppur District of Tamil Nadu and area have communications, roads and other facilities already well established. The following physical infrastructure facilities will further improve due to the cluster quarry projects.

- Road Transport facilities
- Communications
- Medical, Educational and social benefits will be made available to the nearby civilian population in addition to the workmen employed in the mine.

### **8.4 Improvement in Social Infrastructure**

The quarry projects in the region will have positive impact on the social economic condition of the area by way of providing employment to the local peoples; thereby increasing the per capita income, housing, education, medical and transportation facilities, economic status, health and agriculture.

- Social welfare program like medical camps, educational facilities to the poverty level students, providing water supply from the quarries during drought seasons will be taken from the project proponent's
- Supplementing Govt. efforts in health monitoring camps, social welfare and various Awareness programs among the rural population.

### **8.5 Other Tangible Benefits**

The proposed quarry project is likely to have other tangible benefits as given below.

- Indirect employment opportunities to local people in contractual works like construction of infrastructural facilities, transportation, sanitation, for supply of goods and services to the quarry site and other community services.
- Additional housing demand for rental accommodation will increase.
- Cultural, recreation and aesthetic facilities will also improve.
- Improvement in communication, transport, education, community development and medical facilities and overall change in employment and income opportunity.
- The State Government will also benefit directly from the proposed mine, through increased revenue from royalties, cess, DMF, GST etc.,

## **CORPORATE SOCIAL RESPONSIBILITY**

Individual Project Proponents will take responsibility to develop awareness among all levels of their staff about CSR activities and the integration of social processes with business processes. Those involved with the undertaking of CSR activities will be provided with adequate training and re-orientation.

Under this programme, the project proponents will take-up following programmes for social and economic development of villages within 10 km of the project site. For this purpose, separate budget will be provided every year. For finalization of these schemes, proponent will interact with LSG. The schemes will be selected from the following broad areas –

- Health Services
- Social Development
- Infrastructure Development
- Education & Sports
- Self-Employment

### **CSR Cost Estimation**

- CSR activities will be taken up in the Morattupalayam village mainly contributing to education, health, training of women self-help groups and contribution to infrastructure etc., CSR budget is allocated as 2.5% of the profit.

### **CORPORATE ENVIRONMENT RESPONSIBILITY–**

Allocation for Corporate Environment Responsibility (CER) shall be made as per Government of India, MoEF & CC Office Memorandum F.No.22-65/2017-IA.III, Dated: 01.05.2018.

As per para 6 (II) of the office memorandum, all the mines being a green field project & Capital Investment is ≤ 100 crores, they shall contribute 2% of Capital Investment towards CER as per directions of EAC/SEAC and the total CER amount from the 2 proposed mines is Rs. 10,00,000/-.

**TABLE 8.1 CER – ACTION PLAN**

Code	CER
P1	Rs 5,00,000/-
P2	Rs 5,00,000/-
P3	Rs 5,00,000/-
<b>Total</b>	<b>Rs.15,00,000/-</b>

Source: Field survey conducted by FAE, consultation with project proponents

## **CHAPTER – 9: ENVIRONMENTAL COST BENEFIT ANALYSIS**

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

## **CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P1 (Tmt.V. Revathi)**

### **10.0 General**

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of Environmental Management plan will ensure to keep all the environmental parameters of the project in respect of Ambient Air quality, Water quality, Socio – economic improvement standards.

Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

### **10.1 Environmental Policy**

The Project Proponent is committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance.

The Proponent **Tmt.V.Revathi** will –

- Meet the requirements of all laws, acts, regulations, and standards relevant to its operations and activities
- Allocate necessary resources to ensure the implementation of the environmental policy
- Ensure that an effective closure strategy is in place at all stages of project development and that progressive reclamation is undertaken as early as possible to reduce potential long-term environmental and community impacts
- Implement a program to train employees in general environmental issues and individual workplace environmental responsibilities
- Implement monitoring programmes to provide early warning of any deficiency or unanticipated performance in environmental safeguards
- Conduct periodic reviews to verify environmental performance and to continuously strive towards improvement

### **Description of the Administration and Technical Setup –**

The Environment Monitoring Cell discussed under Chapter 6 will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level of each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- Implementation and monitoring of the pollution control and protective measures/ devices which shall include financial estimation, ordering, installation of air pollution control equipment, waste water treatment plant, etc.
- Co-ordination of the environment related activities within the project as well as with outside agencies
- Collection of health statistics of the workers and population of the surrounding villages
- Green belt development
- Monitoring the progress of implementation of the environmental monitoring programme

- Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and Forests and the conditions of the environmental clearance as well as the consents to establish and consents to operate.

## 10.2 Land Environment Management –

Land degradation is one of the major adverse impacts of opencast mining in the form of excavated voids and contamination of soil affects the viability of the soil resource.

Soil contamination then has a number of flow-on effects like, Inhibition of plant growth, and death of existing plants in contaminated areas and contamination of soil also has potential to impact on a surface water quality and groundwater resources.

**TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT**

CONTROL	RESPONSIBILITY
Designing vehicle wash-down system so that all washed water is captured and passed through grease and oil separators.	Mines Manager
Re fueling will be carried out in a safe location, away from vehicle movement pathways	Mine Foreman & Mining Mate
Greenbelt development and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent run off affecting the surrounding lands.	Environment Officer
The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.	Mines Manager
Thick plantation using native flora species will be carried out on the top benches.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which can be used for watering the greenbelt at the conceptual stages.	Environment Officer

Source: Proposed by FAE's & EIA Coordinator

## 10.3 Soil Management

### Top Soil Management –

- There is no topsoil for this project site.

### Overburden / Waste and Side Burden Management –

- The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

**TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT**

CONTROL	RESPONSIBILITY
Garland drains are to be paved around the quarry pit area to arrest possible wash off in the rainy seasons	Mines Manager
Surface run-off from the surface water via garland drains will be diverted to the mine pits	Mine Foreman & Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and erosion risk	Environment Officer
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
A monitoring map with information including their GPS coordinates, erosion type, intensity, and the extent of the affected area, as well as existing control measures and assessment of their performance	Environment Officer
Empty sediment from sediment traps Maintain, repair or upgrade garland drain system	Environment Officer



Test soils for pH, EC, chloride, exchangeable cations, particle size and water holding capacity	Mines Manager
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Source: Proposed by FAE's & EIA Coordinator

#### 10.4 Water Management

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mine office.

The quarrying operation is proposed upto a depth of 30 m BGL, the water table in the area is 70m – 65m below ground level, hence the proposed projects will not intersect the Ground water table during entire quarry period.

**TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT**

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments of the mining area and to divert runoff from undisturbed areas through the mining areas	Mines Manager
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any point of mining operations	Mines Manager
Ensure there is no process effluent generation or discharge from the project area into water bodies	Mines Foreman
Domestic sewage generated from the project area will be disposed in septic tank and soak pit system	Mines Foreman
Monthly or after rainfall, inspection for performance of water management structures and systems	Mines Manager
Conduct ground water and surface water monitoring for parameters specified by CPCB	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

#### 10.5 Air Quality Management

The existing and proposed mining activities would result in the increase of particulate matter concentrations due to fugitive dust. Water sprinkling twice per day on the haul roads, approach roads in the vicinity would be undertaken and will be continued as there is possibility for dust generation due to truck mobility. It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements.

**TABLE 10.4: PROPOSED CONTROLS FOR AIR ENVIRONMENT**

CONTROL	RESPONSIBILITY
Generation of dust during excavation is minimized by daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	Mines Manager
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

## 10.6 Noise Management

There will be intermittent noise levels due to vehicular movement, trucks loading, drilling and blasting and other allied activities. No mining activities are planned during night time.

**TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT**

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring shall be carried out in the project area and in surrounding villages to assess the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

## 10.7 Ground Vibration and Fly Rock Control

**TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK**

CONTROL	RESPONSIBILITY
Controlled blasting using delay detonators will be carried out to maintain the PPV value (below 8Hz) well within the prescribed standards of DGMS	Mines Manager
Drilling and blasting will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster under the supervision of statutory mines manager to avoid any anomalies during blasting	Mines Manager
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

Source: Proposed by FAE's & EIA Coordinator

## 10.8 Biological Environment Management

The proponent will take all necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. During mining, thick plantation will be carried out around the project periphery, on safety barrier zone, on top benches of quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area
- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.

- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will be recorded and monitored
  - Based on the area of plantation.
  - Period of plantation
  - Type of plantation
  - Spacing between the plants
  - Type of manuring and fertilizers and its periods
  - Lopping period, interval of watering
  - Survival rate
  - Density of plantation
- The ultimate reclamation planned leaves a congenial environment for development of flora & immigration of small fauna through green belt and water reservoir. The green belt and water reservoir developed within the Project at the end of mine life will attract the birds and animals towards the project area in the post mining period.

### 10.8.1 Green Belt Development Plan

About 1130nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

**TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P1**

PROPOSAL – P1					
Year	No. of trees proposed to be planted	Survival %	Area to be covered	Name of the species	No. of trees expected to be grown
I	1130	80	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	904

Source: Conceptual Plan of Approved Mining plan & proposed by FAE's & EIA Coordinator

The objectives of the greenbelt development plan are –

- Provide a green belt around the periphery of the quarry area to combat the dispersal of dust in the adjoining areas,
- Protect the erosion of the soil, Conserve moisture for increasing ground water recharging,
- Restore the ecology of the area, restore aesthetic beauty of the locality and meet the requirement of fodder, fuel and timber of the local community.

A well-planned Green Belt with multi rows (three tiers) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul roads to prevent air, dust noise propagation to undesired places and efforts will be taken for the enhancement of survival rate.

### 10.8.2 Species Recommended for Plantation

Following points have been considered while recommending the species for plantation:

- Creating of bio-diversity.
- Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- Efficient in absorbing pollutants without major effects on natural growth

**TABLE 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P1**

S. No	Botanical Name	Local Name	Importance
1.	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2.	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3.	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4.	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

### 10.9 Occupational Safety & Health Management

Occupational safety and health are very closely related to productivity and good employer-employee relationship. The main factors of occupational health impact in quarries are fugitive dust and noise. Safety of employees during quarrying operation and maintenance of mining equipment will be taken care as per Mines Act 1952 and Rule 29 of Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise and vibration sufficient measures have been provided.

#### 10.9.1 Medical Surveillance and Examinations –

- Identifying workers with conditions that may be aggravated by exposure to dust & noise and establishing baseline measures for determining changes in health.
- Evaluating the effect of noise on workers
- Enabling corrective actions to be taken when necessary
- Providing health education

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail medical examination at the time of employment. The medical examination covers the following tests under mines act 1952.

- General Physical Examination and Blood Pressure
- X-ray Chest and ECG
- Sputum test
- Detailed Routine Blood and Urine examination

The medical histories of all employees will be maintained in a standard format annually. Thereafter, the employees will be subject to medical examination annually. The below tests keep upgrading the database of medical history of the employees.

**TABLE 10.9: MEDICAL EXAMINATION SCHEDULE – P1**

Sl.No	Activities	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year
1	Initial Medical Examination (Mine Workers)					
A	Physical Check-up					
B	Psychological Test					
C	Audiometric Test					
D	Respiratory Test					
2	Periodical Medical Examination (Mine Workers)					
A	Physical Check – up					
B	Audiometric Test					
C	Eye Check – up					
D	Respiratory Test					
3	Medical Camp (Mine Workers & Nearby Villagers)					
4	Training (Mine Workers)					

Medical Follow ups:- Work force will be divided into three targeted groups age wise as follows:-		
Age Group	PME as per Mines Rules 1955	Special Examination
Less than 25 years	Once in a Three Years	In case of emergencies
Between 25 to 40 Years	Once in a Three Years	In case of emergencies
Above 40 Years	Once in a Three Years	In case of emergencies

Medical help on top priority immediately after diagnosis/ accident is the essence of preventive aspects.

#### 10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.
- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.

- Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- Strict observance of the provisions of DGMS Acts, Rules and Regulations in respect of safety both by management and the workers.
- The width of road will be maintained more than thrice the width of the vehicle. A code of traffic rules will be implemented.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.

**FIGURE 10.1: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS – P1**



### 10.9.3 Health and Safety Training Programme

The Proponents will provide special induction program along with machinery manufacturers for the operators and co-operators to run and maintain the machinery effectively and efficiently. The training program for the supervisors and office staffs will be arranged in the Group Vocational Training Centres in the State and engage Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner.

**TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P1**

Course	Personnel	Frequency	Duration	Instruction
New-Employee Training	All new employees exposed to mine hazards	Once	One week	Employee rights Supervisor responsibilities Self-rescue Respiratory devices Transportation controls Communication systems Escape and emergency evacuation

				Ground control hazards Occupational health hazards Electrical hazards First aid Explosives
Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health & safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.
Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations Fire warning Ground control hazards First aid Electrical hazards Accident prevention Explosives Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules Respiratory devices

Source: Proposed by FAE's & EIA Coordinator as per DGMS Norms

#### 10.9.4 Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 10.11 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

**TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P1**

	Mitigation Measure	Provision for Implementation	Capital	Recurring
<b>Air Environment</b>	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	22550	22550
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	800000	50000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance - 3 Units	100000	10000
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed - 1 Units	5000	250
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	45100
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
<b>Noise Environment</b>	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0

	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Competent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	367336
<b>Waste Management</b>	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
<b>Mine Closure</b>	1. Progressive Closure Activity - Surface Runoff managment	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	22550	5000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	451000	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 1130Trees - (480Inside Lease Area & 400 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	96000	14400
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	120000	12000
4. Implementation of Final Mine Closure Activity as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	44100	0	



	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budge and not necessarily implemented in the Project Site	833570	0
<b>Implementation of EC, Mining Plan &amp; DGMS Condition</b>	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee) - 18 Employees	72000	18000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	18000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4510
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	112750	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 <sup>st</sup> Class / 2 <sup>nd</sup> Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	780000
<b>CER</b>	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Detailed Description in following slides and Budget allocation is included as per MoeEF & CC OM	500000	0
<b>TOTAL</b>			<b>2461850</b>	<b>1494145.8</b>

In order to implement the environmental protection measures, an amount of Rs.24.61 lakhs as capital cost and recurring cost as Rs. 14.94 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

<b>Year Wise Break Up</b>	
1st Year	Rs 3955995.8
2nd Year	Rs 1568853.09
3rd Year	Rs 1647295.745
4th Year	Rs 1729660.532
5th Year	Rs 1860243.558
Total	Rs. 108 lakhs

## 10.10 CONCLUSION

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 fund has been allocated for the same. 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. Senior Management responsible for the project will conduct a review of EMP and its implementation to ensure that the EMP remains effective and appropriate. 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.

## CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P2 (Thiru.U.Prabhakaran)

### 10.1 General

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of Environmental Management plan will ensure to keep all the environmental parameters of the project in respect of Ambient Air quality, Water quality, Socio – economic improvement standards.

Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

### 10.2 Environmental Policy

The Project Proponent is committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance.

The Proponent **Thiru.U. Prabhakaran** will –

- Allocate necessary resources to ensure the implementation of the environmental policy
- Meet the requirements of all laws, acts, regulations, and standards relevant to its operations and activities
- Implement a program to train employees in general environmental issues and individual workplace environmental responsibilities
- Ensure that an effective closure strategy is in place at all stages of project development and that progressive reclamation is undertaken as early as possible to reduce potential long-term environmental and community impacts
- Implement monitoring programmes to provide early warning of any deficiency or unanticipated performance in environmental safeguards
- Conduct periodic reviews to verify environmental performance and to continuously strive towards improvement

#### Description of the Administration and Technical Setup –

The Environment Monitoring Cell discussed under Chapter 6 will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level of each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- Implementation and monitoring of the pollution control and protective measures/ devices which shall include financial estimation, ordering, installation of air pollution control equipment, waste water treatment plant, etc.
- Co-ordination of the environment related activities within the project as well as with outside agencies
- Collection of health statistics of the workers and population of the surrounding villages
- Green belt development
- Monitoring the progress of implementation of the environmental monitoring programme

- Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and Forests and the conditions of the environmental clearance as well as the consents to establish and consents to operate.

### 10.3 Land Environment Management –

Land degradation is one of the major adverse impacts of opencast mining in the form of excavated voids and contamination of soil affects the viability of the soil resource.

Soil contamination then has a number of flow-on effects like, Inhabitation of plant growth, and death of existing plants in contaminated areas and contamination of soil also has potential to impact on a surface water quality and groundwater resources.

**TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT**

CONTROL	RESPONSIBILITY
Designing vehicle wash-down system so that all washed water is captured and passed through grease and oil separators.	Mines Manager
Re fueling will be carried out in a safe location, away from vehicle movement pathways	Mine Foreman & Mining Mate
Greenbelt development and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent run off affecting the surrounding lands.	Environment Officer
The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.	Mines Manager
Thick plantation using native flora species will be carried out on the top benches.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which can be used for watering the greenbelt at the conceptual stages.	Environment Officer

Source: Proposed by FAE's & EIA Coordinator

### 10.4 Soil Management

#### Top Soil Management –

- There is nil topsoil for this project site.

#### Overburden / Waste and Side Burden Management –

- The overburden in the form of topsoil formation, the topsoil will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

**TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT**

CONTROL	RESPONSIBILITY
Garland drains are to be paved around the quarry pit area to arrest possible wash off in the rainy seasons	Mines Manager
Surface run-off from the surface water via garland drains will be diverted to the mine pits	Mine Foreman & Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and erosion risk	Environment Officer
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
A monitoring map with information including their GPS coordinates, erosion type, intensity, and the extent of the affected area, as well as existing control measures and assessment of their performance	Environment Officer
Empty sediment from sediment traps Maintain, repair or upgrade garland drain system	Environment Officer
Test soils for pH, EC, chloride, exchangeable cations, particle size and water holding capacity	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

### 10.5 Water Management

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mine office.

The quarrying operation is restricted upto a depth of 36m BGL as per the Approved mining plan, the water table in the area is 78m – 73m below ground level, hence the proposed projects will not intersect the Ground water table during entire quarry period.

**TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT**

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments of the mining area and to divert runoff from undisturbed areas through the mining areas	Mines Manager
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any point of mining operations	Mines Manager
Ensure there is no process effluent generation or discharge from the project area into water bodies	Mines Foreman
Domestic sewage generated from the project area will be disposed in septic tank and soak pit system	Mines Foreman
Monthly or after rainfall, inspection for performance of water management structures and systems	Mines Manager
Conduct ground water and surface water monitoring for parameters specified by CPCB	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

### 10.6 Air Quality Management

The existing and proposed mining activities would result in the increase of particulate matter concentrations due to fugitive dust. Water sprinkling twice per day on the haul roads, approach roads in the vicinity would be undertaken and will be continued as there is possibility for dust generation due to truck mobility. It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements.

**TABLE 10.4: PROPOSED CONTROLS FOR AIR ENVIRONMENT**

CONTROL	RESPONSIBILITY
Generation of dust during excavation is minimized by daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	Mines Manager
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to access the impact due to the mining activities and the efficacy of the adopted air pollution control measures	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

### 10.7 Noise Management

There will be intermittent noise levels due to vehicular movement, trucks loading, drilling and blasting and other allied activities. No mining activities are planned during night time.

**TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT**

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring shall be carried out in the project area and in surrounding villages to assess the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

### 10.8 Ground Vibration and Fly Rock Control

**TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK**

CONTROL	RESPONSIBILITY
Controlled blasting using delay detonators will be carried out to maintain the PPV value (below 8Hz) well within the prescribed standards of DGMS	Mines Manager
Drilling and blasting will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster under the supervision of statutory mines manager to avoid any anomalies during blasting	Mines Manager
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

Source: Proposed by FAE's & EIA Coordinator

## 10.8 Biological Environment Management

The proponent will take all necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. During mining, thick plantation will be carried out around the project periphery, on safety barrier zone, on top benches of quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area
- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will be recorded and monitored
  - Based on the area of plantation.
  - Period of plantation
  - Type of plantation
  - Spacing between the plants
  - Type of manuring and fertilizers and its periods
  - Lopping period, interval of watering
  - Survival rate
  - Density of plantation
- The ultimate reclamation planned leaves a congenial environment for development of flora & immigration of small fauna through green belt and water reservoir. The green belt and water reservoir developed within the Project at the end of mine life will attract the birds and animals towards the project area in the post mining period.

### 10.8.1 Green Belt Development Plan

About 350 nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

**TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P2**

PROPOSAL – P2- Tmt.K. Sangeetha					
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	350	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	280

Source: Conceptual Plan of Approved Mining plan& proposed by FAE's & EIA Coordinator

The objectives of the greenbelt development plan are –

- Provide a green belt around the periphery of the quarry area to combat the dispersal of dust in the adjoining areas,
- Protect the erosion of the soil, Conserve moisture for increasing ground water recharging,
- Restore the ecology of the area, restore aesthetic beauty of the locality and meet the requirement of fodder, fuel and timber of the local community.

A well-planned Green Belt with multi rows (three tiers) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul roads to prevent air, dust noise propagation to undesired places and efforts will be taken for the enhancement of survival rate.

### 10.8.2 Species Recommended for Plantation

Following points have been considered while recommending the species for plantation:

- Creating of bio-diversity.

- Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- Efficient in absorbing pollutants without major effects on natural growth

**TABLE 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P2**

S.No	Botanical Name	Local Name	Importance
1	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

## 10.9 Occupational Safety & Health Management

Occupational safety and health are very closely related to productivity and good employer-employee relationship. The main factors of occupational health impact in quarries are fugitive dust and noise. Safety of employees during quarrying operation and maintenance of mining equipment will be taken care as per Mines Act 1952 and Rule 29 of Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise and vibration sufficient measures have been provided.

### 10.9.1 Medical Surveillance and Examinations –

- Identifying workers with conditions that may be aggravated by exposure to dust & noise and establishing baseline measures for determining changes in health.
- Evaluating the effect of noise on workers
- Enabling corrective actions to be taken when necessary
- Providing health education

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail medical examination at the time of employment. The medical examination covers the following tests under mines act 1952.

- General Physical Examination and Blood Pressure
- X-ray Chest and ECG
- Sputum test
- Detailed Routine Blood and Urine examination

The medical histories of all employees will be maintained in a standard format annually. Thereafter, the employees will be subject to medical examination annually. The below tests keep upgrading the database of medical history of the employees.

**TABLE 10.9: MEDICAL EXAMINATION SCHEDULE – P2**

Sl.No	Activities	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year
1	Initial Medical Examination (Mine Workers)					
A	Physical Check-up					
B	Psychological Test					
C	Audiometric Test					
D	Respiratory Test					
2	Periodical Medical Examination (Mine Workers)					
A	Physical Check – up					
B	Audiometric Test					
C	Eye Check – up					
D	Respiratory Test					
3	Medical Camp (Mine Workers & Nearby Villagers)					
4	Training (Mine Workers)					
Medical Follow ups:- Work force will be divided into three targeted groups age wise as follows:-						
<b>Age Group</b>		<b>PME as per Mines Rules 1955</b>		<b>Special Examination</b>		
Less than 25 years		Once in a Three Years		In case of emergencies		



Between 25 to 40 Years	Once in a Three Years	In case of emergencies
Above 40 Years	Once in a Three Years	In case of emergencies
Medical help on top priority immediately after diagnosis/ accident is the essence of preventive aspects.		

**10.9.2 Proposed Occupational Health and Safety Measures –**

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.
- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.
- Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- Strict observance of the provisions of DGMS Acts, Rules and Regulations in respect of safety both by management and the workers.
- The width of road will be maintained more than thrice the width of the vehicle. A code of traffic rules will be implemented.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.

**FIGURE 10.1: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS – P2**



**10.9.3 Health and Safety Training Programme**

The Proponents will provide special induction program along with machinery manufacturers for the operators and co-operators to run and maintain the machinery effectively and efficiently. The training program for the supervisors and office staffs will be arranged in the Group Vocational Training Centres in the State and engage Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner.

**TABLE 10.10: LIST OF PERIODICAL TRAININGS PROPOSED FOR EMPLOYEES – P2**

Course	Personnel	Frequency	Duration	Instruction
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New-Employee Training	All new employees exposed to mine hazards	Once	One week	Employee rights Supervisor responsibilities Self-rescue Respiratory devices Transportation controls Communication systems Escape and emergency evacuation Ground control hazards Occupational health hazards Electrical hazards First aid Explosives
Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul Road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health & safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.
Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations Fire warning Ground control hazards First aid Electrical hazards Accident prevention Explosives Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules Respiratory devices

Source: Proposed by FAE's & EIA Coordinator as per DGMS Norms

#### 10.9.4 Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 10.11 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

**TABLE 10.11: EMP BUDGET FOR PROPOSED PROJECT – P2**

	Mitigation Measure	Provision for Implementation	Capital	Recurring
<b>Air Environment</b>	Compaction, gradation and drainage on both sides for Haulage Road	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare; and yearly maintenance @ Rs. 10,000/- per hectare	6880	6880
	Fixed Water Sprinkling Arrangements + Water sprinkling by own water tankers	Fixed Sprinkler Installation and New Water Tanker Cost for Capital; and Water Sprinkling (thrice a day) Cost for recurring	800000	50000
	Muffle blasting – To control fly rocks during blasting	Blasting face will be covered with sand bags / steel mesh / old tyres / used conveyor belts	0	5000
	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance -2 Units	50000	5000
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin	Monitoring if trucks will be covered by tarpaulin	0	10000
	Enforcing speed limits of 20 km/hr within ML area	Installation of Speed Governors @ Rs. 5000/- per Tipper/Dumper deployed - 1 Units	5000	250
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	13760
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
<b>Noise Environment</b>	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0

	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	125125
<b>Waste Management</b>	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
<b>Mine Closure</b>	1. Progressive Closure Activity - Surface Runoff managent	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	6880	5000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	137600	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 340Trees - (320Inside Lease Area & 250 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	64000	9600
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	75000	7500
	4. Implementation of Final Mine Closure Acty as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	28650	0

	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budge and not necessarily implemented in the Project Site	283938	0
<b>Implementation of EC, Mining Plan &amp; DGMS Condition</b>	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee) - 14 Employees	56000	14000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	14000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	1376
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	34400	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 <sup>st</sup> Class / 2 <sup>nd</sup> Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	780000
<b>CER</b>	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Detailed Description in following slides and Budget allocation is included as per MoeEF & CC OM	500000	0
<b>TOTAL</b>			<b>1895760</b>	<b>1179491</b>

In order to implement the environmental protection measures, an amount of Rs.18.95 lakhs as capital cost and recurring cost as Rs. 11.79 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

<b>Year Wise Break Up</b>	
1st Year	₹ 3075251
2nd Year	₹ 1238465.6
3rd Year	₹ 1300388.8
4th Year	₹ 1365408.3
5th Year	₹ 1462328.7
Total	₹ 84 lakhs

#### **10.10 CONCLUSION –**

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 fund has been allocated for the same. 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. Senior Management responsible for the project will conduct a review of EMP and its implementation to ensure that the EMP remains effective and appropriate. 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.

## **CHAPTER - 10: ENVIRONMENTAL MANAGEMENT PLAN – P3**

### **(Thiru.S. Rajasekar)**

#### **10.1 General**

Environment Management Plan (EMP) aims at the preservation of ecological system by considering in-built pollution abatement facilities at the proposed site. Good practices of Environmental Management plan will ensure to keep all the environmental parameters of the project in respect of Ambient Air quality, Water quality, Socio – economic improvement standards.

Mitigation measures at the source level and an overall environment management plan at the study area are elicited so as to improve the supportive capacity of the receiving bodies. The EMP presented in this chapter discusses the administrative aspects of ensuring that mitigative measures are implemented and their effectiveness monitored after approval of the EIA.

#### **10.2 Environmental Policy**

The Project Proponent is committed to conduct all its operations and activities in an environmentally responsible manner and to continually improve environmental performance.

The Proponent **Thiru.S. Rajasekar** will –

- Allocate necessary resources to ensure the implementation of the environmental policy
- Meet the requirements of all laws, acts, regulations, and standards relevant to its operations and activities
- Implement a program to train employees in general environmental issues and individual workplace environmental responsibilities
- Ensure that an effective closure strategy is in place at all stages of project development and that progressive reclamation is undertaken as early as possible to reduce potential long-term environmental and community impacts
- Implement monitoring programmes to provide early warning of any deficiency or unanticipated performance in environmental safeguards
- Conduct periodic reviews to verify environmental performance and to continuously strive towards improvement

#### **Description of the Administration and Technical Setup –**

The Environment Monitoring Cell discussed under Chapter 6 will ensure effective implementation of environment management plan and to ensure compliance of environmental statutory guidelines through Mine Management Level of each Proposed Quarry.

The said team will be responsible for:

- Monitoring of the water/ waste water quality, air quality and solid waste generated
- Analysis of the water and air samples collected through external laboratory
- Implementation and monitoring of the pollution control and protective measures/ devices which shall include financial estimation, ordering, installation of air pollution control equipment, waste water treatment plant, etc.
- Co-ordination of the environment related activities within the project as well as with outside agencies
- Collection of health statistics of the workers and population of the surrounding villages
- Green belt development
- Monitoring the progress of implementation of the environmental monitoring programme

- Compliance to statutory provisions, norms of State Pollution Control Board, Ministry of Environment and Forests and the conditions of the environmental clearance as well as the consents to establish and consents to operate.

### 10.3 Land Environment Management –

Land degradation is one of the major adverse impacts of opencast mining in the form of excavated voids and contamination of soil affects the viability of the soil resource.

Soil contamination then has a number of flow-on effects like, Inhabitation of plant growth, and death of existing plants in contaminated areas and contamination of soil also has potential to impact on a surface water quality and groundwater resources.

**TABLE 10.1: PROPOSED CONTROLS FOR LAND ENVIRONMENT**

CONTROL	RESPONSIBILITY
Designing vehicle wash-down system so that all washed water is captured and passed through grease and oil separators.	Mines Manager
Re fueling will be carried out in a safe location, away from vehicle movement pathways	Mine Foreman & Mining Mate
Greenbelt development and its maintenance	Environment Officer
Garland drains with catch pits to be provided all around the project area to prevent run off affecting the surrounding lands.	Environment Officer
The periphery of Project area will be planted with thick plantation to arrest the fugitive dust, which will also act as acoustic barrier.	Mines Manager
Thick plantation using native flora species will be carried out on the top benches.	Mines Manager
There will be formation of a small surface water body in the mined-out area, which can be used for watering the greenbelt at the conceptual stages.	Environment Officer

Source: Proposed by FAE's & EIA Coordinator

### 10.4 Soil Management

#### Top Soil Management –

- There is nil topsoil for this project site.

#### Overburden / Waste and Side Burden Management –

- The overburden in the form of topsoil formation, the topsoil will be directly loaded into tippers for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government.

**TABLE 10.2: PROPOSED CONTROLS FOR SOIL MANAGEMENT**

CONTROL	RESPONSIBILITY
Garland drains are to be paved around the quarry pit area to arrest possible wash off in the rainy seasons	Mines Manager
Surface run-off from the surface water via garland drains will be diverted to the mine pits	Mine Foreman & Mining Mate
Design haul roads and other access roads with drainage systems to minimize concentration of flow and erosion risk	Environment Officer
keeping records of mitigation of erosion events, to improve on management techniques	Environment Officer
A monitoring map with information including their GPS coordinates, erosion type, intensity, and the extent of the affected area, as well as existing control measures and assessment of their performance	Environment Officer
Empty sediment from sediment traps Maintain, repair or upgrade garland drain system	Environment Officer
Test soils for pH, EC, chloride, exchangeable cations, particle size and water holding capacity	Mines Manager

Source: Proposed by FAE's & EIA Coordinator



## 10.5 Water Management

In the proposed quarrying project, no process is involved for the effluent generation, only oil & grease from the machinery wash is anticipated and domestic sewage from mine office.

The quarrying operation is restricted upto a depth of 37m BGL as per the Approved mining plan, the water table in the area is 68m below ground level, hence the proposed projects will not intersect the Ground water table during entire quarry period.

**TABLE 10.3: PROPOSED CONTROLS FOR WATER ENVIRONMENT**

CONTROL	RESPONSIBILITY
To maximize the reuse of pit water for water supply	Mines Foreman
Temporary and permanent garland drain will be constructed to contain the catchments of the mining area and to divert runoff from undisturbed areas through the mining areas	Mines Manager
Natural drains/nallahs/brooklets outside the project area should not be disturbed at any point of mining operations	Mines Manager
Ensure there is no process effluent generation or discharge from the project area into water bodies	Mines Foreman
Domestic sewage generated from the project area will be disposed in septic tank and soak pit system	Mines Foreman
Monthly or after rainfall, inspection for performance of water management structures and systems	Mines Manager
Conduct ground water and surface water monitoring for parameters specified by CPCB	Manager Mines

Source: Proposed by FAE's & EIA Coordinator

## 10.6 Air Quality Management

The existing and proposed mining activities would result in the increase of particulate matter concentrations due to fugitive dust. Water sprinkling twice per day on the haul roads, approach roads in the vicinity would be undertaken and will be continued as there is possibility for dust generation due to truck mobility. It will be ensured that vehicles are properly maintained to comply with exhaust emission requirements.

**TABLE 10.4: PROPOSED CONTROLS FOR AIR ENVIRONMENT**

CONTROL	RESPONSIBILITY
Generation of dust during excavation is minimized by daily (twice) water sprinkling on working face and daily (twice) water sprinkling on haul road	Mines Manager
Wet drilling procedure /drills with dust extractor system to control dust generation during drilling at source itself is implemented	Mines Manager
Maintenance as per operator manual of the equipment and machinery in the mines to minimizing air pollution	Mines Manager
Ambient Air Quality Monitoring carried out in the project area and in surrounding villages to assess the impact due to the mining activities and the efficacy of the adopted air pollution control measures	Mines Manager
Provision of Dust Mask to all workers	Mines Manager
Greenbelt development all along the periphery of the project area	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

### 10.7 Noise Management

There will be intermittent noise levels due to vehicular movement, trucks loading, drilling and blasting and other allied activities. No mining activities are planned during night time.

**TABLE 10.5: PROPOSED CONTROLS FOR NOISE ENVIRONMENT**

CONTROL	RESPONSIBILITY
Development of thick greenbelt all along the Buffer Zone (7.5 Meters) of the project area to attenuate the noise and the same will be maintained	Mines Manager
Preventive maintenance of mining machinery and replacement of worn-out accessories to control noise generation	Mines Foreman
Deployment of mining equipment with an inbuilt mechanism to reduce noise	Mines Manager
Provision of earmuff / ear plugs to workers working in noise prone zones in the mines	Mining Mate
Provision of effective silencers for mining machinery and transport vehicles	Mines Manager
Provision of sound proof AC operator cabins to HEMM	Mines Manager
Sharp drill bits are used to minimize noise from drilling	Mines Foreman
Controlled blasting technologies are adopted by using delay detonators to minimize noise from blasting	Mines Manager
Annual ambient noise level monitoring shall be carried out in the project area and in surrounding villages to assess the impact due to the mining activities and the efficacy of the adopted noise control measures. Additional noise control measures will be adopted if required as per the observations during monitoring	Mines Manager
Reduce maximum instantaneous charge using delays while blasting	Mining Mate
Change the burden and spacing by altering the drilling pattern and/or delay layout, or altering the hole inclination	Mines Manager
Undertake noise or vibration monitoring	Mines Manager

Source: Proposed by FAE's & EIA Coordinator

### 10.8 Ground Vibration and Fly Rock Control

**TABLE 10.6: PROPOSED CONTROLS FOR GROUND VIBRATIONS & FLY ROCK**

CONTROL	RESPONSIBILITY
Controlled blasting using delay detonators will be carried out to maintain the PPV value (below 8Hz) well within the prescribed standards of DGMS	Mines Manager
Drilling and blasting will be carried under the supervision of qualified persons	Mines Manager
Proper stemming of holes should be carried out with statutory competent qualified blaster under the supervision of statutory mines manager to avoid any anomalies during blasting	Mines Manager
Suitable spacing and burden will be maintained to avoid misfire / fly rocks	Manager Mines
Number of blast holes will be restricted to control ground vibrations	Manager Mines
Blasting will be carried out only during noon time	Mining Mate
Undertake noise or vibration monitoring	Mines Manager
ensure blast holes are adequately stemmed for the depth of the hole and stemmed with suitable angular material	Mines Foreman

Source: Proposed by FAE's & EIA Coordinator

## 10.8 Biological Environment Management

The proponent will take all necessary steps to avoid the impact on the ecology of the area by adopting suitable management measures in the planning and implementation stage. During mining, thick plantation will be carried out around the project periphery, on safety barrier zone, on top benches of quarried out area etc.,

Following control measures are proposed for its management and will be the responsibility of the Mines Manager.

- Greenbelt development all along the safety barrier of the project area
- It is also proposed to implement the greenbelt development programme and post plantation status will be regularly checked for every season.
- The main attributes that retard the survival of sapling is fugitive dust, this fugitive dust can be controlled by water sprinkling on the haul roads and installing a sprinkler unit near the newly planted area.
- Year wise greenbelt development will be recorded and monitored
  - Based on the area of plantation.
  - Period of plantation
  - Type of plantation
  - Spacing between the plants
  - Type of manuring and fertilizers and its periods
  - Lopping period, interval of watering
  - Survival rate
  - Density of plantation
- The ultimate reclamation planned leaves a congenial environment for development of flora & immigration of small fauna through green belt and water reservoir. The green belt and water reservoir developed within the Project at the end of mine life will attract the birds and animals towards the project area in the post mining period.

### 10.8.1 Green Belt Development Plan

About 1250 nos. of saplings is proposed to be planted for the Mining plan period in safety barrier of applied mine lease area with survival rate 80%. The greenbelt development plan has been prepared keeping in view the land use changes that will occur due to mining operation in the area.

**TABLE 10.7 PROPOSED GREENBELT ACTIVITIES FOR 5 YEAR PLAN PERIOD – P3**

PROPOSAL – P2- Tmt.K. Sangeetha					
Year	No. of trees proposed to be planted	Survial %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	1250	80%	Near 7.5m safety distance, panchayat road and village road	Neem, Pongamia Pinnata, Casuarina etc.,	1000

Source: Conceptual Plan of Approved Mining plan& proposed by FAE's & EIA Coordinator

The objectives of the greenbelt development plan are –

- Provide a green belt around the periphery of the quarry area to combat the dispersal of dust in the adjoining areas,
- Protect the erosion of the soil, Conserve moisture for increasing ground water recharging,
- Restore the ecology of the area, restore aesthetic beauty of the locality and meet the requirement of fodder, fuel and timber of the local community.

A well-planned Green Belt with multi rows (three tiers) preferably with long canopy leaves shall be developed with dense plantations around the boundary and haul roads to prevent air, dust noise propagation to undesired places and efforts will be taken for the enhancement of survival rate.

### 10.8.2 Species Recommended for Plantation

Following points have been considered while recommending the species for plantation:

- Creating of bio-diversity.
- Fast growing, thick canopy cover, perennial and evergreen large leaf area,
- Efficient in absorbing pollutants without major effects on natural growth

**TABLE 10.8: RECOMMENDED SPECIES TO PLANT IN THE GREENBELT – P3**

S.No	Botanical Name	Local Name	Importance
1	Azadirachta indica	Neem, Vembu	Neem oil & neem products
2	Tamarindus indica	Tamarind	Edible & Medicinal and other Uses
3	Polyalthia longifolia	Nettilinkam	Tall and evergreen tree
4	Borassus Flabellifer	Palmyra Palm	Tall Wind breaker tree and its fruits are edible

Source: Proposed by FAE's & EIA Coordinator

## 10.9 Occupational Safety & Health Management

Occupational safety and health are very closely related to productivity and good employer-employee relationship. The main factors of occupational health impact in quarries are fugitive dust and noise. Safety of employees during quarrying operation and maintenance of mining equipment will be taken care as per Mines Act 1952 and Rule 29 of Mines Rules 1955. To avoid any adverse effect on the health of workers due to dust, noise and vibration sufficient measures have been provided.

### 10.9.1 Medical Surveillance and Examinations –

- Identifying workers with conditions that may be aggravated by exposure to dust & noise and establishing baseline measures for determining changes in health.
- Evaluating the effect of noise on workers
- Enabling corrective actions to be taken when necessary
- Providing health education

The health status of workers in the mine shall be regularly monitored under an occupational surveillance program. Under this program, all the employees are subjected to a detail medical examination at the time of employment. The medical examination covers the following tests under mines act 1952.

- General Physical Examination and Blood Pressure
- X-ray Chest and ECG
- Sputum test
- Detailed Routine Blood and Urine examination

The medical histories of all employees will be maintained in a standard format annually. Thereafter, the employees will be subject to medical examination annually. The below tests keep upgrading the database of medical history of the employees.

**TABLE 10.9: MEDICAL EXAMINATION SCHEDULE – P3**

Sl.No	Activities	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	5 <sup>th</sup> Year
1	Initial Medical Examination (Mine Workers)					
A	Physical Check-up					
B	Psychological Test					
C	Audiometric Test					
D	Respiratory Test					
2	Periodical Medical Examination (Mine Workers)					
A	Physical Check – up					
B	Audiometric Test					
C	Eye Check – up					
D	Respiratory Test					
3	Medical Camp (Mine Workers & Nearby Villagers)					
4	Training (Mine Workers)					
Medical Follow ups:- Work force will be divided into three targeted groups age wise as follows:-						
<b>Age Group</b>		<b>PME as per Mines Rules 1955</b>		<b>Special Examination</b>		

Less than 25 years	Once in a Three Years	In case of emergencies
Between 25 to 40 Years	Once in a Three Years	In case of emergencies
Above 40 Years	Once in a Three Years	In case of emergencies
Medical help on top priority immediately after diagnosis/ accident is the essence of preventive aspects.		

### 10.9.2 Proposed Occupational Health and Safety Measures –

- The mine site will have adequate drinking water supply so that workers do not get dehydrated.
- Lightweight and loose-fitting clothes having light colours will be preferred to wear.
- Noise exposure measurements will be taken to determine the need for noise control strategies.
- The personal protective equipment will be provided for mine workers.
- Supervisor will be instructed for reporting any problems with hearing protectors or noise control equipment.
- At noisy working activity, exposure time will be minimized.
- Dust generating sources will be identified and proper control measure will be adopted.
- Periodic medical examinations will be provided for all workers.
- Strict observance of the provisions of DGMS Acts, Rules and Regulations in respect of safety both by management and the workers.
- The width of road will be maintained more than thrice the width of the vehicle. A code of traffic rules will be implemented.
- In respect of contract work, safety code for contractors and workers will be implemented. They will be allowed to work under strict supervision of statutory person/officials only after they will impart training at vocational training centres. All personal protective equipment's will be provided to them.
- A safety committee meeting every month will be organized to discuss the safety of the mines and the persons employed.
- Celebration of annual mines safety week and environmental week in order to develop safety awareness and harmony amongst employees and co quarry owners.

### FIGURE 10.1: PERSONAL PROTECTIVE EQUIPMENT TO THE MINE WORKERS – P3



### 10.9.3 Health and Safety Training Programme

The Proponents will provide special induction program along with machinery manufacturers for the operators and co-operators to run and maintain the machinery effectively and efficiently. The training program for the supervisors and office staffs will be arranged in the Group Vocational Training Centres in the State and engage Environmental Consultants to provide periodical training to all the employees to carry out the mining operation in and eco-friendly manner.

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Course	Personnel	Frequency	Duration	Instruction
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Task Training Like Drilling, Blasting, Stemming, safety, Slope stability, Dewatering, Haul Road maintenance,	Employees assigned to new work tasks	Before new Assignments	Variable	Task-specific health & safety procedures and SOP for various mining activity. Supervised practice in assigned work tasks.
Refresher Training	All employees who received new-hire training	Yearly	One week	Required health and safety standards Transportation controls Communication systems Escape ways, emergency evacuations Fire warning Ground control hazards First aid Electrical hazards Accident prevention Explosives Respirator devices
Hazard Training	All employees exposed to mine hazards	Once	Variable	Hazard recognition and avoidance Emergency evacuation procedures Health standards Safety rules Respiratory devices

Source: Proposed by FAE's & EIA Coordinator as per DGMS Norms

#### 10.9.4 Budgetary Provision for Environmental Management –

Adequate budgetary provision has been made by the Company for execution of Environmental Management Plan. The Table 10.11 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

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	Wet drilling procedure / latest eco-friendly drill machine with separate dust extractor unit	Dust extractor @ Rs. 25,000/- per unit deployed as capital & @ Rs. 2500 per unit recurring cost for maintenance -2 Units	125000	12500
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	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes by Manual Labour	0	5000
	Regular sweeping and maintenance of approach roads for at least about 200 m from ML Area	Provision for 2 labours @ Rs.10,000/labour (Contractual) per Hectare	0	49700
	Installing wheel wash system near gate of quarry	Installation + Maintenance + Supervision	50000	20000
<b>Noise Environment</b>	Source of noise will be during operation of transportation vehicles, HEMM for this proper maintenance will be done at regular intervals.	Provision made in Operating Cost	0	0
	Oiling & greasing of Transport vehicles and HEMM at regular interval will be done	Provision made in Operating Cost	0	0
	Adequate silencers will be provided in all the diesel engines of vehicles.	Provision made in Operating Cost	0	0
	It will be ensured that all transportation vehicles carry a fitness certificate.	Provision made in Operating Cost	0	0

	Safety tools and implements that are required will be kept adequately near blasting site at the time of charging.	Provision made in OHS part	0	0
	Line Drilling all along the boundary to reduce the PPV from blasting activity and implementing controlled blasting.	Provision made in Operating Cost	0	0
	Proper warning system before blasting will be adopted and clearance of the area before blasting will be ensured.	Blowing Whistle by Mining Mate / Blaster / Compentent Person	0	0
	Provision for Portable blaster shed	Installation of Portable blasting shelter	50000	2000
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 Tonnes of Blasted Material	0	425396
<b>Waste Management</b>	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency	5000	20000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine lease on the land of owner itself	Provision made in Operating Cost	0	0
<b>Mine Closure</b>	1. Progressive Closure Activity - Surface Runoff managent	Provision for garland drain @ Rs. 10,000/- per Hectare with maintenance of Rs. 5,000/- per annum	24850	5000
	2. Progressive Closure Activity Barbed Wire Fencing to quarry area will be provisioned.	Per Hectare fencing Cost @ Rs. 2,00,000/- with Maintenance of Rs 10,000/- per annum	497000	10000
	3. Progressive Closure Activity Green belt development - 500 trees per one hectare - Proposal for 1250Trees - (450Inside Lease Area & 750 Outside Lease Area)	Site clearance, preparation of land, digging of pits / trenches, soil amendments, transplantation of saplings @ 200 per plant (capital) for plantation inside the lease area and @ 30 per plant maintenance (recurring)	90000	13500
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	225000	22500
4. Implementation of Final Mine Closure Activity as per Approved Mining Plan on Last Year	Few activities already covered as progressive closure activities as greenbelt development, wire fencing, garland drain. *For Final Closure Activities 15% of the proposed closure cost will be spent during the final mine closure stage - Last Year	45750	0	



	5. Contribution towards Green Fund. As per TNMMCR 1959, Rule 35 A	The Contribution towards Green Funds @ 10% of Seigniorage fee are indicated as part of EMP Budge and not necessarily implemented in the Project Site	965323	0
<b>Implementation of EC, Mining Plan &amp; DGMS Condition</b>	Size 6' X 5' with blue background and white letters as mentioned in MoM Appendix II by the SEAC TN	Fixed Display Board at the Quarry Entrance as permanent structure mentioning Environmental Conditions	10000	1000
	Air, Water, Noise and Soil Quality Sampling every 6 Months for Compliance Report of EC Conditions	Submission of 2 Half Yearly Compliance - Lab Monitoring Report as per CPCB norms	0	50000
	Workers will be provided with Personal Protective Equipment's	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee) - 23Employees	92000	23000
	Health check up for workers will be provisioned	IME & PME Health check up @ Rs. 1000/- per employee	0	23000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	4970
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	No parking will be provided on the transport routes. Separate provision on the south side of the hill will be made for vehicles /HEMMs. Flaggers will be deployed for traffic management	Parking area with shelter and flags @ Rs. 50,000/- per hectare project and Rs. 10,000/- as maintenance cost	124250	10000
	Installation of CCTV cameras in the mines and mine entrance	Camera 4 Nos, DVR, Monitor with internet facility	30000	5000
	Implementation as per Mining Plan and ensure safe quarry working	Mines Manager (1 <sup>st</sup> Class / 2 <sup>nd</sup> Class / Mine Foreman) under regulation 34 / 34 (6) of MMR, 1961 and Mining Mate under regulation 116 of MMR,1961 @ 40,000/- for Manager & @ 25,000/- for Foreman / Mate	0	780000

<b>CER</b>	As per MoEF &CC OM 22-65/2017-IA.III Dated 25.02.2021	Detailed Description in following slides and Budget allocation is included as per MoeEF & CC OM	500000	0
<b>TOTAL</b>			<b>2677950</b>	<b>1582166.4</b>

In order to implement the environmental protection measures, an amount of Rs.18.95 lakhs as capital cost and recurring cost as Rs. 11.79 lakhs as recurring cost is proposed considering present market price considering present market scenario for the proposed project.

<b>Year Wise Break Up</b>	
1st Year	₹42,60,116.4
2nd Year	₹16,61,274.7
3rd Year	₹17,44,338.5
4th Year	₹18,31,555.4
5th Year	₹19,68,883.1
Total	₹ 115 lakhs

### 10.10 CONCLUSION –

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 fund has been allocated for the same. 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. Senior Management responsible for the project will conduct a review of EMP and its implementation to ensure that the EMP remains effective and appropriate. 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.

## CHAPTER – 11: SUMMARY AND CONCLUSIONS

Morattupalayam Rough Stone and Gravel Cluster Quarries (Extent: **21.64.52** ha) falls under “B” category as per MoEF & CC Notification (S.O. 3977 (E)).

Now, as per Order Dated: 04.09.2018 & 13.09.2018 passed by Hon'ble National Green Tribunal, New Delhi in O.A. No. 173 of 2018 & O.A. No, 186 of 2016 and MoEF & CC Office Memorandum F. No. L-11011/175/2018-IA-II (M) Dated: 12.12.2018 clarified the requirement for EIA, EMP and therefore, Public Consultation for all areas from 5 to 25 ha falling in Category B-1 and appraised by SEAC/ SEIAA as well as for cluster situation.

A detailed Draft EIA/ EMP Report is prepared for public and other stakeholders' suggestions and a Final EIA/ EMP Report will be prepared based on the outcome of Public Consultation.

Environmental monitoring and audit mechanism have been recommended before and after commencement of the project, where necessary, to verify the accuracy of the EIA predictions and the effectiveness of recommended mitigation measures.

The main scope of the EIA study is to quantify the cumulative impact in the study area due to cluster quarries and formulate the effective mitigation measures for each individual leases. A detailed account of the emission sources, emissions control equipment, background Air quality levels, Meteorological measurements, Dispersion model and all other aspects of pollution like effluent discharge, Dust generation etc., have been discussed in this report. The baseline monitoring study has been carried out during the months March2022 to May2022 for various environmental components so as to assess the anticipated impacts of the cluster quarry projects on the environment and suitable mitigation measures for likely adverse impacts due to the proposed project is suggested individually for the respective proposed project under Chapter 10.

The project proponent ensures to obtain necessary clearances and quarrying will be carried out as per rules and regulations. The Mining Activity will be carried out in a phased manner as per the approved mining plan after obtaining EC, CTO from TNPCB, execution of lease deed and obtaining DGMS Permission and working will be carried out under the supervision of Competent Persons employed.

Overall, the EIA report has predicted that the project will comply with all environment standards and legislation after commencement of the project and operational stage mitigation measures are implemented.

Mining operations has positive impact on environment and socio economy such as landscape improvement, water as by-product, economy development and better public services, providing and supply of Rough Stone & Gravel as per market demand.

Sustainable and modern mining leads us to see positive impact of mining operation and providing consistent employment for nearly 55 people directly in the cluster and indirectly around 100people.

As discussed, it is safe to say that the proposed quarries are not likely to cause any significant impact to the ecology of the area, as adequate preventive measures will be adopted to keep the various pollutants within the permissible limits. Green belt development around the area will also be taken up as an effective pollution mitigate technique, as well as to serve as biological indicators for the pollutants released from the Morattupalayam Rough Stone and Gravel Cluster Quarries (Cluster Extent: **21.64.52ha**).

## CHAPTER 12.0: DISCLOSURE OF CONSULTANTS

The Project Proponent's –

1. **Tmt.V.Revathi**
2. **Thiru.U.Prabhakaran**
3. **Thiru.S. Rajasekar**

have engaged M/s Geo Exploration and Mining Solutions, an Accredited Organization under Quality Council of India – National Accreditation Board for Education & Training, New Delhi, for carrying out the EIA Study as per the ToR Issued.

Name and address of the consultancy:

### **GEO EXPLORATION AND MINING SOLUTIONS**

No 17, Advaita Ashram Road,

Alagapuram, Salem – 636 004

Tamil Nadu, India

Email: [infogeoexploration@gmail.com](mailto:infogeoexploration@gmail.com)

Web: [www.gemssalem.com](http://www.gemssalem.com)

Phone: 0427 2431989.

The Accredited Experts and associated members who were engaged for this EIA study as given below –

Sl.No.	Name of the expert	In house/ Empanelled	EIA Coordinator		FAE	
			Sector	Category	Sector	Category
1	<b>Dr. M. Ifthikhar Ahmed</b>	<b>In-house</b>	<b>1</b>	<b>A</b>	WP GEO SC	B A A
2	Dr. P. Thangaraju	In-house	-	-	HG GEO	A A
3	Mr. A. Jagannathan	In-house	-	-	AP NV SHW	B A B
4	Mr. N. Senthilkumar	Empanelled	38 28	B B	AQ WP RH	B B A
5	Mrs. Jisha parameswaran	In-house	-	-	SW	B
6	Mr. Govindasamy	In-house	-	-	WP	B
7	Mrs. K. Anitha	In-house	-	-	SE	A
8	Mrs. Amirtham	In-house	-	-	EB	B
9	Mr. Alagappa Moses	Empanelled	-	-	EB	A
10	Mr. A. Allimuthu	In-house	-	-	LU	B
11	Mr. S. Pavel	Empanelled	-	-	RH	B
12	Mr. J. R. Vikram Krishna	Empanelled	-	-	SHW RH	A A
<b>Abbreviations</b>						
EC	EIA Coordinator					
AEC	Associate EIA Coordinator					
FAE	Functional Area Expert					
FAA	Functional Area Associates					
TM	Team Member					
GEO	Geology					
WP	Water pollution monitoring, prevention and control					
AP	Air pollution monitoring, prevention and control					
LU	Land Use					
AQ	Meteorology, air quality modeling, and prediction					
EB	Ecology and bio-diversity					
NV	Noise and vibration					
SE	Socio economics					
HG	Hydrology, ground water and water conservation					
SC	Soil conservation					
RH	Risk assessment and hazard management					
SHW	Solid and hazardous wastes					
MSW	Municipal Solid Wastes					
ISW	Industrial Solid Wastes					
HW	Hazardous Wastes					

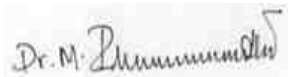
### **DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA/EMP**

Declaration by experts contributing to the EIA/EMP for Morattupalayam Rough Stone & Gravel Cluster Quarries over an Extent of **21.64.52ha** in Morattupalayam Village, Uthukuli Taluk, Tiruppur District of Tamil Nadu. It is also certified that information furnished in the above EIA study are true and correct to the best of our knowledge. I, hereby, certify that I was a part of the EIA team in the following capacity that developed the EIA/EMP Report.

Name: **Dr. M. Ifthikhar Ahmed**

Designation: **EIA Coordinator**

Date & Signature:




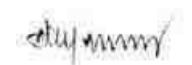

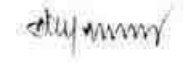






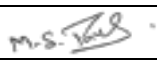






Period of Involvement: **January 2022 to till date**

**Associated Team Member with EIA Coordinator:**

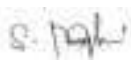



1. **Mr. S. Nagamani**
2. **Mr. Viswanathan**
3. **Mr. Santhoshkumar**
4. **Mr. S. Ilavarasan**

#### **FUNCTIONAL AREA EXPERTS ENGAGED IN THE PROJECT**

Sl. No.	Functional Area	Involvement	Name of the Expert/s	Signature
1	AP	<ul style="list-style-type: none"> <li>▪ Identification of different sources of air pollution due to the proposed mine activity</li> <li>▪ Prediction of air pollution and propose mitigation measures / control measures</li> </ul>	Mr. A. Jagannathan	
2	WP	<ul style="list-style-type: none"> <li>▪ Suggesting water treatment systems, drainage facilities</li> <li>▪ Evaluating probable impacts of effluent/waste water discharges into the receiving environment/water bodies and suggesting control measures.</li> </ul>	Dr. M. Ifthikhar Ahmed	
			Mr. N. Senthilkumar	
3	HG	<ul style="list-style-type: none"> <li>▪ Interpretation of ground water table and predict impact and propose mitigation measures.</li> <li>▪ Analysis and description of aquifer Characteristics</li> </ul>	Dr. P. Thangaraju	
4	GEO	<ul style="list-style-type: none"> <li>▪ Field Survey for assessing the regional and local geology of the area.</li> <li>▪ Preparation of mineral and geological maps.</li> <li>▪ Geology and Geo morphological analysis/description and Stratigraphy/Lithology.</li> </ul>	Dr. M. Ifthikhar Ahmed	
			Dr. P. Thangaraju	
5	SE	<ul style="list-style-type: none"> <li>▪ Revision in secondary data as per Census of India, 2011.</li> <li>▪ Impact Assessment &amp; Preventive Management Plan</li> <li>▪ Corporate Environment Responsibility.</li> </ul>	Mrs. K. Anitha	
6	EB	<ul style="list-style-type: none"> <li>▪ Collection of Baseline data of Flora and Fauna.</li> <li>▪ Identification of species labelled as Rare, Endangered and threatened as per IUCN list.</li> </ul>	Mrs. Amirtham	

		<ul style="list-style-type: none"> <li>Impact of the project on flora and fauna.</li> <li>Suggesting species for greenbelt development.</li> </ul>	Mr. Alagappa Moses	
7	RH	<ul style="list-style-type: none"> <li>Identification of hazards and hazardous substances</li> <li>Risks and consequences analysis</li> <li>Vulnerability assessment</li> <li>Preparation of Emergency Preparedness Plan</li> <li>Management plan for safety.</li> </ul>	Mr. N. Senthilkumar	
			Mr. S. Pavel	
			Mr. J. R. Vikram Krishna	
8	LU	<ul style="list-style-type: none"> <li>Construction of Land use Map</li> <li>Impact of project on surrounding land use</li> <li>Suggesting post closure sustainable land use and mitigative measures.</li> </ul>	Mr. A. Allimuthu	
9	NV	<ul style="list-style-type: none"> <li>Identify impacts due to noise and vibrations</li> <li>Suggesting appropriate mitigation measures for EMP.</li> </ul>	Mr. A. Jagannathan	
10	AQ	<ul style="list-style-type: none"> <li>Identifying different source of emissions and propose predictions of incremental GLC using AERMOD.</li> <li>Recommending mitigations measures for EMP</li> </ul>	Mr. N. Senthilkumar	
11	SC	<ul style="list-style-type: none"> <li>Assessing the impact on soil environment and proposed mitigation measures for soil conservation</li> </ul>	Dr. M. Ifthikhar Ahmed	
12	SHW	<ul style="list-style-type: none"> <li>Identify source of generation of non-hazardous solid waste and hazardous waste.</li> <li>Suggesting measures for minimization of generation of waste and how it can be reused or recycled.</li> </ul>	Mr. A. Jagannathan	
			Mr. J. R. Vikram Krishna	

**LIST OF TEAM MEMBERS ENGAGED IN THIS PROJECT**

Sl.No.	Name	Functional Area	Involvement	Signature
1	Mr. S. Nagamani	AP; GEO; AQ	<ul style="list-style-type: none"> <li>Site Visit with FAE</li> <li>Provide inputs &amp; Assisting FAE with sources of Air Pollution, its impact and suggest control measures</li> <li>Provide inputs on Geological Aspects</li> <li>Analyse &amp; provide inputs and assist FAE with meteorological data, emission estimation, AERMOD modelling and suggesting control measures</li> </ul>	
2	Mr. Viswanathan	AP; WP; LU	<ul style="list-style-type: none"> <li>Site Visit with FAE</li> <li>Provide inputs &amp; Assisting FAE with sources of Air Pollution, its impact and suggest control measures</li> <li>Assisting FAE on sources of water pollution, its impacts and suggest control measures</li> <li>Assisting FAE in preparation of land use maps</li> </ul>	
3	Mr. Santhoshkumar	GEO; SC	<ul style="list-style-type: none"> <li>Site Visit with FAE</li> <li>Provide inputs on Geological Aspects</li> <li>Assist in Resources &amp; Reserve Calculation and preparation of Production Plan &amp; Conceptual Plan</li> <li>Provide inputs &amp; Assisting FAE with soil conservation methods and identifying impacts</li> </ul>	
4	Mr. Umamahesvaran	GEO	<ul style="list-style-type: none"> <li>Site Visit with FAE</li> <li>Provide inputs on Geological Aspects</li> </ul>	

			<ul style="list-style-type: none"> <li>▪ Assist in Resources &amp; Reserve Calculation and preparation of Production Plan &amp; Conceptual Plan</li> </ul>	
5	Mr. A. Allimuthu	SE	<ul style="list-style-type: none"> <li>▪ Site Visit with FAE</li> <li>▪ Assist FAE with collection of data's</li> <li>▪ Provide inputs by analysing primary and secondary data</li> </ul>	<i>A. Allimuthu</i>
6	Mr. S. Ilavarasan	LU; SC	<ul style="list-style-type: none"> <li>▪ Site Visit with FAE</li> <li>▪ Assisting FAE in preparation of land use maps</li> <li>▪ Provide inputs &amp; Assisting FAE with soil conservation methods and identifying impacts</li> </ul>	<i>S. Ilavarasan</i>
7	Mr. E. Vadivel	HG	<ul style="list-style-type: none"> <li>▪ Site Visit with FAE</li> <li>▪ Assist FAE &amp; provide inputs on aquifer characteristics, ground water level/table</li> <li>▪ Assist with methods of ground water recharge and conduct pump test, flow rate</li> </ul>	<i>E. Vadivel</i>
8	Mr. D. Dinesh	NV	<ul style="list-style-type: none"> <li>▪ Site Visit with FAE</li> <li>▪ Assist FAE and provide inputs on impacts due to proposed mine activity and suggest mitigation measures</li> <li>▪ Assist FAE with prediction modelling</li> </ul>	<i>D. Dinesh</i>
9	Mr. Panneer Selvam	EB	<ul style="list-style-type: none"> <li>▪ Site Visit with FAE</li> <li>▪ Assist FAE with collection of baseline data</li> <li>▪ Provide inputs and assist with labelling of Flora and Fauna</li> </ul>	<i>P. Panneer Selvam</i>
10	Mrs. Nathiya	EB	<ul style="list-style-type: none"> <li>▪ Site Visit with FAE</li> <li>▪ Assist FAE with collection of baseline data</li> <li>▪ Provide inputs and assist with labelling of Flora and Fauna</li> </ul>	<i>T. Nathiya</i>

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**DECLARATION BY THE HEAD OF THE ACCREDITED CONSULTANT ORGANIZATION**

I, Dr. M. Ifthikhar Ahmed, Managing Partner, Geo Exploration and Mining Solutions, hereby, confirm that the above-mentioned Functional Area Experts and Team Members prepared the Draft EIA/EMP for Rough Stone & Gravel Cluster Quarries over an Extent of **21.64.52ha** in Morattupalayam Village, Uthukuli Taluk, Tiruppur District of Tamil Nadu. It is also certified that information furnished in the EIA study are true and correct to the best of our knowledge.

Signature & Date:



Name:

**Dr. M. Ifthikhar Ahmed**

Designation:

**Managing Partner**

Name of the EIA Consultant Organization:

**M/s. Geo Exploration and Mining Solutions**

NABET Certificate No & Issue Date:

**NABET/EIA/2225/RA 0276 Dated: 20-2-2023**

Validity:

**Valid till 06.08.2025**



# ANNEXURE

## MORATTUPALAYAM ROUGH STONE AND GRAVEL CLUSTER QUARRIES

Morattupalayam Village,

Uthukuli Taluk,

Tiruppur District

**CLUSTER EXTENT = 21.64.52 Ha**

ToR obtained

1. Lr No. SEIAA-TN/F.No.9731/2023/SEAC/ToR-1566/2023 Dated: 20.09.2023 - P1

2. Lr No. SEIAA-TN/F.No.8614/SEAC/ToR-1019/ 2021 Dated: 23.08.2021 - P2

3. Lr No. SEIAA-TN/F.No.10781/ToR No: TO24B0108TN5560449N Dated: 03.06.2024– P3

### Project Proponent

Code	P1	P2	P3
<b>Project Location</b>	<b>Tmt.V. Revathi</b> S.F No. 209/1A(P), 209/1B(P) & 209/2 (P) <b>Extent: 2.25.5Ha</b> Morattupalayam Village, Uthukuli Taluk, Tiruppur (DT)	<b>Thiru.U. Prabhakaran</b> S.F. No. 389/1C2, <b>Extent: 0.68.8 ha</b> Morattupalayam Village, Uthukuli Taluk, Tiruppur (DT)	<b>Thiru.S.Rajasekar</b> S.F. No. 382/2A (P), <b>Extent: 2.48.5 ha</b> Morattupalayam Village, Uthukuli Taluk, Tiruppur (DT)

## LIST OF ANNEXURES

CODE	DESCRIPTION	PAGE NO.
P1- TMT.V. REVATHI	COPY OF TERMS OF REFERENCE	1A-24A
	COPY OF 500M RADIUS QUARRIES DETAILS LETTER & MINE PLAN APPROVED LETTER	25A – 28A
	COPY OF APPROVED MINING PLAN WITH PLATES	29A – 103A
	COPY OF HYDROGEOLOGICAL REPORT	104A-113A
	COPY OF INSPECTION REPORT	114A-128A
	COPY OF EXPLOSIVE LETTER	129A-130A
	COPY OF 300m & VAO ATTESTATION LETTER	131A-132A
	COPY OF DFO LETTER	133A
P2- THIRU.U. PRABHAKARAN	COPY OF TERMS OF REFERENCE	134A-147A
	COPY OF 500M RADIUS QUARRIES DETAILS LETTER	148A – 151A
	COPY OF MINE PLAN APPROVED LETTER	152A- 154A
	COPY OF APPROVED MINING PLAN WITH PLATES	155A – 220A
	COPY OF HYDROGEOLOGICAL REPORT	221A - 229A
	COPY OF INSPECTION REPORT	230A – 241A
	COPY OF EXPLOSIVE LETTER	242A – 243A
	COPY OF 300m & VAO ATTESTATION LETTER	244A – 245A
	COPY OF TERMS OF REFERENCE	246A – 259A

P3- THIRU.S. RAJASEKAR	COPY OF 500M RADIUS QUARRIES DETAILS LETTER	260A-261A
	COPY OF MINE PLAN APPROVED LETTER	262A – 263A
	COPY OF APPROVED MINING PLAN WITH PLATES	264A- 349A
	COPY OF HYDROGEOLOGICAL REPORT	350A - 367A
	COPY OF INSPECTION REPORT	368A – 383A
	COPY OF EXPLOSIVE LETTER	384A – 386A
	COPY OF 300m & VAO ATTESTATION LETTER	387A – 388A
	COPY OF DFO LETTER	389A
P5- THIRU.M. THANGARAJ	COPY OF ENVIRONMENTAL CLEARANCE	390A-417A
E1- THIRU. N. CHITHAMBARAM	COPY OF ENVIRONMENTAL CLEARANCE	418A – 443A
E2- THIRU.N. AYYADURAI	COPY OF PRECISE AREA COMMUNICATION LETTER	444A – 446A
E3- THIRU.T.S.UDHAYAKUMAR	COPY OF MINE PLAN APPROVED LETTER	447A – 449A
E4- THIRU. S. RAJU	COPY OF MINE PLAN APPROVED LETTER	450A – 452A
E5- THIRU. K. SENTHILKUMAR	COPY OF ENVIRONMENTAL CLEARANCE	453A – 488A
E6- THIRU.THANGAMUTHUSAMY	COPY OF ENVIRONMENTAL CLEARANCE	489A – 525A
E7- THIRU. T. THANGARAJ	COPY OF ENVIRONMENTAL CLEARANCE	526A – 554A
E8- THIRU. M. THANGARAJU	COPY OF ENVIRONMENTAL CLEARANCE	555A – 562A
E9- THIRU, M. DEVARAJ	COPY OF ENVIRONMENTAL CLEARANCE	563A – 588A
	COPY OF BASE LINE MONITORING DATA	589A-630A
	COPY OF NABET CERTIFICATE	631A



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

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY-TAMILNADU

3rd Floor, Panagal Maaligai,

No.1, Jeenis Road, Saidapet,

Chennai - 600 015.

Phone No. 044-24359973

Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr No.SEIAA-TN/F.No.9731/2023/SEAC/ToR- 1566/2023 Dated:20.09.2023.**

To

Tmt. V Revathi

W/o M Vijayakumar

8/223, Chinna Kadapalayam

Uthukuli

Tiruppur

Tiruppur District

Sir / Madam,

**Sub:** SEIAA, Tamil Nadu – Terms of Reference with public Hearing (ToR) for the Proposed Rough Stone & gravel quarry lease area over an extent of 2.25.5 Ha at SF. No. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District by Tmt. V Revathi - under project category – “B1” and Schedule S.No.1 (a) – ToR issued along with Public Hearing - preparation of EIA report – Regarding.

- Ref:**
1. Online proposal No. SIA/TN/MIN/414152/2023, dated:11.01.2023.
  2. Your application submitted for Terms of Reference dated:13.01.2023.
  3. Minutes of the 367<sup>th</sup> SEAC meeting held on dated: 31.03.2023.
  4. Reply by the Project Proponent dated:16.06.2023.
  5. Minutes of the 405<sup>th</sup> SEAC meeting held on 23.08.2022.
  6. Minutes of the 656<sup>th</sup> SEIAA meeting held on 20.09.2023.

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

  
MEMBER SECRETARY  
SEIAA-TN

The proponent, Tmt. V Revathi has submitted application for Terms of Reference (ToR) in Form-I; Pre- Feasibility report for Proposed Rough Stone & gravel quarry lease area over an extent of 2.25.5 Ha at SF. No. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

**Discussion by SEAC and the Remarks:-**

**Proposed Rough Stone & gravel quarry lease area over an extent of 2.25.5 Ha at SF. No. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District by Tmt. V Revathi - For Terms of Reference.**

**(SIA/TN/MIN/414152/2023, dated:11.01.2023)**

Earlier the proposal was placed in 367<sup>th</sup> SEAC meeting held on 31.03.2023. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

**The SEAC noted the following:**

1. The project proponent, Tmt. V Revathi has applied for Terms of Reference for the Rough Stone & gravel quarry lease area over an extent of 2.25.5Ha at SF. No 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1 (a) "Mining of Minerals Projects" of the Schedule to the EIA Notification,2006.
3. As per the mining plan the lease period is for 5 years. The mining plan is for the period of five years & the production should not exceed 1,41,283m<sup>3</sup> of rough stone & 4,860m<sup>3</sup> of Gravel with an ultimate depth of mining is 30m BGL (2m Gravel + 28m Rough Stone). The annual peak production is 32,995m<sup>3</sup> of rough stone & 2,340m<sup>3</sup> of Gravel.

The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the ownership of the building, nature of construction, age of the building, number of residents, their profession and income, etc.

**Now the proposal was placed in 405<sup>th</sup> meeting of SEAC held on 31.08.2023.** The Project proponent has made a presentation along with clarification for the above shortcomings observed by the SEAC.

  
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SEIAA-TN

SLNO	SEIAA Query	Reply
1.	The Proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50m, (ii) 100m, (iii) 200m and (iv) 300m radius shall be enumerated with the details such as dwelling houses with number of occupants, Whether it belongs to the Owner (or) not, places of Worship, Industries, Factories, Sheds, etc with indicating the ownership of the buildings, nature of construction, age of building, number of residents, their profession and income etc.	Structures has been enumerated and the details located within the radius of 50m, (ii) 100 m, (iii) 200m and (iv) 300m radius are provided.

Based on the presentation and details furnished by the project proponent, **SEAC decided to grant Terms of Reference (TOR) with Public Hearing** subject to the following TORs, in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MOEF & CC and **Annexure**, to be included in EIA/EMP Report:

1. The Proponent shall justify the selection of the site for carrying out the stone quarrying with the total volume arrived for the excavation & production adequate details such as lithology of the deposit, reserve estimation, place for waste dump/mined mineral storage, end-use of mined materials, identified potential customers/end-users and travel path.
2. The proponent is requested to carry out a detailed survey, detailed study and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
3. As the structures are located within a radial distance of 500 m, the PP shall furnish a Model simulating the conditions describing the level of ground vibrations and fly rock caused due to the blasting operation in the proposed quarry.
4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc located within 1 km of the proposed quarry.

  
MEMBER SECRETARY  
SEIAA-TN

5. The Proponent shall carry out Bio diversity study through Department of Ecology and Environmental Sciences, Pondicherry University and the same shall be included in EIA Report.
6. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.

**Annexure I**

1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:
  - (i) Original pit dimension
  - (ii) Quantity achieved Vs EC Approved Quantity
  - (iii) Balance Quantity as per Mineable Reserve calculated.
  - (iv) Mined out Depth as on date Vs EC Permitted depth
  - (v) Details of illegal/illicit mining
  - (vi) Violation in the quarry during the past working.
  - (vii) Quantity of material mined out outside the mine lease area
  - (viii) Condition of Safety zone/benches
  - (ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.
2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.
3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.
4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.
5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.

  
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SEIAA-TN

6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.
7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining & Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg. Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.
8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.
9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.
10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.
11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.
12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines.
13. What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?
14. Quantity of minerals mined out.
  - Highest production achieved in any one year
  - Detail of approved depth of mining.

  
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- Actual depth of the mining achieved earlier.
  - Name of the person already mined in that leases area.
  - If EC and CTO already obtained, the copy of the same shall be submitted.
  - Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.
15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
  16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,
  17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
  18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.
  19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act'1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.
  20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.
  21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality & flora/fauna including traffic/vehicular movement study.

  
MEMBER SECRETARY  
SEIAA-TN

22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control & health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.
23. Rain water harvesting management with recharging details along with water balance (both monsoon & non-monsoon) be submitted.
24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be provided.
26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.
27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
28. Impact on local transport infrastructure due to the Project should be indicated.
29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.
31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.

  
MEMBER SECRETARY  
SEIAA-TN

32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner
34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.
36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

  
MEMBER SECRETARY  
SEIAA-TN

41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.
42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine.
43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

**Appendix - I**  
**List of Native Trees Suggested for Planting**

No	Scientific Name	Tamil Name	Tamil Name
1	<i>Aegle marmelos</i>	Vilvam	விளம்ப
2	<i>Adenanthera pavonina</i>	Manjadi	மஞ்சள், ஆமணக்குத்தாமர்
3	<i>Albizia lebbek</i>	Vaagai	வாளை
4	<i>Albizia amara</i>	Ural	உரல்
5	<i>Bauhinia purpurea</i>	Mantharai	மந்தரை
6	<i>Bauhinia racemosa</i>	Aathu	ஆத்து
7	<i>Bauhinia tomentosa</i>	Iruvathu	இருவத்து
8	<i>Buchanania axillaris</i>	Kattuma	கட்டும்மா
9	<i>Borassus flabellifer</i>	Panai	பனை
10	<i>Butea monosperma</i>	Murukkamaram	முருக்கமரம்
11	<i>Bobax ceiba</i>	Ilavu, Sevilavu	இலவு
12	<i>Calophyllum inophyllum</i>	Punnai	புனை
13	<i>Cassia fistula</i>	Sarakondrai	சரகண்டரை
14	<i>Cassia roxburghii</i>	Sengondrai	செங்கண்டரை
15	<i>Chloroxylon zizetiana</i>	Purasamaram	புரசம்மரம்
16	<i>Cochlospermum religiosum</i>	Kongu, Marjallavu	கொங்கு, மஞ்சள் இலவு
17	<i>Cordia alliodora</i>	Naruvu	நரவூர்
18	<i>Crataeva adansonii</i>	Mavalingum	மாவலிங்கம்
19	<i>Dillenia indica</i>	Uva, Uzha	உவா
20	<i>Dillenia pentagyna</i>	SiruUva, Sitruza	சீரு உவா
21	<i>Diospyro sebenui</i>	Karungali	கரங்கலி
22	<i>Diospyro schloroxylon</i>	Vaganai	வாகனை
23	<i>Ficus amplissima</i>	Kallichu	கல் இச்சி
24	<i>Hibiscus tiliaceus</i>	Aatrupoovarasu	ஆற்றிலிவரசு
25	<i>Hardwickia binata</i>	Acha	ஆச்சா
26	<i>Holoptelia integrifolia</i>	Aayili	ஆயிலி மரம், ஆயிலி
27	<i>Lansea coromandelica</i>	Odhiam	ஒடியம்
28	<i>Lagerstroemia speciosa</i>	Poo Marudhu	பூ மரடுது
29	<i>Lepisanthus tetraphylla</i>	Neikottaimaram	நெய் கொட்டை மரம்
30	<i>Limonia acidissima</i>	Vila maram	வில்லா மரம்
31	<i>Litsea glutinosa</i>	Pisupattai	பிசுபட்டை பிச்சுட்டை
32	<i>Mallotica longifolia</i>	Iluppai	இலுப்பை
33	<i>Mastikara hexandra</i>	UlakkaiPaalai	உலக்கை படை
34	<i>Mimusops elengi</i>	Magizhamaram	மகிழ்மரம்
35	<i>Nitragyna parvifolia</i>	Kadambu	கடம்பு
36	<i>Morinda pubescens</i>	Nuna	நுனை
37	<i>Morinda citrifolia</i>	Vellai Nuna	வெள்ளை நுனை
38	<i>Phoenix sylvestre</i>	Eachai	ஏச்சாயிரம்
39	<i>Pongamia pinnat</i>	Puygam	புயகம்

MEMBER SECRETARY  
SEIAA-TN

40	<i>Promna mollissima</i>	Munru	முள்ளை
41	<i>Promna serratifolia</i>	Narumuruai	நீடி முள்ளை
42	<i>Promna tomentosa</i>	Malaipoovarasu	மலை புல்சு
43	<i>Prosopis cinerea</i>	Vanni maram	வெள்ளி மரம்
44	<i>Pterocarpus marsupium</i>	Vengai	வேங்கை
45	<i>Pterospermum canescens</i>	Venuvangu, Tada	வேலிவங்கை
46	<i>Pterospermum xylocarpum</i>	Polavu	புலவு
47	<i>Puthranjiva roxburghii</i>	Karipala	கரிபலா
48	<i>Salvadora persica</i>	Ugaa Maram	உகை மரம்
49	<i>Sapindus emarginatus</i>	Manipungan, Soapukai	மணிப்புங்கை சோபுகை
50	<i>Saraca asoca</i>	Asoca	அசோகை
51	<i>Strobilus asper</i>	Piray maram	பிராய் மரம்
52	<i>Strychnos nuxvomica</i>	Yetti	யெட்டி
53	<i>Strychnos patatorum</i>	Therthang Kottai	தேர்தங்க கெட்டை
54	<i>Syzygium cumini</i>	Naval	நாவல்
55	<i>Terminalia belleric</i>	Thandri	தாண்டரி
56	<i>Terminalia arjuna</i>	Ven marudhu	வேண மருது
57	<i>Toona ciliata</i>	Sandhara vembu	சந்தரா வேம்பு
58	<i>Thespesia populnea</i>	Puvarasu	புவரசு
59	<i>Valsuratrifoliata</i>	valsura	வாலசுரா
60	<i>Wrightia tinctoria</i>	Veppalai	வேப்பலை
61	<i>Pithecellobium dulce</i>	Kodukkapuli	கொடுக்காபுளி

#### Discussion by SEIAA and the Remarks:-

The proposal was placed in the 656<sup>th</sup> Authority meeting held on 20.09.2023. The authority noted that this proposal was placed for appraisal in 405<sup>th</sup> meeting of SEAC held on 31.08.2023, the committee has furnished its recommendations for granting ToR with Public hearing subject to the conditions stated therein. After detailed discussions, the Authority accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) along with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC & normal conditions in addition to the conditions in 'Annexure B' of this minute.

#### Annexure 'B'

##### Cluster Management Committee

1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.
2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,
3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.

MEMBER SECRETARY  
SEIAA-TN



4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.
5. The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.
6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.
7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.
8. The committee shall furnish the Emergency Management plan within the cluster.
9. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.
10. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation & safety.
11. The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.

#### **Impact study of mining**

12. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following
  - a) Soil health & soil biological, physical land chemical features .
  - b) Climate change leading to Droughts, Floods etc.
  - c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local people.
  - d) Possibilities of water contamination and impact on aquatic ecosystem health.
  - e) Agriculture, Forestry & Traditional practices.
  - f) Hydrothermal/Geothermal effect due to destruction in the Environment.
  - g) Bio-geochemical processes and its foot prints including environmental stress.
  - h) Sediment geochemistry in the surface streams.

  
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SEIAA-TN

**Agriculture & Agro-Biodiversity**

13. Impact on surrounding agricultural fields around the proposed mining Area.
14. Impact on soil flora & vegetation around the project site.
15. Details of type of vegetations including no. of trees & shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.
16. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.
17. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.
18. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.

**Forests**

19. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.
20. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.
21. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.
22. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.

**Water Environment**

23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.
24. Erosion Control measures.

  
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SEIAA-TN

25. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, & any ecological fragile areas.
26. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.
27. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.
28. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.
29. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.
30. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.

#### **Energy**

31. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.

#### **Climate Change**

32. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.
33. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.

#### **Mine Closure Plan**

34. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.

#### **EMP**

35. Detailed Environment Management Plan along with adaptation, mitigation & remedial strategies covering the entire mine lease period as per precise area communication order issued.

  
MEMBER SECRETARY  
SEIAA-TN



36. The Environmental Impact Assessment should hold detailed study on EMP with budget for Green belt development and mine closure plan including disaster management plan.

**Risk Assessment**

37. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.

**Disaster Management Plan**

38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards & to cope with disaster/untoward accidents in & around the proposed mine lease area due to the proposed method of mining activity & its related activities covering the entire mine lease period as per precise area communication order issued.

**Others**


39. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.
40. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.
41. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic & microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.

**A. STANDARD TERMS OF REFERENCE**

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

  
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SEIAA-TN

- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.
- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if

  
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SEIAA-TN

any, of change of land use should be given.

- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
- 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
- 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest

  
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SEIAA-TN


and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

- 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
- 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
- 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.
- 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for

  
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SEIAA-TN

transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.
- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.
- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

  
MEMBER SECRETARY  
SEIAA-TN



- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.
- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

  
MEMBER SECRETARY  
SEIAA-TN

- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) Besides the above, the below mentioned general points are also to be followed:-
- a) Executive Summary of the EIA/EMP Report
  - b) All documents to be properly referenced with index and continuous page numbering.
  - c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
  - d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
  - e) Where the documents provided are in a language other than English, an English translation should be provided.
  - f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
  - g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA. II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
  - h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
  - i) As per the circular no. J-11011/618/2010-IA. II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
  - j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

**In addition to the above, the following shall be furnished:-****The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:**

1. Project name and location (Village, District, State, Industrial Estate (if applicable).
2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic,

  
MEMBER SECRETARY  
SEIAA-TN



flora and fauna, socio-economic condition of the nearby population

19. Identification of hazards in handling, processing and storage of hazardous material and safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
21. Emergency preparedness plan in case of natural or in plant emergencies
22. Issues raised during public hearing (if applicable) and response given
23. CER plan with proposed expenditure.
24. Occupational Health Measures
25. Post project monitoring plan
26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
30. Reserve funds should be earmarked for proper closure plan.
31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.

- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated 4th August, 2009, which are available on the website of this Ministry should also be followed.
- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J -11013/77/2004-IA-II(I) dated 2<sup>nd</sup> December, 2009, 18<sup>th</sup> March 2010, 28<sup>th</sup> May 2010, 28<sup>th</sup> June 2010, 31<sup>st</sup> December 2010 & 30<sup>th</sup> September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.
- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
  - The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
  - The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I) (part) dated 29<sup>th</sup> August, 2017.

  
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**Copy to:**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.

4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Tiruppur District.
7. Stock File.

From

Dr. K.L.K. Vallal,  
Assistant Director,  
Dept. of Geology and Mining,  
Tiruppur.

To

Tmt. V. Revathi,  
W/o. M. Vijayakumar,  
No. 8/223, Chinna kadapalayam,  
Uthukuli Taluk,  
Tiruppur District.

**R.c. No. 584/Mines/2022, Dated : 5.12.2022.**

Sub: Mines and Minerals – Minor Mineral – Rough Stone  
– Tiruppur District – Uthukuli Taluk –  
Morattupalayam village – S.F. Nos. 209/1A (P)  
(1.23.5), 209/1B (P) (0.04.5) and 209/2 (P) (0.97.5)  
– over an extent of 2.25.5 Hectares – Quarry lease  
application preferred by Tmt. V. Revathi, W/o. M.  
Vijayakumar - Precise area communicated - Draft  
mining plan submitted – Approval of mining plan –  
Regarding

- Ref: 1. Tmt. V. Revathi, W/o. M. Vijayakumar, No.  
8/223, Chinna Kadapalayam, Sengapalli  
village, Uthukuli Taluk quarry lease application  
dated: 23.05.2022.  
2. The Assistant Director, Geology and Mining,  
Tiruppur letter R.C. No. 584/Mines/2022,  
dated 17.11.2022.  
3. Mining Plan submitted by Tmt. V. Revathi,  
W/o. M. Vijayakumar letter dated 30.11.2022.

\*\*\*\*\*

Tmt. V. Revathi, W/o. M. Vijayakumar has preferred an application for the grant of Rough Stone and Gravel quarry lease in Patta land, over an extent of 2.25.5 Hect. in S.F.Nos. 209/1A (P) (1.23.5), 209/1B (P) (0.04.5) and 209/2 (P) (0.97.5) in Morattupalayam Village, Uthukuli Taluk, Tiruppur District.

2. Based on recommendations of the Tahsildar, Uthukuli, Revenue Divisional Officer, Tiruppur and the Assistant Director, Geology and Mining, Tiruppur and records available, precise area has been communicated to the applicant with a direction to submit mining plan and also to submit

environmental clearance as stipulated under rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 vide memo dated 17.11.2022.

3. Accordingly, Tmt. V. Revathi, W/o. M. Vijayakumar submitted the Draft Mining Plan and the same has been examined in detail and it is found correct. Therefore, in exercise of the powers delegated under Rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959, and as per the guidelines / instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Roc.No.3868/LC/2012 dated 19.11.2012, the mining plan submitted by Tmt. V. Revathi, W/o. M. Vijayakumar in respect of the subject area is hereby approved subject to the following conditions:

- (i). That the mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such Laws are made by the Central Government, State Government or any other authority.
- (ii). This approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of 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 the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii). That the mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- (iv). Quarrying shall be done as per the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (v). If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
- (vi). Safety distances mentioned in the precise area has to be maintained for the entire duration of the lease period.

- (vii). Waste material should be dumped within the lease granted area as earmarked in the Mining Plan.
- (viii). Necessary Environmental Clearance has to be obtained by the applicant from the competent authority before the grant of quarry lease as per the rules.
- (ix). Quarrying operations and production shall be carried out as per the approved Mining Plan and the applicant shall be liable to pay the cost of mineral if there is any deviation in the quantum indicated in the approved year wise quantum of production and any such cases as on date are to be dealt with as per Court direction.
- (x). If any violation is found during quarrying operation, the penal provisions of Tamil Nadu Minor Mineral Concession Rules shall attract.
- (xi). The applicant should strictly adhere to the statutory and safety requirements.

The details of quarry leases located within 500 meter radius from the proposed Rough Stone and Gravel is given as follows.

**a. Existing quarries**

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	N. Chithambaram	Morattu palayam	209/1A (P)	0.79.0	1391/2018/ Mines dated 20.06.2022	20.06.2022 - 19.06.2027
2	S. Rajasekar	Morattu palayam	382/2A (P)	1.98.5	105 / Mines / 2017 dated 25.9.2018	25.09.2018 - 24.09.2023

**b. Abandoned / expired quarries**

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	N. Ayya durai	Morattu palayam	392 (Part)	3.52.0	182 / Mines / 2015 DATE 23.9.2016	23.09.2016 - 22.09.2021
2	A.A. Kumaresan	Morattu palayam	377/1	2.10.5	512 / Mines / 2015 DATE 21.9.2016	21.9.2016 TO 20.9.2021

**c. Present proposed quarries**

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	V. Revathi	Morattu palayam	209/1A (P), 209/1B (P), 209/2 P	2.25.5	--	Proposed quarry
2	K. Senthil kumar	Morattu palayam	383/1, 383/2A2A1	0.71.5	--	Near by applied area.

Encl: Approved Mining Plan.

*Lalitha 5/12/22*  
Assistant Director,  
Geology and Mining,  
Tiruppur.

Copy to

- AS 5/12/22*
1. The Commissioner,  
Department of Geology and Mining,  
Guindy, Chennai - 600 032.
  2. The Chairman,  
State Level Environment Impact Assessment Authority,  
Panagal park Building, Saidapet, Chennai -600 015.
  3. Dr. P. Thangaraju, RQP  
17, Advaita Ashram road,  
Alagapuram, Salem - 4.

**MINING PLAN AND PROGRESSIVE QUARRY  
CLOSURE PLAN FOR MORATTUPALAYAM  
ROUGH STONE AND GRAVEL QUARRY**

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL  
CONCESSION RULES, 1959)

**Patta Lands / Lease Period = Five Years**

IN

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

EXTENT : 2.25.5 Ha  
S.F.Nos. : 209/1A (P), 209/1B (P) & 209/2 (P)  
VILLAGE : MORATTUPALAYAM  
TALUK : UTHUKULI  
DISTRICT : TIRUPPUR  
STATE : TAMIL NADU

FOR

**APPLICANT**

**Tmt.V.Revathi,**  
W/o. M.Vijayakumar,  
No. 8/223, Chinna Kadapalayam,  
Uthukuli Taluk,  
Tiruppur District – 638 812.

**PREPARED BY**

**Dr.P.Thangaraju, M.Sc., Ph.D.,**  
Qualified Person

No.17, Advaita Ashram Road,  
Alagapuram, Salem – 636 004.  
Cell: 94422 78601 & 94433 56539.  
E-Mail: infogeoexploration@gmail.com





**V.Revathi,**

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District – 638 812.



**CONSENT LETTER FROM THE APPLICANT**

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough Stone and Gravel Quarry lease applied area over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared by

**Dr.P.Thangaraju, M.Sc., Ph.D.,**

Qualified Person

I request to the Assistant Director, Department of Geology and Mining, Tiruppur District to make further correspondence regarding the modification of the Mining Plan with the said Qualified Person at his following address.

**Dr.P.Thangaraju, M.Sc., Ph.D.,**

No. 17, Advaita Ashram Road,

Alagapuram, Salem – 636 004.

Cell: 94422 78601 & 94433 56539.

I hereby undertake that all the modifications, if any made in the Mining Plan by the Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Signature of the Applicant

*V. Revathi*

V.Revathi

Place: Tiruppur

Date: 18.11.2022



**V.Revathi,**

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District – 638 812.

**DECLARATION OF THE APPLICANT**

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough Stone and Gravel Quarry lease applied area over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant

V.Revathi

Place: Tiruppur

Date: 18.11.2022



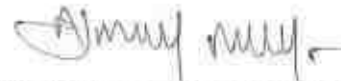
## CERTIFICATE

Certified that I, **Dr.P.THANGARAJU, M.Sc., Ph.D.**, having an office at Regd. Off. No. 17, Advaita Ashram Road, Alagapuram, Salem – 636 004, holding a Post Graduate in Geology (M.Sc. Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

Rule 15(I)(a) and (b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 stipulates the eligibility for preparing Mining plans as “(I)(a) a post graduate degree in Geology granted by a university established” and (I)(b) “Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree”. Since my qualification and experience are satisfied the Rule (I)(a) and (I)(b) of 15 of the said Rules, I am eligible to prepare Mining Plans for both Major and Minor Minerals.

Accordingly, I am prepare this Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough Stone and Gravel Quarry in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) over an extent of 2.25.5 Ha of Patta lands in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamilnadu State for Tmt.V.Revathi, W/o. M.Vijayakumar, residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person



Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 21.11.2022



**Dr.P.Thangaraju, M.Sc., Ph.D.,**

No. 17, Advaita Ashram Road,

Alagapuram, Salem – 636 004.

Cell: 94422 78601 & 94433 56539.

**CERTIFICATE FROM THE QUALIFIED PERSON**

This is to certify that the Provisions of Prepared under Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959. The preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough Stone and Gravel Quarry in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) over an extent of 2.25.5 Ha of Patta lands in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

**Tmt.V.Revathi,**

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District – 638 812.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the Assistant Director, Department of Geology and Mining, Tiruppur District, Tamil Nadu for such permissions/ exemptions/ relaxations and approvals.

It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 21.11.2022



**Dr.P.Thangaraju, M.Sc., Ph.D.,**

No. 17, Advaita Ashram Road,

Alagapuram, Salem – 636 004.

Cell: 94422 78601 & 94433 56539.

**CERTIFICATE FROM THE QUALIFIED PERSON**

Certified that the Provisions of Mines Act, Rules and Regulations or Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough Stone and Gravel Quarry in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) over an extent of 2.25.5 Ha of Patta lands in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

**Tmt.V.Revathi,**

W/o. M.Vijayakumar,

No. 8/223, Chinna Kadapalayam,

Uthukuli Taluk,

Tiruppur District – 638 812.

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

It is also certified that information furnished in the Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr.P.Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 21.11.2022



## LIST OF CONTENTS

<b>S. No.</b>	<b>Description</b>	<b>Page No.</b>
1.0	Introduction and Executive Summary	1
2.0	General Information	5
3.0	Location	6
	<u>PART-A</u>	
4.0	Geology and Mineral Reserves	8
5.0	Mining	11
6.0	Blasting	16
7.0	Mine Drainage	18
8.0	Other Permanent Structures	19
9.0	Employment Potential & Welfare Measures	21
	<u>PART-B</u>	
10.0	Environment Management Plan	23
11.0	Progressive Quarry Closure Plan	30
12.0	Any Other Details Intend to Furnish by the Applicant	36



### LIST OF ANNEXURES

S. No.	Description	Annex. No.
1.	Copy of Precise Area Communication Letter	I
2.	Copy of Previous Environmental Clearance	IA
3.	Copy of FMB	II
4.	Copy of Village Map	III
5.	Copy of Patta	IV
6.	Copy of Adangal	V
7.	Copy of A-Register	VI
8.	Copy of Consent Document	VII
9.	Copy of ID Proof	VIII
10.	Copy of Educational Certificate of Qualified Person	IX
11.	Copy of Experience Certificate of Qualified Person	X

### LIST OF PLATES

S. No.	Description	Plate No.
1.	Location Plan	I
2.	Toposketch of Quarry Lease Applied Area for 10km Radius	IA
3.	Environmental & Landuse Plan	IB
4.	Route Map	IC
5.	Quarry Lease Plan & Surface Plan	II
6.	Topography, Geological, Yearwise Development & Production Plan & Sections	III
7.	Progressive Quarry Closure Plan & Sections	IV
8.	Conceptual Plan & Sections	V



**MINING PLAN ALONG WITH PROGRESSIVE QUARRY CLOSURE  
PLAN FOR MORATTUPALAYAM ROUGH STONE AND GRAVEL  
QUARRY OVER AN EXTENT OF 2.25.5 Ha IN MORATTUPALAYAM  
VILLAGE, UTHUKULI TALUK, TIRUPPUR DISTRICT, TAMILNADU**

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL  
CONCESSION RULES, 1959)

**1.0 INTRODUCTION AND EXECUTIVE SUMMARY**

The Mining Plan and Environmental Management plan is prepared for **Tmt.V.Revathi**, W/o. M.Vijayakumar, residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812.

The applicant applied for Rough Stone and Gravel quarry over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State under Rule 19 (1) (b), 20 & 33 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Assistant Director, Department of Geology and Mining, Tiruppur District and passed a Precise area Communication letter vide **Re.No.584/Mines/2022, Dated: 17.11.2022** to submit a Mining Plan and obtain Environmental Clearance from the SEIAA, Tamil Nadu with the conditions to provide:

- A Safety distance of 7.5 meters should be left out for the surrounding patta lands.
- A Safety distance of 10 meters should be left out for the patta land Stone Quarry on the North and South side of the applied area.

In order to ensure compliance of the order of the Honorable Supreme Court Dated: 27.02.2012 in I.A.No.12-13 of 2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100Ha including projects or minor mineral with lease applied area less than 5Ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the mining plan along with Progressive Quarry Closure Plan for approval and subsequent submission of

**Form-I, Form-1M and Pre-feasibility report to obtain environmental clearance from the SEIAA,**

This Mining Plan is approved subject  
to the Conditions indicated in the  
Mining Plan approved Letter  
No. 584/Mines/2022  
Dated 5.12.2022

This Mining Plan is approved as per the  
Powers conferred under rule 41(2) of Tamil  
Nadu Minor Mineral Concession Rules, 1959 1

*[Signature]*  
ASSISTANT DIRECTOR  
Geology and Mining  
TIRUPPUR



Tamil Nadu, Rough Stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 2022.

**Short Notes of Mining plan:**

- a. Village Panchayat - Morattupalayam
- b. Panchayat Union - Uthukuli
- c. The Geological Resources are **3,26,788m<sup>3</sup>** of Rough Stone and **7,820m<sup>3</sup>** of Gravel in the entire area.
- d. The Total Mineable Reserves are **1,41,283m<sup>3</sup>** of Rough Stone and **4,860m<sup>3</sup>** of Gravel in the entire area.
- e. The proposed quantity of reserves/ (level of production) to be mined are **1,41,283m<sup>3</sup>** of Rough Stone and **4,860m<sup>3</sup>** of Gravel for five years in the entire area.
- f. Total extent of the lease applied area is about 2.25.5 Ha.
- g. Topography of the area = The area is flat topography
- h. Proposed Depth of mining = 30m (2m Gravel + 28m Rough Stone) below ground level.
- i. This Mining Plan period = Five years
- j. It is a fresh lease application but, the applied area has been considered quarrying operation earlier. The quarry lease was previously granted in the favour of Thiru.P.K.Krishnasamy & Thiru.K.Muthusamy, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide **Rc.No. 508/Mines/2015, Dated: 21.09.2016** for the period of five years from 21.09.2016 to 20.09.2021 for quarrying of Rough Stone and Gravel. The lessee has obtained Environmental Clearance from the State Level Environment Impact Assessment Authority vide Letter No. **SEIAA-TN/F.No.5470/1(a)/EC.No:3292/2016 Dated:11.07.2016**. The applicant has applied a quarry lease on 28.06.2022, over an extent of 2.25.5 hectares of Patta lands in S.F.Nos.209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years. The application was meritoriously processed by the Assistant Director, Department of Geology and Mining, Tiruppur District and recommended the quarry lease for the period of five years.
- k. The maximum dimension of the **existing quarry pit** is given table below (Refer Plate No. II).

Existing Pit Dimension (maximum)			
Pit	Length (m)	Width (m)	Depth (m)
I	66	57	20m
II	140	93	18m



- l. Method of mining / level of mechanization.  
Opencast mechanized method, the quarry operation involves shallow jack hammer drilling, slurry blasting.
- m. Type of machineries proposed in the quarrying operation is given below.  
Excavators attached with rock breaker (Rental Basis).  
Jack hammer, Compressor (Diesel drive) (4 Jack Hammer capacity) (Rental Basis).
- n. No trees will be uprooted due to this quarry operation.
- o. The approach road from the main road to quarry is already constructed and same will be maintained in a good condition for the haulage of quarry materials and machineries.
- p. There is No Export of this Rough Stone and Gravel.
- q. Topo sketch covering 10Km and 1Km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships are marked and enclosed as Plate No. IA and IB.
- r. The lease applied area is about 2.25.5Ha bounded by eleven corners; the corners are designated as 1-11 clock-wise from the Southwest corner and the Co – ordinates for all the corners are clearly marked in the Quarry Lease Plan and Surface Plan enclosed as Plate No. – II.
- s. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are and marked in the Topography, Geological Plan and section enclosed as Plate No. III.
- t. General conditions will not applicable for the proposed area. The area applied for lease is 10Km away from the,
- i) Interstate Boundary,
  - ii) Protected area under wild life protection ACT 1972,
  - iii) Critically polluted areas as identified by CPCB,
  - iv) Notified Eco sensitive areas.
- u. There is no wastage anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.
- v. Around 18 employees are deploying in the quarrying operation.
- w. Total Cost of the project is about **Rs.51,55,000/-**.

x. Infrastructures around the quarry lease applied area:

Table - 1

Particulars	Location	Approximate aerial distance from lease applied area.
Nearest Post Office	Morattupalayam	3.0km - NW
Nearest School	Ponnapuram	2.0km - SW
Nearest Dispensary	Uthukuli	3.0km - NE
Nearest Town	Uthukuli	3.0km - NE
Nearest Police Station	Uthukuli	3.0km - NE
Nearest Govt. Hospital	Uthukuli	3.0km - NE
Nearest D.S.P. Office	Tiruppur	9.0km - SW
Nearest Railway Station	Uthukuli	3.0km - NE
Nearest Airport	Coimbatore	43km - SW
Nearest Seaport	Kochi	184km - SW
District Head quarters	Tiruppur	9.0km - SW



**2.0 GENERAL INFORMATION**

**2.1 a) Name of the Applicant :** Tmt.V.Revathi,

: W/o. M.Vijayakumar

**b) Address of the Applicant (With Phone No and Aadhaar No.)**

Address : No. 8/223, Chinna Kadapalayam,  
Uthukuli Taluk,  
Tiruppur District.

Pin Code : 638 812

Mobile No : 98430 60018

Aadhaar No : 5202 7756 3558

E-mail : [m.vijayakumar6018@gmail.com](mailto:m.vijayakumar6018@gmail.com)

**c) Status of the Applicant (Individual / Company / Firm):**

The applicant is an individual.

**2.2 a) Mineral which the Applicant intends to mine:**

The Applicant intends to quarry Rough Stone and Gravel.

**b) Precise area communication letter details received from the Competent Authority of the Government:**

The precise area communication letter was received from the Assistant Director, Department of Geology and Mining, Tiruppur District vide **Rc.No. 584/Mines/2022, Dated: 17.11.2022** to submit mining plan and Environmental Clearance from the SEIAA, Tamil Nadu.

**c) Period of permission / lease to be granted:**

Five Years

**d) Name and address of the Qualified Person preparing the mining plan:**

Name : Dr.P.Thangaraju, M.Sc., Ph.D.,

Qualified Person

Address : No.17, Advaitha Ashram Road,  
Alagapuram, Salem – 6 36 004.

Mobile : 94422 78601 & 94433 56539

Telephone No. : 0427- 2431989

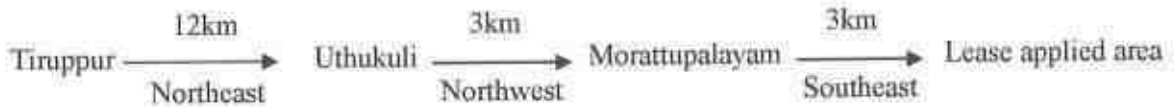
Email : [infogeoexploration@gmail.com](mailto:infogeoexploration@gmail.com)



**3.0 LOCATION**

**a) Details of the area with location map:**

The lease applied area is located about 9km Northeast of Tiruppur, 3km Southwest of Uthukuli and 3km Southeast side of Morattupalayam Village.



**Location Map of the Lease Applied area**

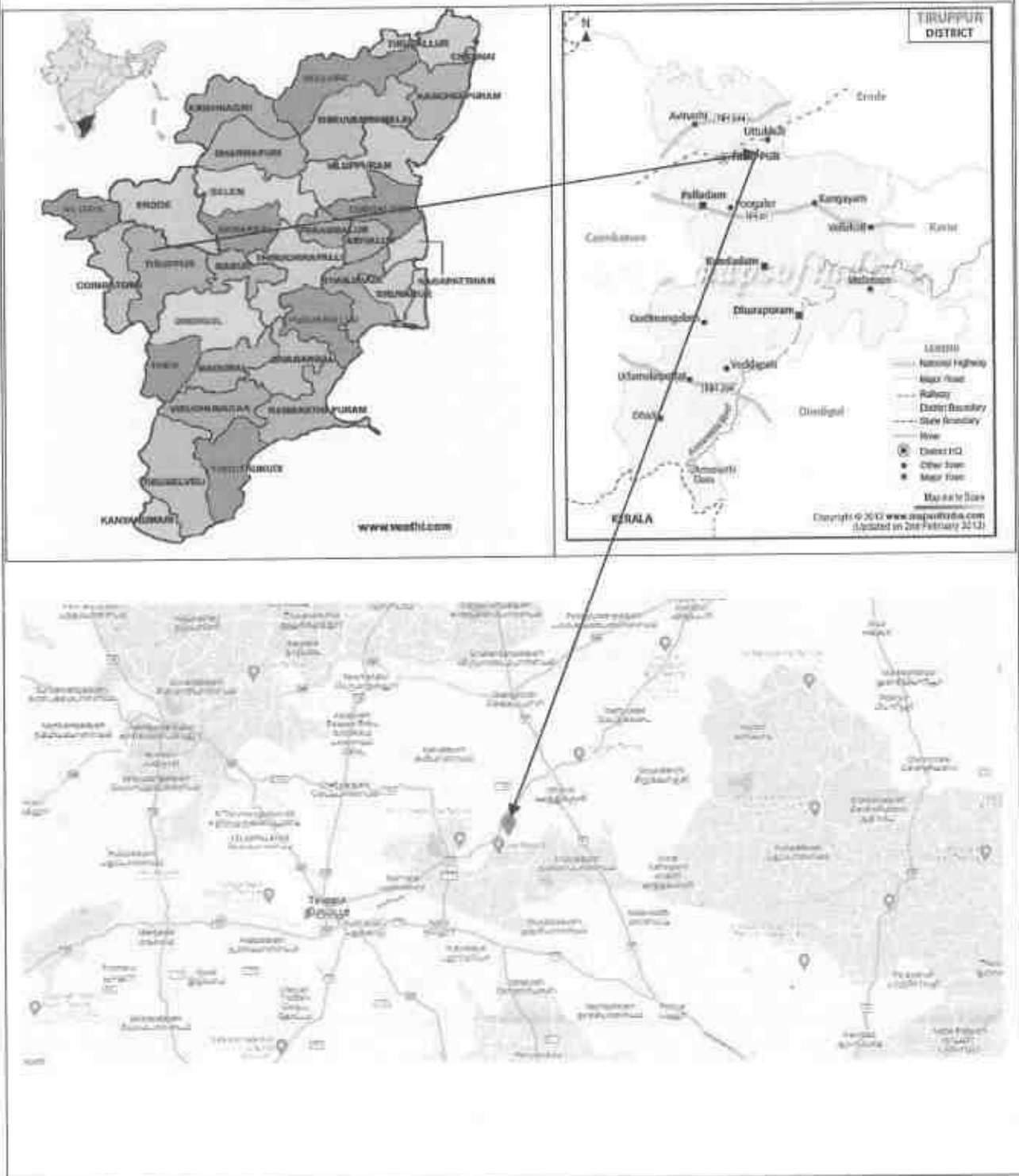




Table - 2

District	Taluk	Village	S.F. No.	Area (Ha)	Patta No.	Classification
Tiruppur	Uthukuli	Morattupalayam	209/1A (P)	1.23.5	273	Patta land (Refer Annexure No. IV - VI)
			209/1B (P)	0.04.5	570	
			209/2 (P)	0.97.5	152	
<b>Total Extent</b>				<b>2.25.5</b>	<b>-</b>	

**b) Classification of the area (Ryotwari/ Poramboke / others):**

It is a Patta land classified as punjai (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership / Occupancy of the applied area (surface right):**

It is a Patta land, S.F.No. 209/1A (P) is registered in the name of Thiru.K.Krishnasamy, Thiru.N.Chidambaram & Thiru.M.Vijayakumar, S.F.No. 209/1B (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar, S.F.No. 209/2 (P) is registered in the name of K.Krishnasamy & Thiru.M.Vijayakumar. The applicant has obtained consent from the pattadhar. Refer the Patta copy and consent document as Annexure Nos. IV & VII.

**d) Toposheet No. with latitude and longitude:**

The lease applied area falls in the Toposheet No: **58 - E/08** Latitude between: **11°08'18.54"N to 11°08'23.95"N** and Longitude between: **77°25'10.51"E to 77°25'16.84"E** on WGS datum-1984. Please refer the Plate Nos. I to II.

**e) Existence of public road / Railway line, if any nearby and approximate distance:**

The approach (Cart Track) road is situated on the North side of the area which connects to the Sarkar Periyapalayam – Kavandampalayam Road located at 300m on the West side of the area.

Multiple road access is available from the quarry to state highways and National Highway, no towns are enrooted hence the traffic density is not much more due to the transportation of Rough Stone and Gravel.

The approach road from the quarry is already constructed, the same will be utilized for haulage and maintained during the entire lease period, tree sapling will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Coimbatore – Erode which is located about 2.0km on the Northeast side of the area.





**PART - A**

**4.0 GEOLOGY AND MINERAL RESERVES**

**4.1 Brief description of the Topography and general Geology of the area (with plans):**

The lease applied area is flat terrain. The area has gentle sloping towards South side and altitude of the area is 276m (max) above from Mean Sea level. The area is covered by 2m thickness of Gravel and followed by Massive Charnockite which is clearly inferred from the existing quarry pits.

The Water level in the surrounding area is 70m in summer and at 65m in rainy seasons below general ground profile which is observed from the nearby bore wells. Average annual rainfall is about 607mm.

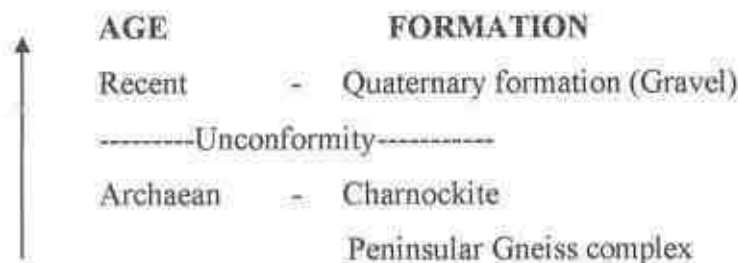
**Topographical View of Morattupalayam Rough Stone and Gravel**

**Quarry lease applied area**



Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale of the Charnockite body is N50°E – S50°W with dipping towards SE80°.

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



**4.2 Details of exploration already carried out if any:**

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Tiruppur District. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area. The Rough Stone formation is clearly inferred from the existing quarry pits.

**4.3 Estimation of Reserves:****a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000**

As far as Rough Stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough Stone within the field and careful evaluation of body luster, physical properties, engineering properties, commercial aspects etc.,

Totally three sections have been drawn, one section along the strike direction as (X-Y) Length wise and other two cross sections are drawn perpendicular to strike as (A-B & C-D) Width wise to cover the maximum area considered for lease.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough Stone (Charnockite) deposit has been prepared in the scale of 1:1000 (please refer the Geological plan and sections Plate No- III). As the sale of Rough Stone are in terms of cubic metres (Volume) only and not in terms of tonnage.

**Geological Resources (Plate No. III):**

The Geological Resources of Rough Stone and Gravel are calculated up to a maximum depth of 30m (2m Gravel + 28m Rough Stone) below from the general ground level. The total Geological Resources are calculated by cross section method. The total geological resources are given below:



Table – 3

GEOLOGICAL RESOURCES						
Section	Bench	Length (m)	Width (m)	Depth (m)	Geological Resources of Rough Stone (m <sup>3</sup> )	Gravel (m <sup>3</sup> )
XY-AB	I	38	100	2		7600
	II	38	100	3	11400	
	III	38	100	5	19000	
	IV	38	101	5	19190	
	V	38	101	3	11514	
	V	68	101	2	13736	
	VI	68	178	5	60520	
	VII	68	178	5	60520	
<b>Total</b>					<b>195880</b>	<b>7600</b>
XY-CD	I	5	22	2		220
	II	5	22	5	550	
	III	5	22	5	550	
	IV	5	22	5	550	
	V	5	22	3	330	
	V	68	158	2	21488	
	VI	68	158	5	53720	
	VII	68	158	5	53720	
<b>Total</b>					<b>130908</b>	<b>220</b>
<b>Grand Total</b>					<b>326788</b>	<b>7820</b>

The Geological Resources of Gravel : 7,820m<sup>3</sup>

The Geological Resources of Rough Stone : 3,26,788m<sup>3</sup>

#### Existing Pit Dimension:

The lease applied area has been quarried in earlier the existing pit dimensions are follows:

Table-4

Existing Pit Dimension (maximum)			
Pit	Length (m)	Width (m)	Depth (m)
I	66	57	20m
II	140	93	18m

**Mineable Reserves:**

The mineable reserves are calculated after leaving the safety distance and Bench loss

Table – 5

MINEABLE RESERVES						
Section	Bench	Length (m)	Width (m)	Depth (m)	Mineable Reserves of Rough Stone (m <sup>3</sup> )	Gravel (m <sup>3</sup> )
XY-AB	I	27	90	2		4860
	II	24	87	3	6264	
	III	21	84	5	8820	
	IV	16	79	5	6320	
	V	11	74	3	2442	
	V	41	74	2	6068	
	VI	36	141	5	25380	
	VII	31	131	5	20305	
<b>Total</b>					<b>75599</b>	<b>4860</b>
XY-CD	V	56	122	2	13664	
	VI	51	112	5	28560	
	VII	46	102	5	23460	
	<b>Total</b>					<b>65684</b>
<b>Grand Total</b>					<b>141283</b>	<b>4860</b>

The mineable reserves have been computed as **1,41,283m<sup>3</sup>** of Rough Stone and **4,860m<sup>3</sup>** of Gravel at the rate of 100% recovery upto a depth of 30m (2m Gravel + 28m Rough Stone) below from the general ground level for a period of five years.

**5.0 MINING****5.1. Method of mining (opencast / underground):**

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height. The slope of the bench should not more than 60° from the horizontal.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106(2) (b) is available with Director General of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. This relaxation will be applied and obtained after the execution of lease/Commencement of quarry operation.

**5.2. Mode of working (mechanized, semi mechanized, manual):**

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow jack hammer drilling, slurry explosives in blasting, excavation, Loading and transportation of Rough Stone to the needy crusher.

The production of Rough Stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

**5.3. Proposed Bench Height and Width:**

The bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

**5.4. Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough Stone will be directly loaded into tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Green belt development are shown in Plate No-III.



## Year wise Development and Production

Table - 6

YEARWISE RESERVES							
Section	Year	Bench	Length (m)	Width (m)	Depth (m)	Recoverable Reserves of Rough Stone (m <sup>3</sup> )	Gravel (m <sup>3</sup> )
XY-AB	I	I	13	90	2		2340
		II	10	87	3	2610	
		III	7	84	5	2940	
		V	30	74	2	4440	
		V	56	122	2	13664	
XY-CD		<b>Total</b>				<b>23654</b>	<b>2340</b>
XY-AB	II	I	7	90	2		1260
		II	7	87	3	1827	
		III	7	84	5	2940	
		IV	9	79	5	3555	
		V	4	74	5	1480	
		VI	36	112	5	20160	
XY-CD		<b>Total</b>				<b>29962</b>	<b>1260</b>
XY-AB	III	I	7	90	2		1260
		II	7	87	3	1827	
		III	7	84	5	2940	
		IV	7	79	5	2765	
		V	7	74	5	2590	
		VI	18	141	5	12690	
		VI	15	112	5	8400	
XY-CD		<b>Total</b>				<b>31212</b>	<b>1260</b>
XY-AB	IV	VI	18	141	5	12690	
		VII	31	131	5	20305	
		<b>Total</b>				<b>32995</b>	
XY-CD	V	VII	46	102	5	23460	
		<b>Total</b>				<b>23460</b>	
<b>Grand Total</b>						<b>141283</b>	<b>4860</b>

The Recoverable reserves have been computed as **1,41,283m<sup>3</sup>** of Rough Stone and **4,860m<sup>3</sup>** of Gravel at the rate of 100% recovery upto a depth of 30m (2m Gravel + 28m Rough Stone) below ground level for a period of five years.

The applicant ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the Rough Stone locked up in benches will be exploited after obtaining necessary permission from the office of Director General of Mine Safety, Chennai region by submitting relevant documents, appropriate safety plans and its Mitigation measures.



One lorry load	=	6m <sup>3</sup> (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed in this five years plan period	=	1,41,283m <sup>3</sup>
Hence total Lorry loads per day	=	1,41,283m <sup>3</sup> /6m <sup>3</sup>
	=	23,547 Lorry loads
	=	23,547/5 years
	=	4,709/300 days
Rough Stone	=	<b>15 - 16 Lorry loads per day</b>
Total quantity of Gravel to be removed during three years	=	4,860m <sup>3</sup>
Hence total Lorry loads per day	=	4,860m <sup>3</sup> /6m <sup>3</sup>
	=	810 Lorry loads
	=	810/3 years
	=	270/300 days
Gravel	=	<b>1 Lorry load per day</b>

Working hours = 8.30 am to 5.30 pm (with 12.30 to 1.30 p.m. lunch break)

### 5.5. Machineries to be used:

#### For Mining:

The following machineries are utilized on rental basis for the development and production work at this quarry.

#### I. DRILLING MACHINE:

Table - 7

S.No.	Type	Nos	Dia Hole mm	Size Capacity	Motive power
1	Jack hammer	4	30-35	1.2m to 2.0m	Compressed air
2	Compressor	1	-	400 psi	Diesel Drive

#### II. EXCAVATION & LOADING EQUIPMENT:

S.No.	Type	Nos	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	1	300	Diesel Drive

#### III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

S.No.	Type	Nos	Capacity	Motive Power
1	Tippers	1	20 tonnes	Diesel Drive



**5.6. Disposal of Overburden/Waste:**

The overburden in the form of Gravel formation, the Gravel will be directly loaded into tippers for the filling and levelling of low lying areas. The excavated Rough Stone (100%) will be directly loaded into tippers to the needy customers. There is no Waste anticipated during this plan period hence, disposal of waste does not arise.

**5.7. Brief note on conceptual mining plan for the entire lease period base on the geological, mining and environmental considerations:**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.

As the applicant has applied quarry lease for Five years, the ultimate pit limit (dimension) at the end of this mining plan period is given below:

Table – 8

Length (m) (Max)	Width (m) (Max)	Depth(m) (Max)
121	169	30

Greenbelt has proposed on the safety zone and Panchayat roads by planting Neem, Pongamia pinnata, Casuarina, etc., trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF & CC Norms. It is proposed to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

There is no waste anticipated during the entire life of quarry. Hence, backfilling is not possible in this quarry. The quarry area will be fenced with barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle (Refer plate no. IV).



## 6.0 BLASTING

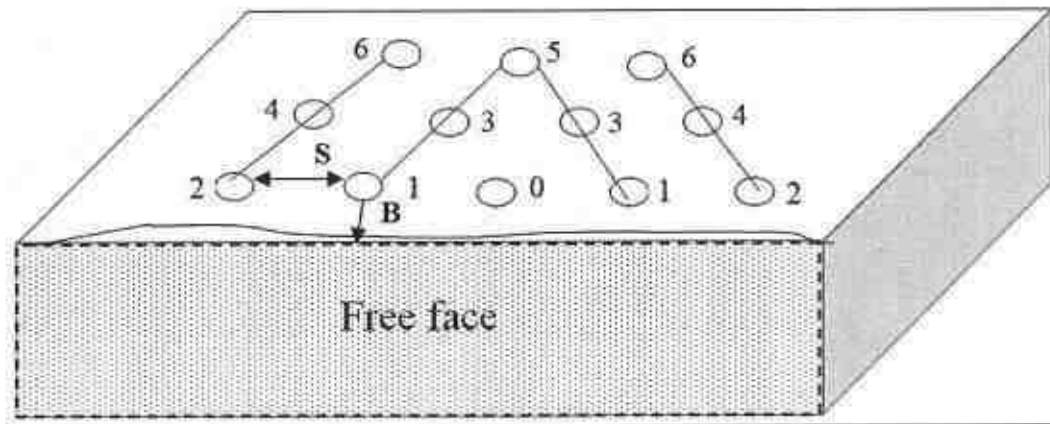
### 6.1 Blasting pattern:

The quarrying operation is proposed to be carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and blasting of shattering effect for loosening the Rough Stone.

Drilling and blasting parameters are as follows:

Depth of Each hole	:	1.5m
Diameter of hole	:	30-32mm
Spacing between holes	:	1.2m
Burden for hole	:	1.0m
Pattern of hole	:	Zigzag – Multi-rows
Inclination of holes	:	80° from horizontal
Use of delay detonators	:	25 millisecond relays
Detonating fuse	:	“Detonating” Cord

### BLASTING PATTERN DRAWING



### Staggered “V” Pattern of Blasting Design

Spacing	=	1.2m
Burden	=	1.0m
Depth of the hole	=	1.5m
No of holes proposed per day	=	82 Holes





### 6.2 Type of explosives to be used:

Small Dia. 25mm Slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling or primary blasting is proposed.

### 6.3 Measures proposed to minimize ground vibration due to blasting:

The quarry is situated more than 300m away from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give heaving effect in Rough Stone for easy excavation and to control fly rock.

### Delay detonators:

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantages of delay blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

### Blasting program for the production per day:

No of Holes	= 82 Holes
Yield	= 245 Tons
Powder factor	= 6 Tons/Kg of explosives
Total explosive required	= 41 Kg-Slurry explosives
Charge/ hole	= 0.5 Kg
Blasting at day time only	= 12.00 – 12.30 P.M. (whenever required)

### 6.4 Storage and safety measures to be taken while blasting:

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be having the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the explosive Agencies will take it out back the remaining quantity of Explosives. The magazine is available at the quarry site to temporarily store the explosives.



**7.0 MINE DRAINAGE****7.1 Depth of water table (based on nearby wells and water bodies):**

The water table in the area is about 70m BGL in summer season and 65m in Rainy season which is observed from the existing private boreholes. The lease applied area is fully covered by Massive Charnockite formation and it is revealed from the adjacent quarries. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt.

Table - 9

Type	Distance & Direction	Location
Bore Well	310m North side	11°08'33.94"N 77°25'15.96"E

**7.2 Arrangements and places where the mine water is finally proposed to be discharged:**

The quarry operations are confined to well above the water table during the entire lease period. If water is encountered at quarry due to rain water and seepage, the same will be pumped out by SHP water pump and discharge to the Green belt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

**8.0 OTHER PERMANENT STRUCTURES (also shown in the map)****8.1 Habitations/ Villages natham:**

There is no approved habitation within 300m radius from the lease applied area.

**8.2 Power Lines (HT/LT):**

There is no EB (LT/HT) line situated within 50m radius of the lease applied area.

**8.3 Water bodies (river, pond, lake, odai, canal, etc.):**

There is no River, Pond, Lake, Odai, Canal, Reservoir located within 50m radius of the lease applied area.

**8.4 Archaeological / historical monuments:**

There are no Archaeological / historical monuments within 500m radius of the area.

**8.5 Road (NH, SH others):**

The Nearest National Highway (NH – 544) Salem – Coimbatore Road is situated about 7.0km on the North side of the lease applied area.

The State Highway (SH – 19A) Tiruppur - Vijayamangalam Road is about 300m on the West side of the lease applied area.

The Major District Road (MD – 1102) Vavipalayam – Uthukuli Road is situated about 2.0km on the North side of the lease applied area

**8.6 Places of worships:**

There is no place of worships within the radius of 500m from the lease applied area.

**8.7 Reserved forest / forest / social forest / wild life sanctuary etc.:**

There is no reserved forest / social forest / wild life sanctuary etc., situated within 1km radius of the lease applied area.

**SALIENT FEATURES**

Table – 10

S. No.	Salient Features Present around the site	Prescribed safety distance	If any present within Prescribed distance - Actual Distance and direction from the site															
1.	Railways, Highways, Reservoirs or Canal	50m	There is no Railways, Highways, Reservoirs or Canal situated within 50m radius of the lease applied area.															
2.	Village Road	10m	No Village Road is passing within the radius of 10m of the lease applied area.															
3.	Habitation / Village	300m	There is no approved habitation within 300m radius from the lease applied area.															
4.	Adjacent Patta/Govt. Land	7.5m/10m	<table border="1"> <thead> <tr> <th>Direction</th> <th>Classification</th> <th>Safety Distance</th> </tr> </thead> <tbody> <tr> <td>North</td> <td>Stone Quarry</td> <td>10m</td> </tr> <tr> <td>East</td> <td>Patta land</td> <td>7.5m</td> </tr> <tr> <td>South</td> <td>Stone Quarry</td> <td>10m</td> </tr> <tr> <td>West</td> <td>Patta land</td> <td>7.5m</td> </tr> </tbody> </table> <p>(Refer Plate No. II).</p>	Direction	Classification	Safety Distance	North	Stone Quarry	10m	East	Patta land	7.5m	South	Stone Quarry	10m	West	Patta land	7.5m
Direction	Classification	Safety Distance																
North	Stone Quarry	10m																
East	Patta land	7.5m																
South	Stone Quarry	10m																
West	Patta land	7.5m																
5.	Power House, EB line (HT & LT Line)	50m	There is no EB (LT/HT) line located within 50m radius of the area.															
6.	Boundaries of the permitted area	7.5m/10m	<p>The boundaries of the permitted areas as follows:</p> <p>North – S.F.Nos. 209/1A (P), 209/1B (P) &amp; 209/2 (P)</p> <p>East – S.F.Nos. 211 &amp; 382</p> <p>South – S.F.Nos. 382 &amp; 205</p> <p>West – S.F.Nos. 206 &amp; 208</p> <p>(Refer Plate No. II).</p>															
7.	Reserve forest / protected area / ECO sensitive area	1km	There is no reserved forest located within the radius of 1km from the lease applied area.															
8.	Protected area / ECO sensitive area/ Wild Life Sanctuary/ Interstate Border	10km	There is no ECO sensitive Zone/ Wild Life Sanctuary/ Interstate Border/ Critically Polluted Area/ HACA/ CRZ located within 10km radius of the area.															



## 9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

### 9.1 Employment potential (skilled, semi-skilled, un skilled):

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous mines regulations, 1961.

#### a. Mine official & Competent Persons:

Mines Manager/Mines Foreman	:	1
Mate/Blaster	:	1

#### b. Machinery Operators

Jack hammer operator	:	8
Excavator Operator	:	1
Tipper Driver	:	1

#### c. Ordinary Employee

Helper	:	3
Cleaner & Co-Operator	:	2
Security	:	1
<b>Total</b>	<b>:</b>	<b>18</b>

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

### 9.2 Welfare Measures:

#### a) **Drinking Water:**

Packaged drinking water is available from the nearby water vendors in Sarkar Periyapalayam which is located about 2.0km on the Southwest side of the lease applied area.

#### b) **Sanitary Facilities:**

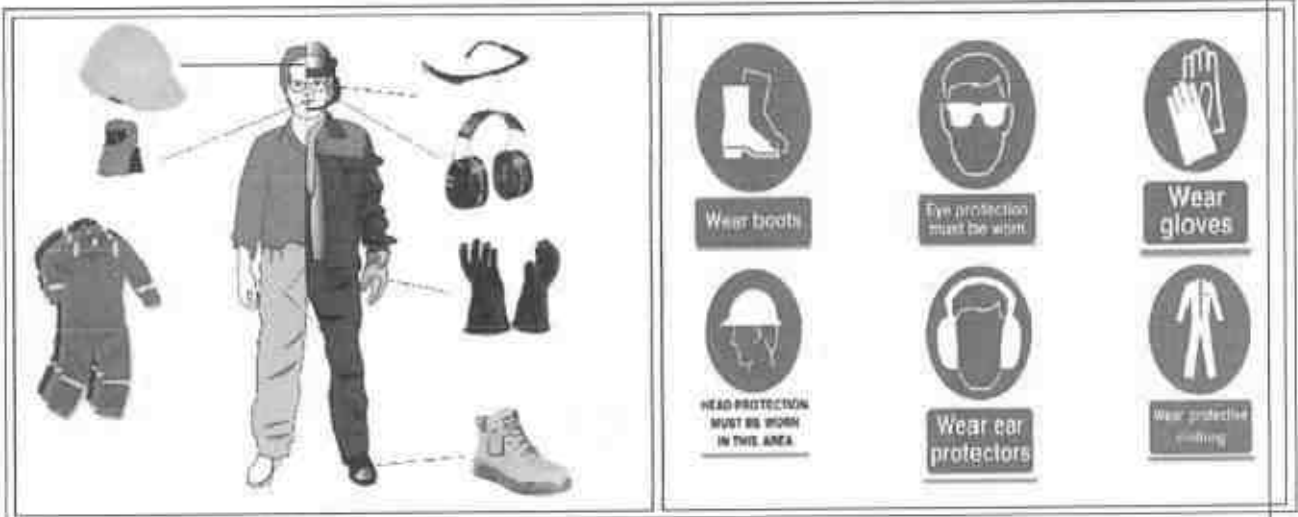
Hygienic modern Sanitary Facilities are will be constructed as semi permanent structure and it will be maintained periodically.

#### c) **First aid facility:**

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate will be in charge of first aid and injured person will be taken to the hospital by the applicant's vehicle. Hospital is available in Uthukuli located at a distance of 3.0km on the Northeast side.

**d) Labour Health:**

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

**e) Precautionary safety measures to the labourers:**

- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets
- Safety Shoes

All personnel protective devices will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough Stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

**PART – B****10.0 ENVIRONMENT MANAGEMENT PLAN****10.1 Existing Land use pattern:**

The quarry lease applied area is flat terrain. The area is a dry barren land devoid of Agriculture and Habitations. The lease applied area has utilized only for quarry operation in earlier.

**LAND USE PATTERN**

Table – 11

Description	Present area (Ha)	Area at the end of this quarrying period (Ha)
Area under quarrying	1.47.5	1.93.5
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized Area	0.76.0	0.21.0
<b>Grand Total</b>	<b>2.25.5</b>	<b>2.25.5</b>







**10.2 Water Regime:**

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid surface run-off rain water entering into the pit.

The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climate change.

## 10.3 Flora and Fauna:

Table – 12

S.No	Name of the plant (Scientific)	Family Name	Common Name	Habit	Picture
1.	<i>Prosopis juliflora</i>	Fabaceae	Seemai karuvelam	Tree	
2.	<i>Azadirachta indica</i>	Meliaceae	Neem, Vembu	Tree	
3.	<i>Cocos nucifera</i>	Areaceae	Thennai	Tree	
4.	<i>Aloe vera</i>	Asphodelaceae	Katralai	Shrub	
5.	<i>Borassus flabellifer</i>	Areaceae	Panai	Tree	
6.	<i>Cissus quadrangularis</i>	Vitaceae	Pirandai	Shrub	

List of Fauna

S.No.	Scientific Name	Common Name	Picture
1.	<i>Capra aegagrus hircus</i>	Goat	
2.	<i>Funambulus palmarum</i>	Squirrel	
3.	<i>Bos taurus</i>	Cow	
4.	<i>Danaus plexippus</i>	Striped tiger	
5.	<i>Corvus leuiscantii</i>	Crow	
6.	<i>Agrion sp &amp; Petalura sp</i>	Dragon fly	



**10.4 Climatic Conditions:**

The area receives rainfall of about 607mm/annum and the rainy season is mainly from Oct - Dec during monsoon. The summer is hot with maximum temperature of 40°C and winter encounters a minimum temperature of 21°C.

**10.5 Human settlement:**

There are few villages located within 5.0km radius of the area; the approximate distance, direction and populations are given below:

Table – 13

S.No.	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Velampalayam	2.0km – NE	1,600
2.	Morattupalayam	3.0km – NW	5,900
3.	Anaipalayam	3.0km – SE	2,000
4.	Sarkar Periyapalayam	2.0km – SW	6,100

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Uthukuli located at a distance of 3.0km on the Northeast side of the area.

**10.6 Plan for air, dust suppression:**

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the blasting, jack hammer drilling, Loading and unloading during the Rough Stone quarry operation.

The following Mitigations measures will be carried out:

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be formed on the non quarrying area.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigate measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs.52,000/year**.





### 10.7 Plan for Noise level control:

The noise level increased due to the Excavation, Drilling, Blasting and Transportation.

#### Engineering Noise control:

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipments for the Rough Stone quarry operation.
- Modifications of older equipments.
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly instructed to move the vehicle during the transportation not exceed 40km per hour.
- Sentries with flags & whistle will posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as Slurry Explosives, ordinary safety fuse will be used for Rough Stone. Hence, ground vibration and noise pollution i.e., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs.2,000/Year**.

### 10.8 Environmental impact assessment statement describing impact of mining on the next five years:

In the mining plan proposed for a production of Rough Stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the environmental impact studies will be conducted as per EIA notification issued by MoEF & CC. It is B2 Category mine. The estimated budget would be around **Rs.3,80,000/-**.

### 10.9 Proposal for waste management:

There is no waste anticipated in this Rough Stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%).

### 10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):

In the mining plan only to a maximum depth of 30m has been envisaged as workable depth for safe & economic mining during entire lease applied area. The quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. There is no waste hence, no proposal for backfilling. The barbed wire fencing cost would be around **Rs.1,44,000/-**.

**10.11 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):**

The safety zone along the boundary barrier has been identified to be utilized for Greenbelt development. Appropriate native species of Neem, Pongamia pinnata, Casuarina, etc., trees will be planted in a phased manner as described below.

Table – 14

Year	No. of trees proposed to be planted	Survival %	Area to be covered sq.m.	Name of the species	No. of trees expected to be grown
I	20	80%	160	Neem, Pongamia pinnata, Casuarina, etc.,	16
II	20	80%	160		16
III	20	80%	160		16
IV	20	80%	160		16
V	20	80%	160		16

Nearly 800 sq.m area is proposed to use under Greenbelt by planting 100 Numbers of trees during mining plan period with an anticipated survival rate of 80% (Please refer Plate No.III). The estimated budget for plantation and maintenance of Green belt development would be around **Rs. 10,000/-** for the period of five years.

The Greenbelt Development will be formed in around quarried out top Benches, Approach Road and Panchayat Road. The cost would be around **Rs. 20,000/-**

**10.12 Proposed financial estimate / budget for (EMP) environment management:**

Budget Provision for the Mining Plan period:

Table – 15

S. No	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Charges/ year
1	Ambient air quality monitoring	6500	4	26000	52000
2	Noise level monitoring	250	4	1000	2000
3	Ground vibration monitoring	1000	2	2000	4000
4	Water sampling and analysis	9000	1	9000	18000
<b>Total EMP Cost/ year:</b>					<b>76,000</b>

The EMP cost would be around **Rs. 3,80,000/-** for the period of five years.



<b>A. Project cost / investment</b>					
i) Land cost	The Land value as per the Government Guideline land cost is calculated as follows,				Rs. 14,70,000/-
	S.F.Nos.	Extent	Cost/Ha	Total	
	209/1A (P)	1.23.5	580000	716300	
	209/1B (P)	0.04.5	580000	26100	
	209/2 (P)	0.97.5	745500	726862.5	
	<b>Total</b>	<b>2.25.5</b>	<b>Total</b>	<b>1469262.5</b>	
i.e., Rs. 14,70,000/- (Source: <a href="https://tnreginet.gov.in/portal/">https://tnreginet.gov.in/portal/</a> )					
ii) Machinery to be used	The following machineries are proposed to meet out the productions. Excavator attached with rock breaker Tipper, Tractor mounted compressor with jack Hammer and loose tools (Rental Basis)				Rs.20,00,000/-
iii) Refilling/ Fencing	Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattle cost would be around				Rs.1,44,000/-
iv) Labourers shed	Labour sheds will be constructed as semi permanent structure. The cost is around				Rs. 2,00,000/-
v) Sanitary facility	Adequate latrine and urinal accommodation has provided at conveniently accessible places the cost would be around				Rs. 80,000/-
vi) Others items	First aid room & accessories				Rs.1,00,000/-
vii) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around				Rs.1,00,000/-
viii) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around				Rs. 80,000/-
ix) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around				Rs.1,50,000/-



x) Water sprinkling	Water will be sprinkled in the haul roads by water sprinklers the cost would be around	Rs.2,00,000/-
xi) Garland drain	Construction of Garland drain with check dam to prevent surface run-off rain water in to the quarry pit, the construction cost is around	Rs. 1,20,000/-
xii) Greenbelt etc.	Greenbelt development and maintenance will be carried out in the boundary barriers the cost would be around	Rs.10,000/-
	Greenbelt development and maintenance will be carried out in the quarried out top benches, approach road and panchayat road	Rs.20,000/-
<b>Total Project Cost</b>		<b>Rs.46,74,000/-</b>
<b>B. EMP Cost: - (Per year)</b>		
Air Quality monitoring		Rs. 52,000/-
Water Quality Sampling		Rs. 18,000/-
Noise Monitoring		Rs. 2,000/-
Ground vibration test		Rs. 4,000/-
<b>Total Cost</b>		<b>Rs. 76,000/-</b>
Total EMP Cost for the five years period is <b>Rs.3,80,000/-</b>		
<b>Description</b>		<b>Amount (Rs.)</b>
<b>A. Operational Cost</b>		<b>46,74,000</b>
<b>B. EMP Cost</b>		<b>3,80,000</b>
<b>Total Project Cost (A+ B)</b>		<b>50,54,000</b>
The applicant indents to involve corporate environment responsibilities (CER) activity like Water Purifier, Cot and Bed facilities to the nearby Government Primary Health Centre and Water Purifier, Bench & Table facilities to the nearby Government School at 2.0% from the total project cost. The Cost would be around <b>Rs.1,01,000/-</b> .		<b>1,01,000</b>
<b>Total Cost</b>		<b>51,55,000</b>
The Total cost would be around fifty one lakhs and fifty five thousand only.		



## 11.0 PROGRESSIVE QUARRY CLOSURE PLAN

### 11.1 Introduction:

The Progressive Quarry Closure Plan for Rough Stone and Gravel quarry lease applied area over an extent of 2.25.5 Hectares of patta lands in S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for **Tmt.V.Revathi**, W/o. M.Vijayakumar residing at No. 8/223, Chinna Kadapalayam, Uthukuli Taluk, Tiruppur District – 638 812.

### 11.2 Present Land use pattern:

Land Use Table – 16

Description	Present area (Ha)
Quarrying Pit	1.47.5
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.76.0
<b>Grand Total</b>	<b>2.25.5</b>

### 11.3 Method of Mining:

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height for Rough Stone.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act – 1952.

### 11.4 Mineral Processing Operations:

The quarried out Rough Stone will be transported by the 10/20tons capacity Tippers to the needy crushers. Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

### 11.5 Reasons for closure:

As the mineral is not going to be exhausted during the proposed plan period no immediate closure is planned due to sufficient reserves are available to carry on the activities. Hence, the reason for closure will be discussed in the ensuing mining plan.

### 11.6 Statutory obligations:

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before grant of quarry lease and during the course of quarry operations.





### 11.7 Progressive quarry closure plan preparation:

Name and address of the Qualified Person who prepared the progressive closure plan and name and address of the executing agency who is involved in the Preparation of progressive quarry closure plan.

**Dr.P.Thangaraju, M.Sc., Ph.D.,**

Qualified Person

No.17, Advaitha Ashram Road,

Alagapuram, Salem – 636 004.

Cell: 94433 56539, 94422 78601

The applicant will himself implement the closure plan; no outside agency will be involved.

### 11.8 Review of Implementation of Mining Plan including Progressive Closure Plan upto the Final Closure Plan:

There is no waste generated during entire life of quarry, hence backfilling is not possible in the quarried out pit. The entire quarry area is an active also no proposal given for Progressive quarry closure plan in the previous mining plan hence, the applicant has not taken any action for progressive quarry closure. Hence, review of implementation of progressive quarry closure does not arise at present. However, if any work done for progressive quarry closure plan during this plan period, it will be discussing in the ensuing Mining Plan.

### 11.9 Closure Plan:

#### (i) Mined Out Land:

At the end of mining plan period, about 1.93.5 Ha of area will be mined out. Land use at various stages is given in the table below.

Land Use Table – 17

Description	Present area (Ha)	Area at the end of Lease period (Ha)
Area Under Quarrying	1.47.5	1.93.5
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized Area	0.76.0	0.21.0
<b>Grand Total</b>	<b>2.25.5</b>	<b>2.25.5</b>

The Greenbelt Development will be formed in around the quarried out top benches, approach road and panchayat road of the lease applied area.

**(ii) Water quality management:**

Following control measures will be adopted for controlling water pollution:-

- Construction of Garland drain with check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture lands.
- Domestic sewage from site office & urinals/latrines provided in QL is discharged in septic tank followed by soak pits.

**(iii) Air Quality Management:**

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

For air pollution management at the progressive quarry closure plan, greenbelt will be developed to prevent and control air pollution.

**(iv) Top Soil and Waste Management:**

There is no topsoil and waste generated during the proposed plan period. The entire quarried out Rough Stone and Gravel is utilized (100%). Hence, waste management does not arise.

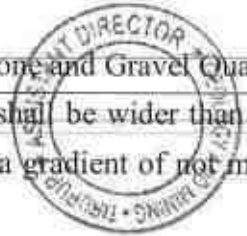
**(v) Disposal of mining machinery:**

All the machineries will be engaged on rental basis. After completion of quarry operation all purchased machineries will be utilized another quarry area. Hence, disposal or decommissioning of mining machinery does not arise.

**(vi) Safety & Security:**

Safety measures will be implemented to prevent access in the excavation area an unauthorized person as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.



- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0 m for ease of operations and provide sufficient room for the movement of equipments.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be given to the public before blasting to prevent accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.

**(vii) Disaster Management and Risk Assessment:**

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete mining operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The quarried out benches, Greenbelt Development will be formed in all around the benches and safety barrier of the lease applied area.



**(viii) Care and Maintenance during Temporary Discontinuance:**

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:
  - Quarry roads and approach roads,
  - Fencing on approach roads,
  - Checking and maintenance of machines and equipment,
  - Drinking water arrangements,
  - Quarry office, first aid stations etc.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, mining operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

**(ix) Economic Repercussion of Closure of Quarry and manpower Retrenchments:**

The quarry lease is granted for a period of five years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

**(x) Time Scheduling for Abandonment:**

The lease applied area has enormous potential for continuance of operations even after the expiry of the lease period. The details of time schedule of all abandonment will be given at the time of final closure plan.

**(xi) Abandonment Cost:**

As at present mining is not going to be closed so abandonment cost could not be assessed. However, based on the progressive quarry closure activities during the plan period, cost is assessed as given below:

Land Use Table – 18

ACTIVITY		YEAR					RATE	AMOUNT (INR)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	20	20	20	20	20		Rs.10,000/-
	Cost	2000	2000	2000	2000	2000		
Plantation cost in the quarried out top benches, approach road and panchayat road	Nos.	40	40	40	40	40	@100 Rs Per sapling	Rs.20,000/-
	Cost	4000	4000	4000	4000	4000		
Wire Fencing (In Mtrs) 480		1,44,000	-	-	-	-	@300 Rs Per Meter	Rs.1,44,000/-
Garland drain (In Mtrs) 400		1,20,000	-	-	-	-	@300 Rs Per Meter	Rs.1,20,000/-
<b>TOTAL</b>								<b>Rs.2,94,000/-</b>

**12 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT**

This Mining plan for Rough Stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Concerned Department.

Prepared by

*Dr. P. Thangaraju*  
Dr.P.Thangaraju, M.Sc., Ph.D.,  
Qualified Person

Place: Salem

Date: 21.11.2022

DONATE RED

SPREAD GREEN

SAVE BLUE

This Mining Plan is approved subject  
to the Conditions Indicated in the  
Mining Plan approved Letter  
No. 584/Mines/2022  
Dated 5.12.2022

This Mining Plan is approved as per the  
Powers conferred under rule 41(2) of Tamil  
Nadu Minor Mineral Concession Rules, 1959

*L. S. Srinivasan*  
ASSISTANT DIRECTOR  
Geology and Mining  
TIRUPPUR

*J. Srinivasan*

உதவி இயக்குநர் அலுவலகம்,  
புவியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.



ந.க. 584/கனிமம்/2022

நாள்: 17.11.2022.

குறிப்பாணை

பொருள்: கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரண கற்கள் கிராவல் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் - புல எண்கள். 209/1A (பு), (1.23.5), 209/1B (பு) (0.04.5) and 209/2 (பு) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவர் விண்ணப்பம் அளித்தது - அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச் சூழல் ஒப்புதல் பெற்று அளிக்க கோருதல் - தொடர்பாக.

- பார்வை: 1. திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார், எண். 8/223, சின்ன காடே பாளையம், ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம் - 638 812 என்பவரின் விண்ணப்பம் நாள்: 23.05.2022 (இவ்வலுவலகத்தில் கிடைக்கப்பெற்ற நாள்: 28.06.2022).
2. ஊத்துக்குளி வட்டார வளர்ச்சி அலுவலர் (வ.உ.) கடிதம் 2921/2022/அ2, நாள்: 19.07.2022.
3. ஊத்துக்குளி வட்டாட்சியர் கடிதம் ந.க. 1936/2022/அ2, நாள்: 16.08.2022.
4. திருப்பூர் வருவாய் கோட்டாட்சியர் கடிதம் ந.க. 3396/2022/ஈ1, நாள்: 26.09.2022.
5. திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் அவர்களின் புலத்தணிக்கை அறிக்கை நாள்: 16.11.2022.
6. இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை ந.க. 1870/எம்.எம்.1/2020 நாள்: 10.08.2020 கடிதத்துடன் அரசாணை (பல்வகை) எண். 169, தொழில் (எம்.எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது.
7. மற்றும் உரிய ஆவணங்கள்.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண்கள். 209/1A (பு), (1.23.5), 209/1B (பு) (0.04.5) and 209/2 (பு) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் / கிராவல் குவாரி செய்ய உரிமம் வழங்கக் கோரி திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவர் பார்வை 1-ல் கண்டுள்ளபடி உரிய ஆவணங்களுடன் விண்ணப்பம் அளித்துள்ளார்.

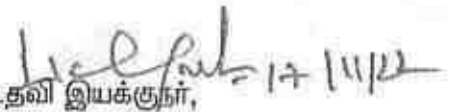
2. மேற்படி விண்ணப்பம் தொடர்பாக, ஊத்துக்குளி வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி வட்டாட்சியர், திருப்பூர் வருவாய் கோட்டாட்சியர் மற்றும் திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு திருப்பூர்



மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண்கள் 209/1A (பு), (1.23.5), 209/1B (பு) (0.04.5) and 209/2 (பு) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவருக்கு சாதாரண கற்கள் / கிராவல் குவாரி உரிமம் வழங்க கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

- புலத்தை சுற்றி அமைந்துள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரி பணிபுரிய வேண்டும்.
- விண்ணப்பப் புலத்தின் வடக்கு மற்றும் தெற்குப் பகுதியில் உள்ள பட்டா நில கற்குவாரிக்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.

எனவே, ஊத்துக்குளி வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி வட்டாட்சியர், திருப்பூர் வருவாய் கோட்டாட்சியர் மற்றும் திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை, உதவி இயக்குநர் ஆகியோர்களின் பரிந்துரைகளின் அடிப்படையிலும், திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் குவாரி உரிமம் வழங்குவது தொடர்பான பரிந்துரை அறிக்கையில் தெரிவிக்கப்பட்டுள்ள நிபந்தனைகளுக்கு உட்பட்டும், உதவி இயக்குநர் (கனிமம்) அவர்களின் மேற்குறிப்பிட்ட நிபந்தனைகளுக்கு உட்பட்டும், திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார் என்பவருக்கு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண்கள். 209/1A (பு), (1.23.5), 209/1B (பு) (0.04.5) and 209/2 (பு) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959-இன் விதி. எண். 19 (1) (b), 20 மற்றும் 33-ன்படி குவாரி குத்தகை ஒப்பந்த ஆவணம் நிறைவேற்றப்பட்ட நாளிலிருந்து 5 ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டி எடுக்க குவாரி குத்தகை உரிமம் வழங்குவது தொடர்பாக மேற்காணும் நிபந்தனைகளுக்கு உட்பட்டு திருப்பூர் உதவி இயக்குநரால் ஏற்பளிக்கப்பட்ட சுரங்கத் திட்டம் மற்றும் மாநில சுற்றுச் சூழல் அமைப்பிடம் இருந்து பெறப்பட்ட சுற்றுச்சூழல் ஒப்புதல் ஆகியன உரிய காலத்திற்குள் விண்ணப்பதாரால் பெற்றளிக்கப்பட வேண்டும் என தெரிவிக்கப்படுகிறது.

  
உதவி இயக்குநர்,  
புவியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.

பெறுநர்

திருமதி. வி. ரேவதி, க/பெ. எம். விஜயகுமார்,  
எண். 8/223, சின்ன காடே பாளையம்,  
ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம் - 638 812



Dr. S. KALYANASUNDARAM, I.F.S. (Retd.)  
CHAIRMAN

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY TAMIL NADU  
3rd Floor, Panagal Maaligai,  
No.1 Jeenis Road, Saidapet,  
Chennai-15.  
Phone No.044-24359974  
Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

Lr. No. SEIAA-TN/F.No.5470/1(a)/ EC.No: 3292 /2016 dated: 11.07.2016

To  
Thiru. P.K. Krishnasamy & Thiru. K. Muthusamy  
Senapathichettipalayam  
Sengappalli  
Perundurai  
Erode - 638812

Sir,

**Sub:** SEIAA-TN – Proposed Rough Stone & Gravel quarry located at S.F.No 209/1A (P), 209/1B (P), & 209/2 (P), Morattupalayam Village, Uthukuli Taluk, Tiruppur District- Issue of Environmental Clearance – Reg.

**Ref:** 1. Your Application for Environmental Clearance dt: 29.06.2016  
2. Minutes of the 77th SEAC held on 08.07.2016  
3. Minutes of the SEIAA meeting held on 11.07.2016

**Details of Minor Mineral Activity:-**

This has reference to your application first cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

1	Name of Project Proponent and address	Thiru. P.K. Krishnasamy & Thiru. K. Muthusamy Senapathichettipalayam Sengappalli Perundurai Erode - 638812
2	Location of the Proposed Activity	
	Survey Number	209/1A (P), 209/1B (P), & 209/2 (P)
	Latitude and Longitude	11°08'19.06"N to 11°08'24.75"N 77°25'10.17"E to 77°25'16.61"E
	Village	Morattupalayam

*Kalyanath*  
CHAIRMAN  
SEIAA-TN

*[Signature]*





**Conditions to be Complied before commencing mining operations:-**

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

CHAIRMAN  
SEIAA-TN.



29. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.
30. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
31. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
32. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
33. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
34. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
35. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
36. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of this application.
37. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site.
38. Ground water quality monitoring should be conducted once in 3 Months
39. Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
40. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
41. Air sampling at Intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI..
42. Bunds to be provided at the boundary of the project site.
43. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.

*Kalyanesh*  
CHAIRMAN  
SEIAA-TN







General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished on non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.

  
CHAIRMAN  
SEIAA-TN

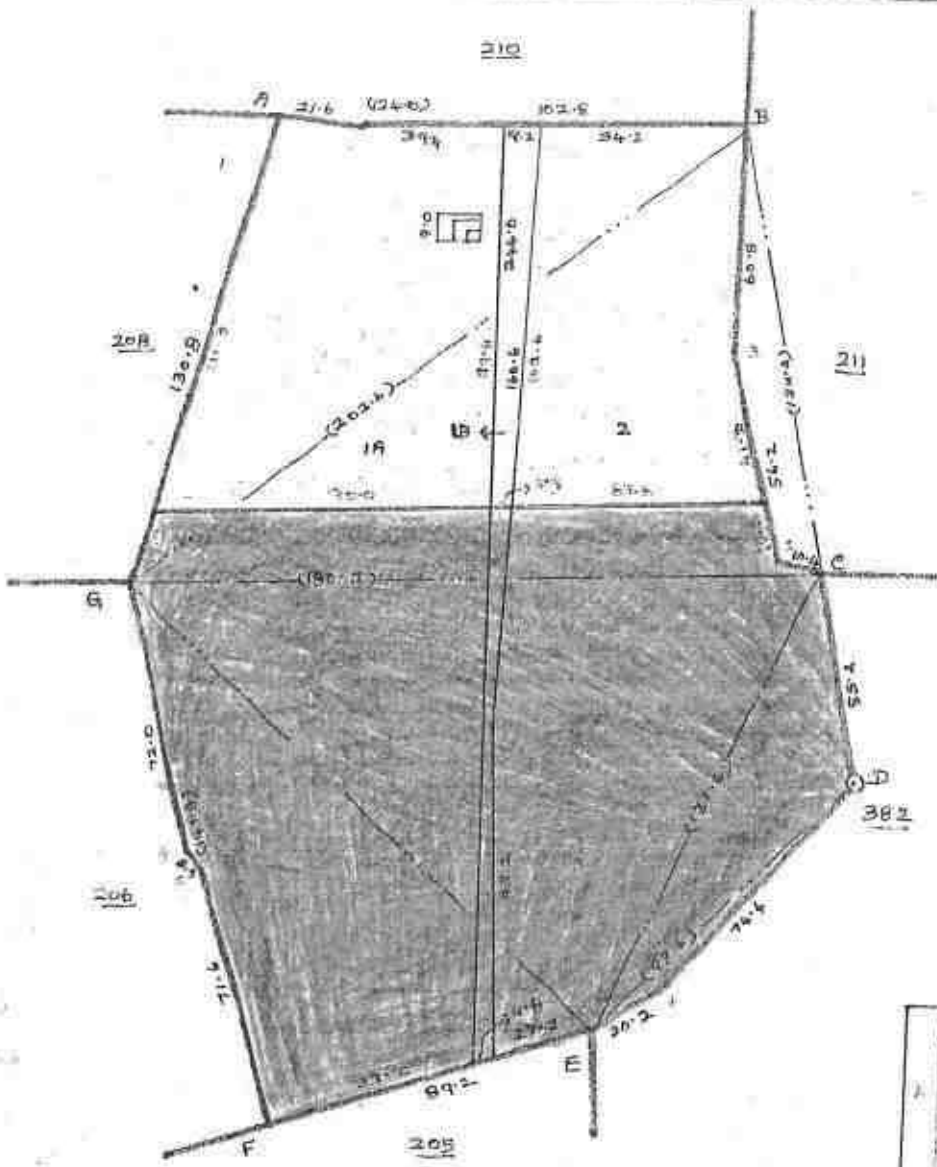
மாவட்டம்: திருப்பூர்.

எண்: ANNEXURE II

வட்டம்: திருத்தலூர்  
முலானம்: 209.

கிராமம்

பெயர்: மொரட்டுப்பாளையம்.  
பரப்பு: 3.69.5 ஏக்கர்கள்.



LEASE APPLIED AREA



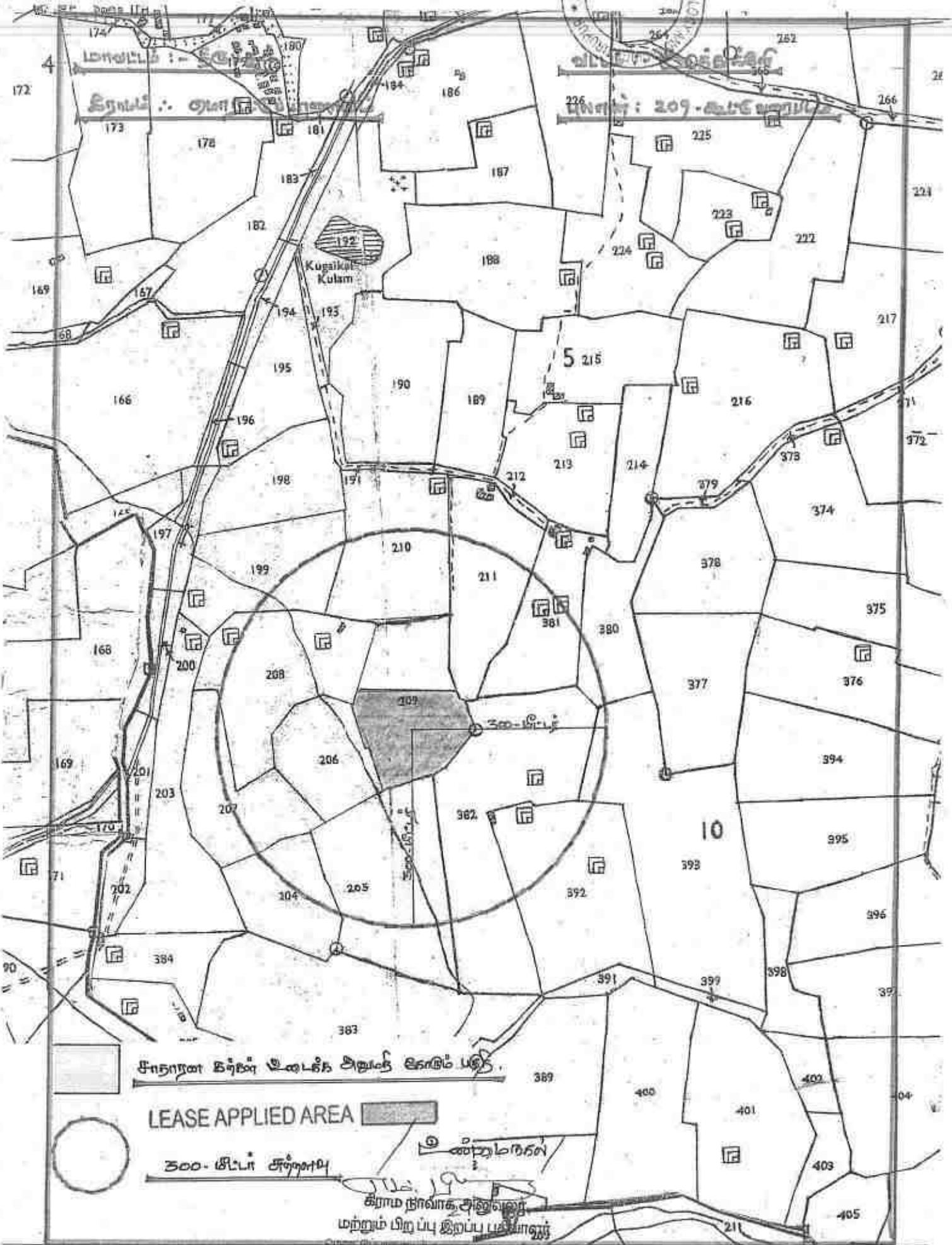
சீர்தரண கற்கள் உகடக்த அளவில் கொடுப்பது  
 4லான 209/19பாகம் பரப்பு: 1.23.5 49: 305  
 1பாகம் பரப்பு: 8.04.5 49: 0-11  
 2பாகம் பரப்பு: 8.91.5 47: 241  
 கூடுதலதம பரப்பு: 2.25.5 49: 551

ந. சிவசுப்பிரமணியன்  
 வட்ட சார் ஆய்வாளர்  
 வட்டாட்சியர் அலுவலகம்  
 திருத்தலூர்

		E	
		93.4	
	62	74.0	
		D	
		164.0	
F	71.8	43.2	
		E	
		131.4	
		C	
		F	
		141.8	
		76.4	1.0
		71.8	3.2
		G	
		202.6	
		96.8	71.2
		80.8	29.8
		72.8	22.4
		B	
		120.2	
	13.2	60.6	
	9.4	4.6	
		E	
		180.2	
		95.2	39.4
		G	

அளவு: 1மி.மீ: 2000மி.மீ

சுற்றுலா மற்றும்  
 மது அமைச்சு  
 சென்னை



சீர்தரணம் மற்றும் உடைக்கப்பட்ட நிலம் பற்றி

LEASE APPLIED AREA

300-பீட்டர் சிற்றளவு

சீர்தரணம் மற்றும் உடைக்கப்பட்ட நிலம் பற்றி

ANNEXURE IV



தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 273

உரிமையாளர்கள் பெயர்

- |    |                         |      |             |   |
|----|-------------------------|------|-------------|---|
| 1. | கருப்பண்ண கவுண்டர்      | மகன் | கிருஷ்ணசாமி | - |
| 2. | நாச்சிமுத்துக் கவுண்டர் | மகன் | சிதம்பரம்   | - |
| 3. | முத்துசாமி              | மகன் | விஜயகுமார்  | - |

புல-எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	
209	1A	2 - 2.50	6.84	--	--	--	--	2019/0103 /32/173868--- -- 26-04-2019
		2 - 2.50	6.84					

குறிப்பு 2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் யின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாய்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 32/09/081 /00273/70122 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 24-08-2021 ஆன்று 03:14:20 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்



தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 570

உரிமையாளர்கள் பெயர்

1. கருப்ப கவுண்டர்

மகன்

கிருஷ்ணசாமி



2. முத்துசாமி

மகன்

விஜயகுமார்



புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	
209	1B	0 - 11.50	0.39	--	--	--	--	2019/0103/32/173868- -- -- 26-04-2019
		0 - 11.50	0.39					

குறிப்பு 2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 32/09/081/00570/100192 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 12-04-2022 அன்று 03:01:18 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்



தமிழக அரசு

வருவாய்த் துறை



நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 152

உரிமையாளர்கள் பெயர்

- |    |                 |      |             |   |
|----|-----------------|------|-------------|---|
| 1. | கருப்ப கவுண்டர் | மகன் | கிருஷ்ணசாமி | - |
| 2. | முத்துசாமி      | மகன் | விஜயகுமார்  | - |

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	ஹெக் - ஏர்	ரூ - பை	
209	2	1 - 55.50	5.26	--	--	--	--	2019/0103 /32/173868--- -- 26-04-2019
		1 - 55.50	5.26					

குறிப்பு 2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை, இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 32/09/081 /00152/60118 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 24-08-2021 அன்று 03:16:19 PM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்.





அ-பதிவேடு விவரங்கள்



மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

கிராமம் : மொரட்டுப்பாளையம்

1. புல எண்	209	9. மண் வயனமும் சகமும்	8 - 1
2. உட்பிரிவு எண்	1A	10. மண் தரம்	3
3. பழைய புல உட்பிரிவு எண்	180,181	11. தீர்வை (ரூ - ஹெ)	3.00
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஈர்)	2 - 2.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	6.84
6. நிலத்தின் வகை	பஞ்சை	14. பட்டா எண்	273
7. பாசன ஆதாரம்	-	15. குறிப்பு	கிணறு
8. இரு போகமா	-	16. பெயர்	கிருஷ்ணசாமிமற்றும் 2பேர்

குறிப்பு 1:



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 70122 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.



## அ-பதிவேடு விவரங்கள்



மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

கிராமம் : மொரட்டுப்பாளையம்

1. புல எண்	209	9. மண் வயனமும் ரகமும்	8 - 1
2. உட்பிரிவு எண்	1B	10. மண் தரம்	3
3. பழைய புல உட்பிரிவு எண்	180,181	11. தீர்வை (ரூ - ஹெ)	3.00
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 11.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	0.39
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	570
7. பாசன ஆதாரம்	-	15. குறிப்பு	கிணறு
8. இரு போகமா	-	16. பெயர்	1.கிருஷ்ணசாமி 2.விஜயகுமார்

## குறிப்பு 1:



1.

மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 70192 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.



அ-பதிவேடு விவரங்கள்

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

கிராமம் : மொரட்டுப்பாளையம்

1. புல எண்	209	9. மண் வயனமும் ரகமும்	8 - 1
2. உட்பிரிவு எண்	2	10. மண் தரம்	3
3. பழைய புல உட்பிரிவு எண்	181	11. தீர்வை (ரூ - தொ)	3.38
4. பகுதி	P	12. பரப்பு (தொக்டோர் - ள்)	1 - 55.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	5.26
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	152
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	-	16. பெயர்	1.கிருஷ்ணசாமி 2.விஜயகுமார்

குறிப்பு 1:



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தரங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 70118 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.



बीस रुपये

रु. 20

Rs.

TWENTY  
RUPEES

INDIA NON JUDICIAL



தமிழ்நாடு TAMIL NADU

ரூ 20/-

27/8/2022 M. நிஜயகுமார்

சின்னகாடபாளையம்


93AB 920328  
K. Hemapriya  
கே. ஹேமபிரியா,முத்தியைந்தூர் விற்பனைபாளி  
உரிமம் எண்: 3/2008/ச-ரோடு  
ஊத்துக்குளி, வடம், தமிழ்நாடுசம்மதக் கடிதம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், மஜரா சேனாதிபதி செட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பண கவுண்டர் மகன் பி.கே. கிருஷ்ணசாமி (1), திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துசாமி மகன் எம். விஜயகுமார் (2) மற்றும் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், மஜரா சேனாதிபதி செட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து கவுண்டர் மகன் சிதம்பரம் (3) ஆகிய நாங்கள் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. எம். விஜயகுமார் மனைவி ரேவதி (4) ஆகிய உங்களுக்கு எழுதிக் கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்.

1. பி.கே. கிருஷ்ணசாமி (1)

2. M. வி. வி.

3. M. வி. வி.

  
V. SUNDARARAJU B.A., B.L.,  
ADVOCATE & NOTARY PUBLIC  
(Government of India) Reg. No: 22124  
No. 2, Nandakumaraswamy Annai Nayagam (Po),  
Mhukudi (Tk), Tiruppur (Dt.) - 636 752.  
Phone No: 03.05.2025. Cell: 84435 48428



திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/1ஏ-ல் 2.02.5 ஹெக்டர் பரப்பு பட்டா பூமியானது பட்டா எண். 273-ன்படி நம்மில் (1) முதல் (3) இலக்கமிட்டவர் பெயரில் கூட்டுப்பட்டாவாக தாக்கலாகியுள்ளது.

மேற்படி பூமியில நம்மில் (4) இலக்கமிட்ட திருமதி. எம். ரேவதி என்பவர் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க விண்ணப்பம் செய்துள்ளார். மேற்படி புலத்தில் துணை இயக்குநர் (கனிமம்) அவர்களால் அனுமதி வழங்கும் நாளிலிருந்து ஐந்து வருட காலத்திற்கு குவாரிக் குத்தகை உரிமம் வழங்க (1) முதல் (3) இலக்கமிட்ட எங்களுக்கு எவ்விதமான ஆட்சேபணையும் இல்லை. பின்னிட்டு எவ்வித பிரச்சனையும் செய்யமாட்டோம். முழுமனதுடன் சம்மதம் அளிக்கிறேன் என உறுதி கூறுகிறோம்.

1. P. K. கிருஷ்ணசாமி
2. M. சி. சி.
3. N. சிதம்பரம்



*V. Sundararaju*  
V.SUNDARARAJU B.A., B.L.,  
ADVOCATE & NOTARY PUBLIC  
(Government of India) Reg. No: 22124  
No.3, Naduvampalayam Anipalayam (Po),  
Uthukuli (Tk), Tiruppur (Dt) - 638 752.  
Expiry Dt: 03.05.2025 Cell - 94435 45426

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Volume No. 1 Page No. 70  
Sl. No. 445 Date 9.4.22



தமிழ்நாடு தமில்நாடு TAMIL NADU  
27/8/2021 திருஜ்ணசாமி.

93AB 920331  
K. Hemapriya  
சே. நேருமடிரியாள்.

சேனாதி ரிசெடிமனன்சியம்

முத்திரைத்தாள் விற்பனையாளர்  
உரியம் எண். : 3/2008/சுரோதி.  
உத்தரவுக்குளிடவுள், தமிழ்நாடு

சம்மதக் கடிதம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், மஜரா சேனாதிபதி செட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பண கவுண்டர் மகன் பி.கே. கிருஷ்ணசாமி (1), திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துசாமி மகன் எம். விஜயகுமார் (2) ஆகிய நாங்கள் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், செங்கப்பள்ளி கிராமம், சின்னகாடபாளையம் என்ற முகவரியில் வசிக்கும் திரு. எம். விஜயகுமார் மனைவி ரேவதி (3) ஆகிய உங்களுக்கு எழுதிக் கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்.

1. பி.கே. கிருஷ்ணசாமி

2. M. S. S.

  
V. SUNDARARAJU S.A., S.L.,  
ADVOCATE & NOTARY PUBLIC  
(Government of India Reg. No - 22124  
No.3, Naduvetampalayam Ananthalayam (Fo),  
Uthupuli (TA), Tiruppur (Dt) - 638 752.  
Expiry Dt - 03.05.2025 Call - 98435 48428



திருப்பூர் மாவட்டம், உளத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண் (209/1B ல் 0.11.5 ஹெக்டர் பரப்பு பூமியானது பட்டா எண்.570 ன் படியும்) மேலும் 209 /2 ல் 1.55.5 ஹெக்டர் பரப்பு பூமியானது பட்டா எண்.152 ன்படி நம்மில் (1) முதல் (2) இலக்கமிட்டவர் பெயரில் கூட்டாக தாக்கலாகியுள்ளது.

மேற்படி பூமியில் நம்மில் (3) இலக்கமிட்ட திருமதி எம். ரேவதி என்பவர் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க விண்ணப்பம் செய்துள்ளார். மேற்படி புலத்தில் துணை இயக்குநர் (சுனிமம்) அவர்களால் அனுமதி வழங்கும் நாளிலிருந்து ஐந்து வருட காலத்திற்கு குவாரிக் குத்தகை உரிமம் வழங்க (1) முதல் (2) இலக்கமிட்ட எங்களுக்கு எவ்விதமான ஆட்சேபனையும் இல்லை. பின்னிட்டு எவ்வித பிரச்சனையும் செய்யமாட்டோம். முழுமனதுடன் சம்மதம் அளிக்கிறேன் என உறுதி கூறுகிறோம்.

1. ரிசுக்ரெஷன் கமிட்டி
2. M. S. S.



  
V.SUNDARARAJU B.A., B.L.,  
ADVOCATE & NOTARY PUBLIC  
(Government of India) Reg. No : 22124  
No.3, Naduvelpalayam AnaiPalayam (Po),  
Uthukuli (Tk), Tiruppur (Dt) - 638 752.  
Expiry Dt : 03.05.2025 Cell : 94435 48428

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Volume No. 1	Page No. 79
Sl. No. 444	Date 9.4.22



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फोन - 411 016



स्थायी लेखा संख्या कार्ड  
Permanent Account Number Card

CKWPR0254F



नाम / Name  
REVATHI V

पिता का नाम / Father's Name  
KRISHNASAMY

जन्म की तारीख / Date of Birth  
09/07/1987

*V. Revathi*  
हस्ताक्षर / Signature



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e-mail: [paninfo@india.gov.in](mailto:paninfo@india.gov.in)







भारत सरकार  
Government of India



भारतीय पहचान प्राधिकरण  
Unique Identification Authority of India



Download Date: 20/07/2020



செய்தி  
REVATHI  
பிறப்பு நாள்/DOB: 08/07/1987  
பாலின/ FEMALE

Issue Date: 18/08/2020

முகவரி:  
W/O. Velayutham, 8/223  
Chinnaradapalayam, Chengampalli,  
Tamil Nadu - 638812

Address:  
W/O. Velayutham, 8/223,  
CHINNARADAPALAYAM, Chengampalli,  
Tamil Nadu - 638812



5202 7756 3558  
VID : 9177 8053 2888 6320

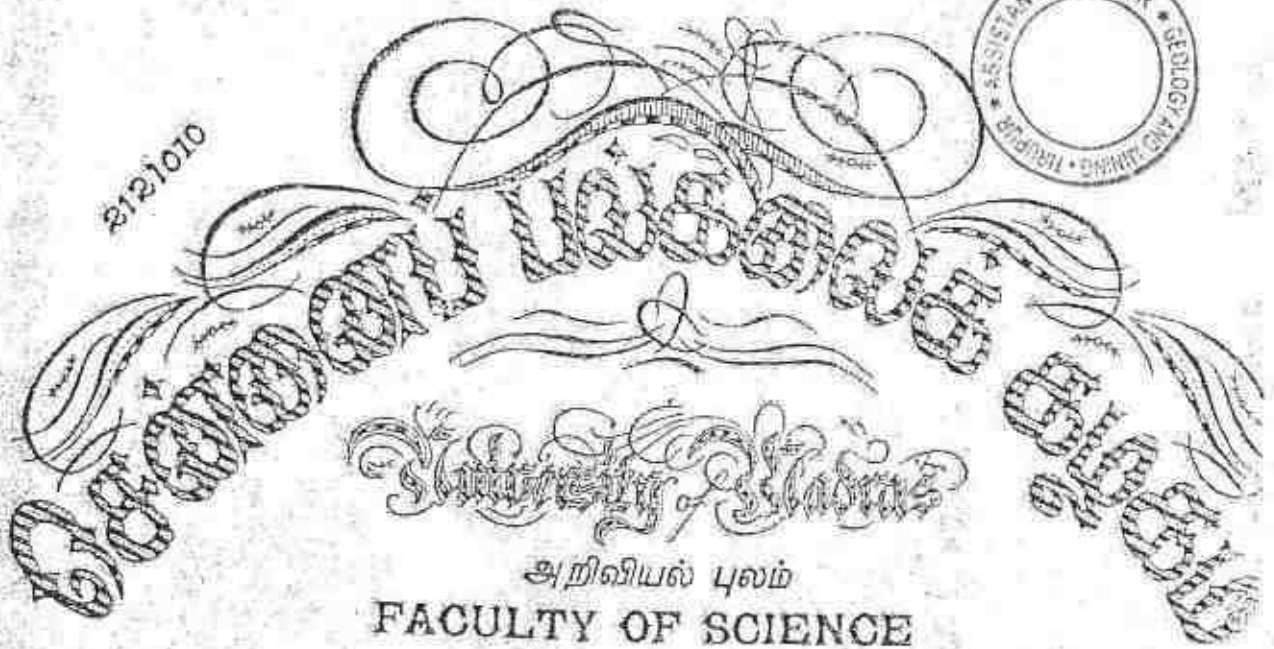
எனது ஆதாரம். எனது அடைபாடென்பது

5202 7756 3558  
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212/1070



அறிவியல் புலம்  
FACULTY OF SCIENCE

சென்னைப் பல்கலைக் கழகப் பேரவை 1994

ஆண்டு..... ஏப்ரல்..... மாதம் நடந்த..... கல்விமதியல்..... தோரில்.....  
பெ.கங்குரக..... என்பவர்..... முதல்..... வகுப்பில்.....  
இவரின் பெற்றோர் என்று தக்க சான்றுகளை சான்றளித்தமை அறிவியல் நிறுைகூர்  
என்றும் பட்டத்தை அவருக்குப் பல்கலைக் கழக இவச்சினைபுடன் வழங்குகிறது.

The Senate of the UNIVERSITY OF MADRAS hereby  
makes known that..... P. Thangaraja.....  
has been admitted to the Degree of Master of Science, he/she  
having been certified by duly appointed Examiners to be qualified  
to receive the same in..... Geology..... and was placed in the  
..... First..... Class, at the Examination held in April 1994.



Given under the seal of the University.

செயலகம், Chopaluk,  
சென்னை, Madras  
25-01-1999

94 A

P.T. Thangaraja  
ஆணை வேலி  
of U.

GOVERNMENT OF INDIA  
 MINISTRY OF LABOUR AND REHABILITATION  
 OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY



Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

I T.VENKATARAJAGOPALAN being the Mines Agent of M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine) do hereby certify that Thiru. P.THANGARAJU, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for Certificate of Competency.

THEMMALAI LIME STONE MINES  
 10/6/96  
 (Signature with date and official Seal)  
 [T.VENKATARAJAGOPALAN]

Mines Agent:

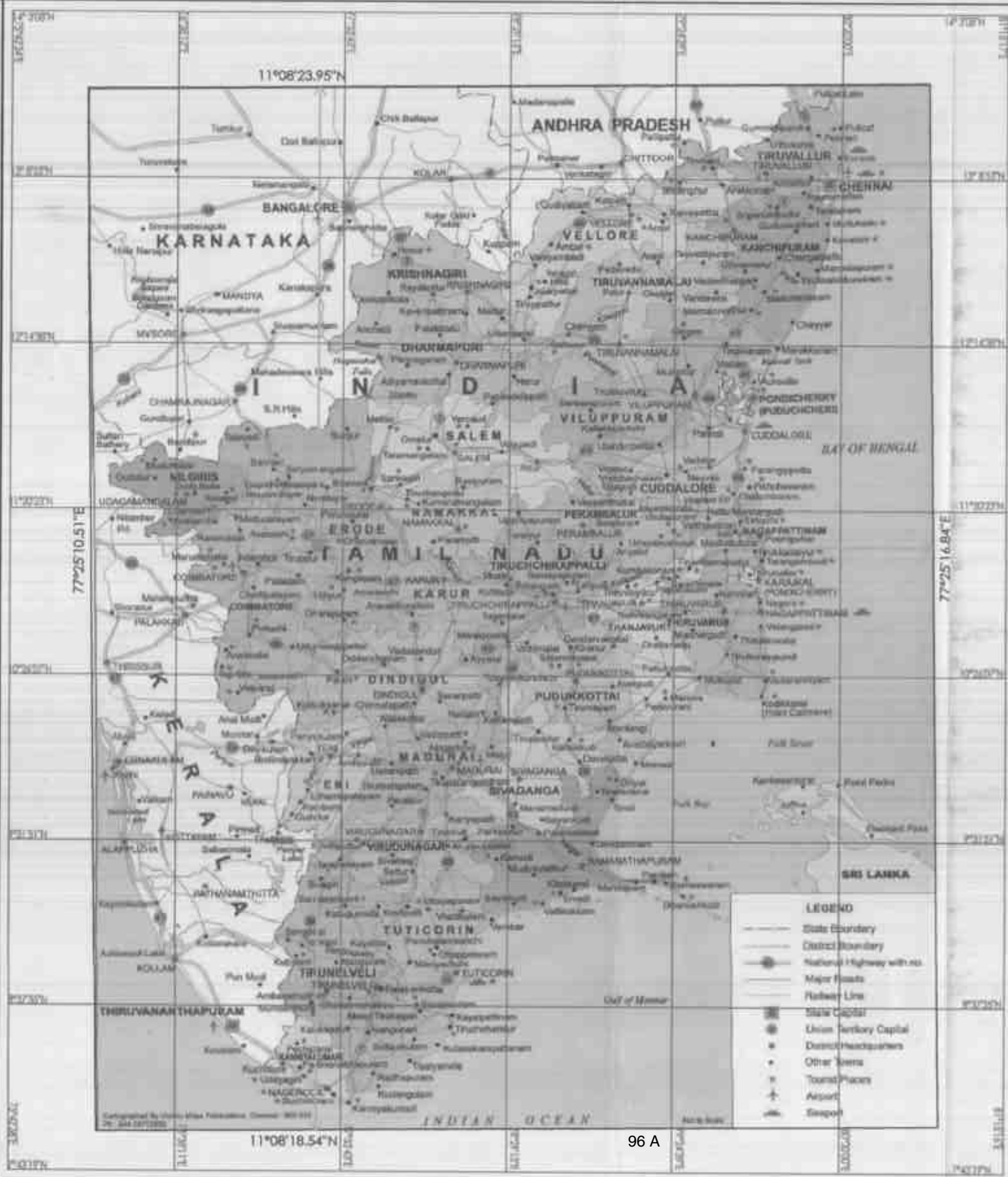
P.O. : ARUKANGULAM

District : TIRUNELVELI

State : TAMIL NADU

*Thangaraju*  
 (Signature of Candidate)

(State name of Mineral) : LIMESTONE



**INDEX**

Q.L.APPLIED AREA: ●  
 TOPO SHEET NO. : 58 E/08

LATITUDE : 11°08'18.54"N to 11°08'23.95"N  
 LONGITUDE : 77°25'10.51"E to 77°25'16.84"E

**APPLICANT :**  
 Tmt. V. REVATHI,  
 S/o. M. VIJAYAKUMAR,  
 No. 8/ 223, CHINNA KADAPALAYAM,  
 UTHUKULI TALUK,  
 TIRUPPUR DISTRICT - 638 812.

**LOCATION OF Q.L. APPLIED AREA:**  
 S.F.No's : 209/1A(P), 209/1B(P) & 209/2(P).  
 EXTENT : 2.25.5 Ha.  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULI,  
 DISTRICT : TIRUPPUR,  
 STATE : TAMILNADU.

**PLATE NO - I**  
 DATE OF SURVEY : 19.11.2022

**LOCATION PLAN**  
 SCALE: 1:24,00,000

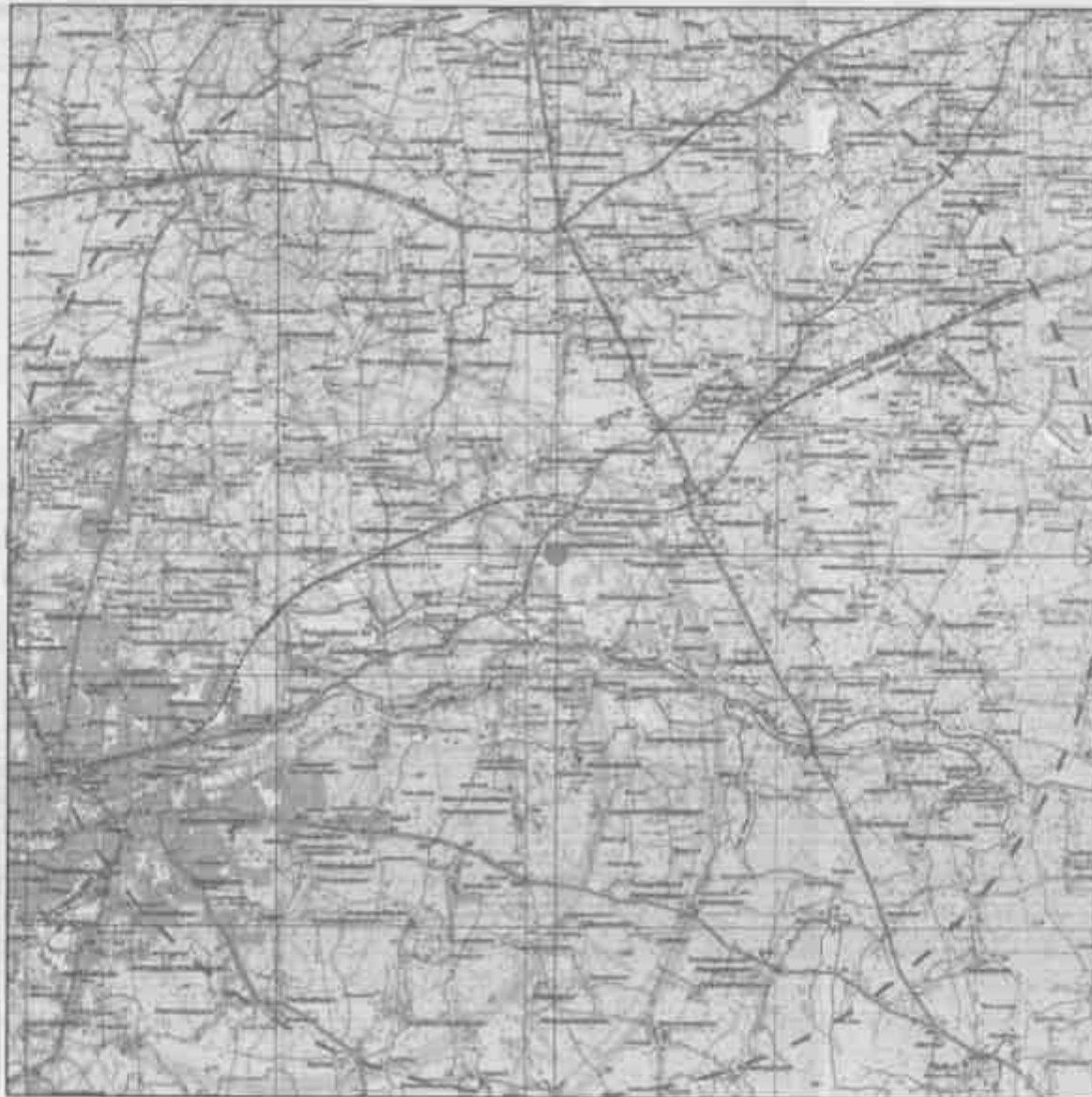
**PREPARED BY :**  
 THIS IS TO CERTIFY THAT THE INFORMATION IN THIS  
 PLATE IS TRUE AND CORRECT TO THE BEST OF MY  
 KNOWLEDGE BASED UPON THE LEASE MAP  
 AUTHENTICATED BY STATE GOVERNMENT.

*(Signature)*  
 Dr. P. DIANDARAJU, M.Sc., Ph.D.,  
 QUALIFIED PERSON



11° 13' 49.24"N

77° 19' 41.08"E



77° 30' 46.23"E

11° 02' 53.26"N

### INDEX

- Express highway: with toll; with bridge; with distance score.
- Roads metalled: according to importance.
- Roads, double carriageway: according to importance.
- Unmetalled road, Cart-track, Pack-track with pass, Foot-path.
- Streams: with trunk in bed; undefined. Canal.
- Dams: masonry or rock-filled; earthwork. Weir.
- River: dry with water channel; with island & rocks. Tidal river.
- Submerged rocks, Shoal, Swamp, Reeds.
- Wells: lined; unlined. Tubewell. Spring. Tanks: perennial.
- Embankments: road or rail; tank. Broken ground.
- Railways, broad gauge: double; single with station.
- Railways, other gauge: double; single with distance score; do.
- Mineral line or tramway. Kils. Coning with tunnel.
- Contours with sub-features. Rocky slopes. Cliffs.
- Sand features: (1) flat. (2) sand-hills (permanent).
- Towns or Villages: inhabited, deserted. Fort.
- Huts: permanent; temporary. Towers. Antiquities.
- Temples, Chattri, Church, Mosque, Idgh, Tomb, Graves.
- Lighthouses, Lightships, Boys: lighted; unlighted. Anchorage.
- Mine. Vine on trellis. Grass, Scrub.
- Palms: palmyra; other. Plantain. Conifer. Bamboo. Other trees.
- Areas: cultivated; Wooded, Surveyed trees.
- Boundary, international.
- Boundary, state: demarcated; undemarcated.
- Boundary, district; subdivision; tribal or taluk; forest.
- Boundary pillars: surveyed; unlocated.
- Height, triangulated; station point; approximate.
- Bench-mark: geodetic; tertiary; canal.
- Post office, Telegraph office, Overhead tank.
- Rest house or inspection bungalow, Circuit house.
- Camping Ground, Forest: reserved; protected.
- Spaces names: administrative; locality or tribal.
- Hospital, Dispensary, Veterinary Hospital/Dispensary.
- Aerodrome, Helipad, Tourist site.
- Powerline: with pylons surveyed; with poles unsurveyed.



### APPLICANT :

Tmt. V. REVATHI,  
S/o. M. VIJAYAKUMAR,  
No. 8/ 223, CHINNA KADAPALAYAM,  
UTHUKULI TALUK,  
TIRUPPUR DISTRICT - 638 812.



### LOCATION OF Q.L. APPLIED AREA:

S.F.No's : 209/1A(P), 209/1B(P) & 209/2(P).  
EXTENT : 2.25.5 Ha.  
VILLAGE : MORATTUPALAYAM.  
TALUK : UTHUKULI  
DISTRICT : TIRUPPUR,  
STATE : TAMILNADU.

### PLATE NO - I-A

DATE OF SURVEY : 19.11.2022

### TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10Km RADIUS

SCALE: 1:1,00,000

### PREPARED BY:

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PLATE IS TRUE AND CORRECT TO THE BEST OF MY  
KNOWLEDGE BASED UPON THE LEASE MAP  
AUTHENTICATED BY STATE GOVERNMENT

D.P. THANGARAJULU, M.Sc., Ph.D.,  
QUALIFIED PERSON

TOPO SHEET NO. : 58 E/08

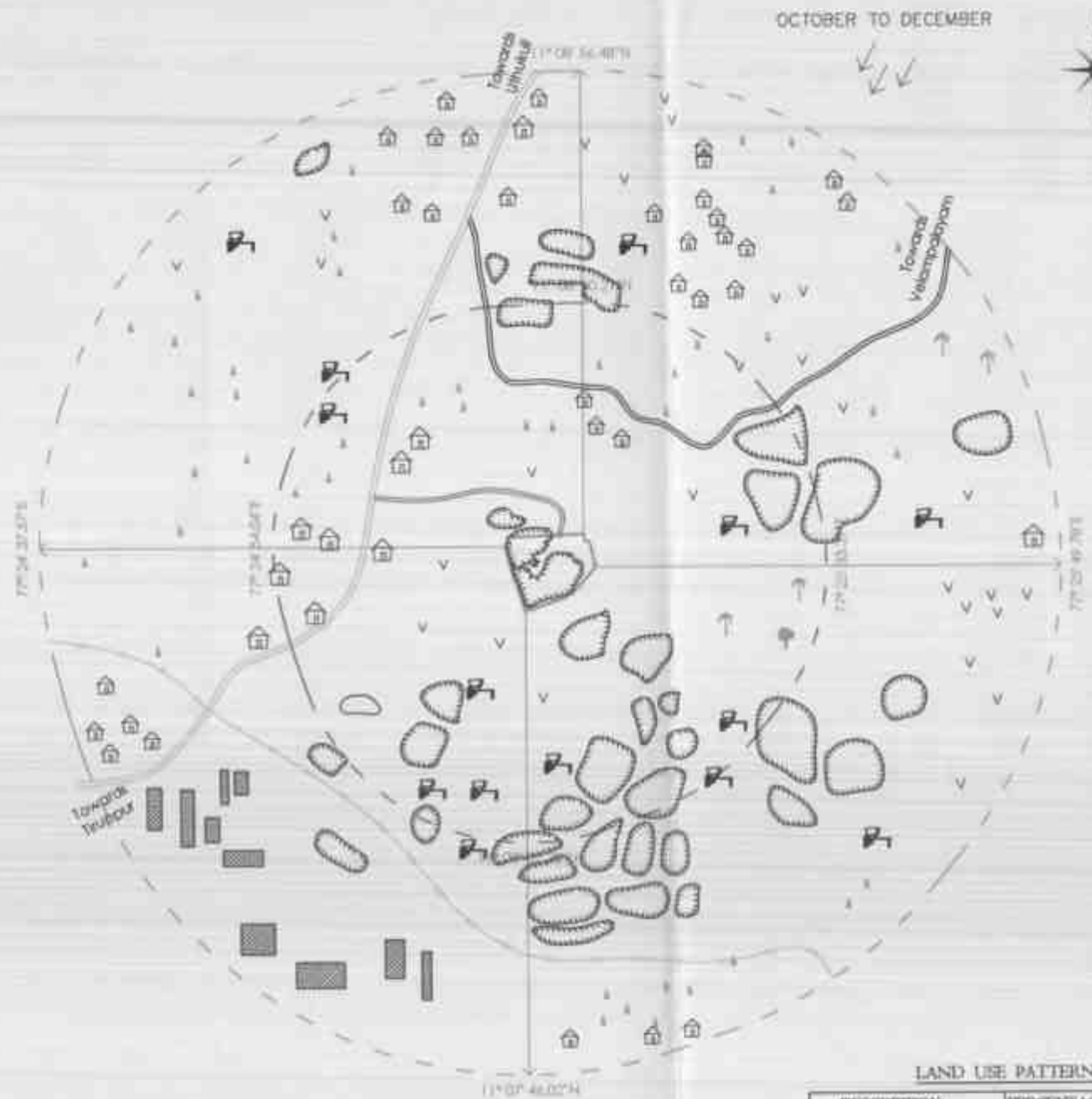
LATITUDE : 11°08'18.54"N to 11°08'23.95"N  
LONGITUDE : 77°25'10.51"E to 77°25'16.84"E

10km RADIUS :

Q.L. APPLIED AREA :

97 A





OCTOBER TO DECEMBER



JULY TO SEPTEMBER

TOPO SHEET NO. : 58 E/06  
 LATITUDE : 11°07'56.817"N to 11°07'46.027"N  
 LONGITUDE : 77°25'37.571"E to 77°25'49.781"E

98 A

LAND USE PATTERN

DESCRIPTION	PERCENTAGE	INDEX
QUARRY PITS&CRUSHER	(22%)	
TREES&COCONUT FARM	(05%)	
SEASONAL AGRI LAND	(46%)	
ROADS&ODAI	(05%)	
HABITATION&INFRA.	(08%)	
BARREN LAND	(14%)	
TOTAL	100%	

INDEX

- Q.L. APPLIED AREA
- 1 Km RADIUS
- 500m RADIUS
- SEASONAL AGRICULTURE LAND
- TREES & COCONUT FARM
- HABITATION & INFRASTRUCTURE
- QUARRY PIT & CRUSHER UNIT
- WIND DIRECTION
- STATE HIGHWAY
- EARTHEN ROAD
- APPROACH ROAD
- BARREN LAND
- ODAI



APPLICANT :

Tmt. V. REVATHI  
 S/o. M. VUAYAKUMAR,  
 No. 8/ 223, CHINNA KADAPALAYAM,  
 UTHUKULI TALUK,  
 TIRUPPUR DISTRICT - 638 812.

LOCATION OF Q.L. APPLIED AREA:

S.F.No's : 209/1A(P), 209/1B(P) & 209/2(P).  
 EXTENT : 2.25.5 Ha.  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULI,  
 DISTRICT : TIRUPPUR,  
 STATE : TAMILNADU.

PLATE NO - I-B

DATE OF SURVEY : 19.11.2022

ENVIRONMENTAL & LAND USE PLAN

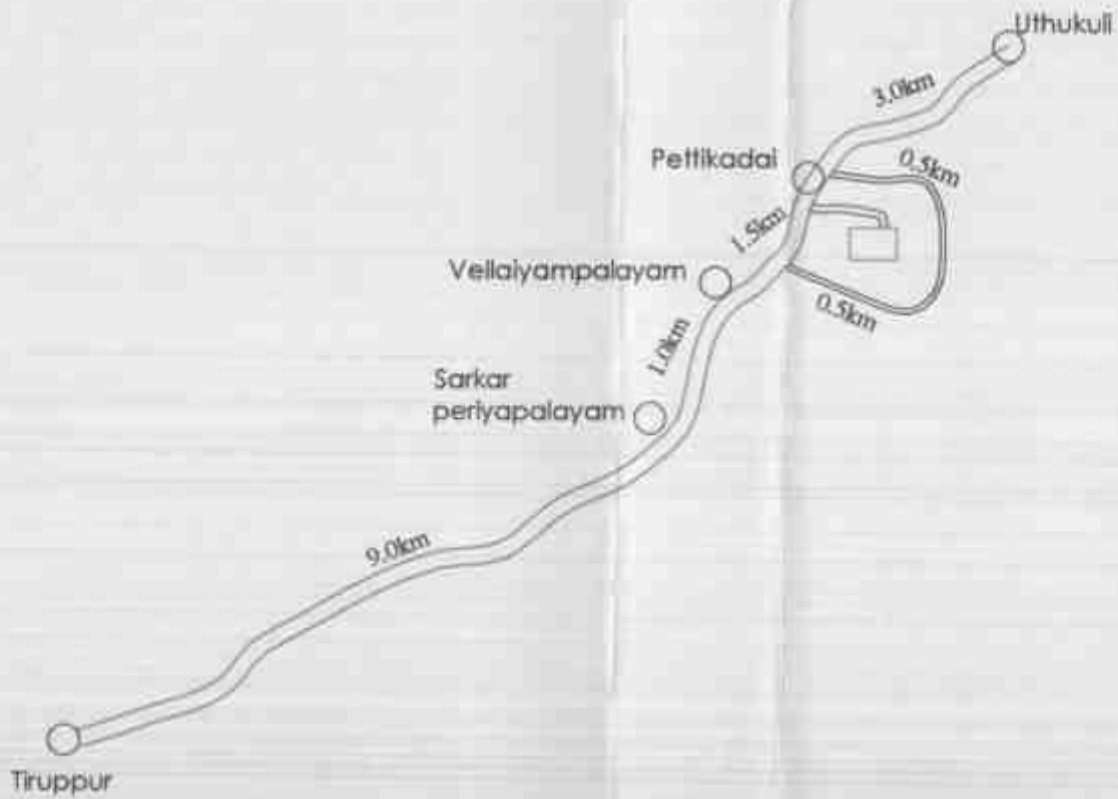
SCALE : 1:10,000

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 AUTHENTICATED BY STATE GOVERNMENT

*[Signature]*  
 DR. P. THANGARAJU, M.Sc., Ph.D.  
 QUALIFIED PERSON

PLATE NO : I-C  
ROUTE MAP



<u>INDEX</u>	Q.L.APPLIED AREA		<p><b>APPLICANT :</b> Tmt. V. REVATHI, S/o. M. VIJAYAKUMAR, No. 8/ 223, CHINNA KADAPALAYAM, UTHUKULI TALUK, TIRUPPUR DISTRICT - 638 812.</p> <p><b>LOCATION OF Q.L. A. AREA:</b> S.F.No's : 209/1A(P),18(P)&amp;209/2(P). EXTENT : 2.25.5 Ha. VILLAGE : MORATTUPALAYAM, TALUK : UTHUKULI, DISTRICT : TIRUPPUR, STATE : TAMILNADU.</p>	<p><b>SCALE :</b> NOT TO SCALE</p> <p><b>PREPARED BY:</b></p>
	STATE HIGHWAY			<p>THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT</p> <p style="text-align: center;"><i>[Signature]</i> Dr. P. THANGARAJU, M.Sc., Ph.D., QUALIFIED PERSON</p>
CART TRACK				
APPROACH ROAD				

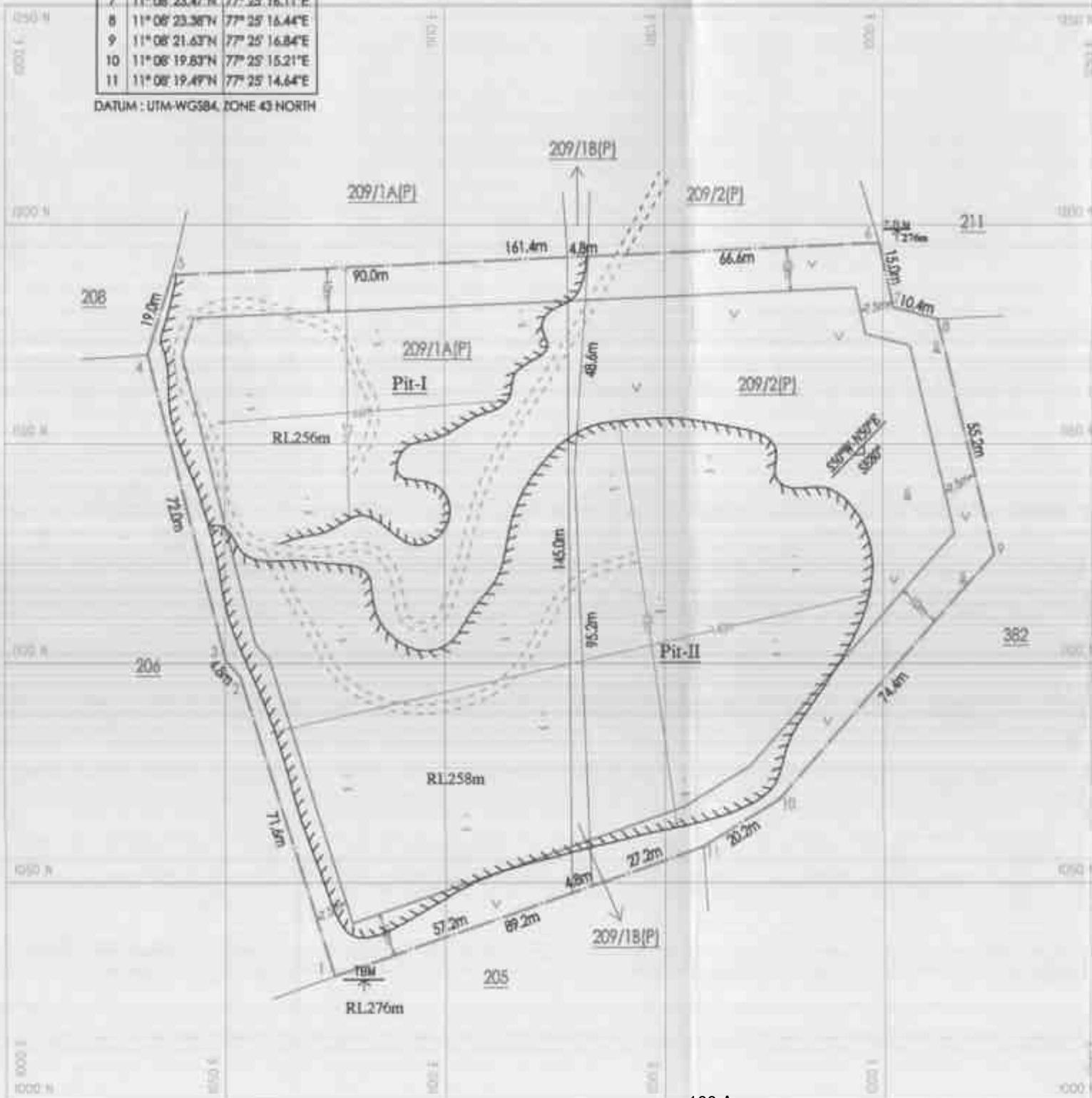
**BOUNDARY COORDINATES**

S.N.	LATITUDE	LONGITUDE
1	11° 08' 18.54" N	77° 25' 11.86" E
2	11° 08' 20.77" N	77° 25' 11.18" E
3	11° 08' 20.89" N	77° 25' 11.07" E
4	11° 08' 23.16" N	77° 25' 10.51" E
5	11° 08' 23.75" N	77° 25' 10.69" E
6	11° 08' 23.95" N	77° 25' 16.01" E
7	11° 08' 23.47" N	77° 25' 16.11" E
8	11° 08' 23.38" N	77° 25' 16.44" E
9	11° 08' 21.63" N	77° 25' 16.84" E
10	11° 08' 19.63" N	77° 25' 15.21" E
11	11° 08' 19.49" N	77° 25' 14.64" E

DATUM : UTM-WGS84, ZONE 43 NORTH

**Existing Pit Dimension (max)**

Pit-I = 66mX57mX20m(d)  
 Pit-II = 140mX93mX18m(d)



**INDEX**

- Q.L. APPLIED AREA BOUNDARY
- 10m & 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGHSTONE
- QUARRY PIT
- SHRUBS
- QUARRY HAUL ROAD
- APPROACH ROAD

**APPLICANT :**

Mr. V. REVATHI  
 S/o. M. VIJAYAKUMAR,  
 No. 8/ 223, CHINNA KADAPALAYAM,  
 UTHUKULI TALUK,  
 TIRUPPUR DISTRICT - 638 812.



**LOCATION OF Q.L. APPLIED AREA:**

S.F.No's : 209/1A(P), 209/18(P) & 209/2(P).  
 EXTENT : 2.25.5 Ha.  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULI,  
 DISTRICT : TIRUPPUR,  
 STATE : TAMILNADU.

**PLATE NO - II**

DATE OF SURVEY : 19.11.2022

**QUARRY LEASE PLAN & SURFACE PLAN**

SCALE: 1:1000

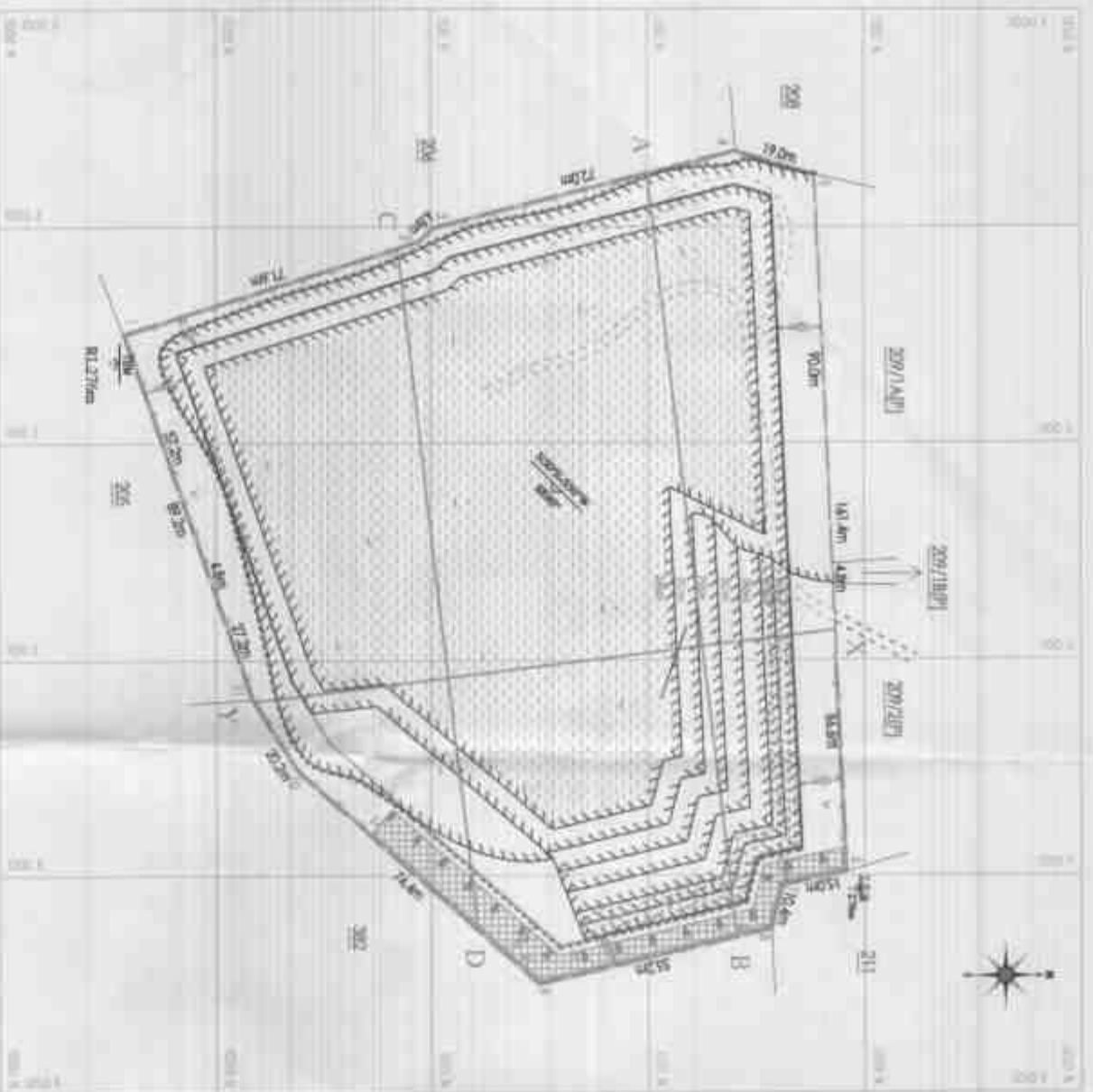
**PREPARED BY :**

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*[Signature]*  
 D.P. THANGARAJAN, S.C.P.D.,  
 QUALIFIED PERSON







Sl. No.	Latitude	Longitude
1	11° 08' 18.84"N	77° 28' 11.80"E
2	11° 08' 20.77"N	77° 28' 11.07"E
3	11° 08' 20.87"N	77° 28' 11.07"E
4	11° 08' 22.16"N	77° 28' 10.81"E
5	11° 08' 22.37"N	77° 28' 10.87"E
6	11° 08' 22.87"N	77° 28' 10.81"E
7	11° 08' 23.67"N	77° 28' 14.17"E
8	11° 08' 23.97"N	77° 28' 14.47"E
9	11° 08' 21.67"N	77° 28' 14.87"E
10	11° 08' 19.87"N	77° 28' 15.27"E
11	11° 08' 19.47"N	77° 28' 14.47"E

DATA SOURCE: GPS SURVEY

**INDEX**

- GL APPLIED AREA BOUNDARY
- 10m x 7.5m SAFETY DISTANCE
- TEMPORARY BIRCH MARK
- GRAVEL
- ROADSTONE
- STONE & DIP
- QUARRY PIT
- SHRUBS
- QUARRY HAUL ROAD
- APPROACH ROAD
- IVY PLANTATION
- BARBED WIRE FENCING
- EXISTING LAND FORM
- SOIL LAYER
- REHABILITATED LAND FORM
- PROPOSED GABLAND DRAIN
- OLD SURFACE LEVEL
- FINISHED SURFACE LEVEL
- RAIN WATER STORAGE

**SECTION ALONG X-Y**



**SECTION ALONG A-B**



**LAND USE PATTERN**

DESCRIPTION	PROPOSED AREA (sq. DM)	AREA ATTACHED TO THIS QUARTERING (sq. DM)
QUARTERING PIT	1.473	2.843
REHABILITATED TIER	Nil	0.000
MOUND	0.000	0.000
CHILDREN BUILT	Nil	0.000
UNUTILIZED AREA	0.780	0.218
<b>TOTAL</b>	<b>2.253</b>	<b>3.061</b>

Proposed Pit Dimension (mtr)  
= 121m x (mtr x 100m)



**APPLICANT :**

THIR. V. REVATHI,  
S/O. M. VIJAYAKANNAR,  
NO. 8/ 223, CHINNA KADAI,  
UNHUKULU TALUK,  
TRIPPUR DISTRICT - 686 812.

**LOCATION OF Q.L. APPLIED AREA:**

S.F. No. 1, 209/1A(P), 209/1B(P) & 209/2(P),  
EXTENT : 2.253 Ha.  
VILLAGE : MORATHIPALAYAM,  
TALUK : UNHUKULU,  
DISTRICT : TRIPPUR,  
STATE : TAMILNADU.

**PLATE NO - IV**

DATE OF SURVEY : 19.11.2002.

**PROGRESSIVE MINE CLOSURE PLAN & SECTIONS**

SCALE : 1:1,000

**PREPARED BY :**

DATE OF ISSUE: 19.11.2002



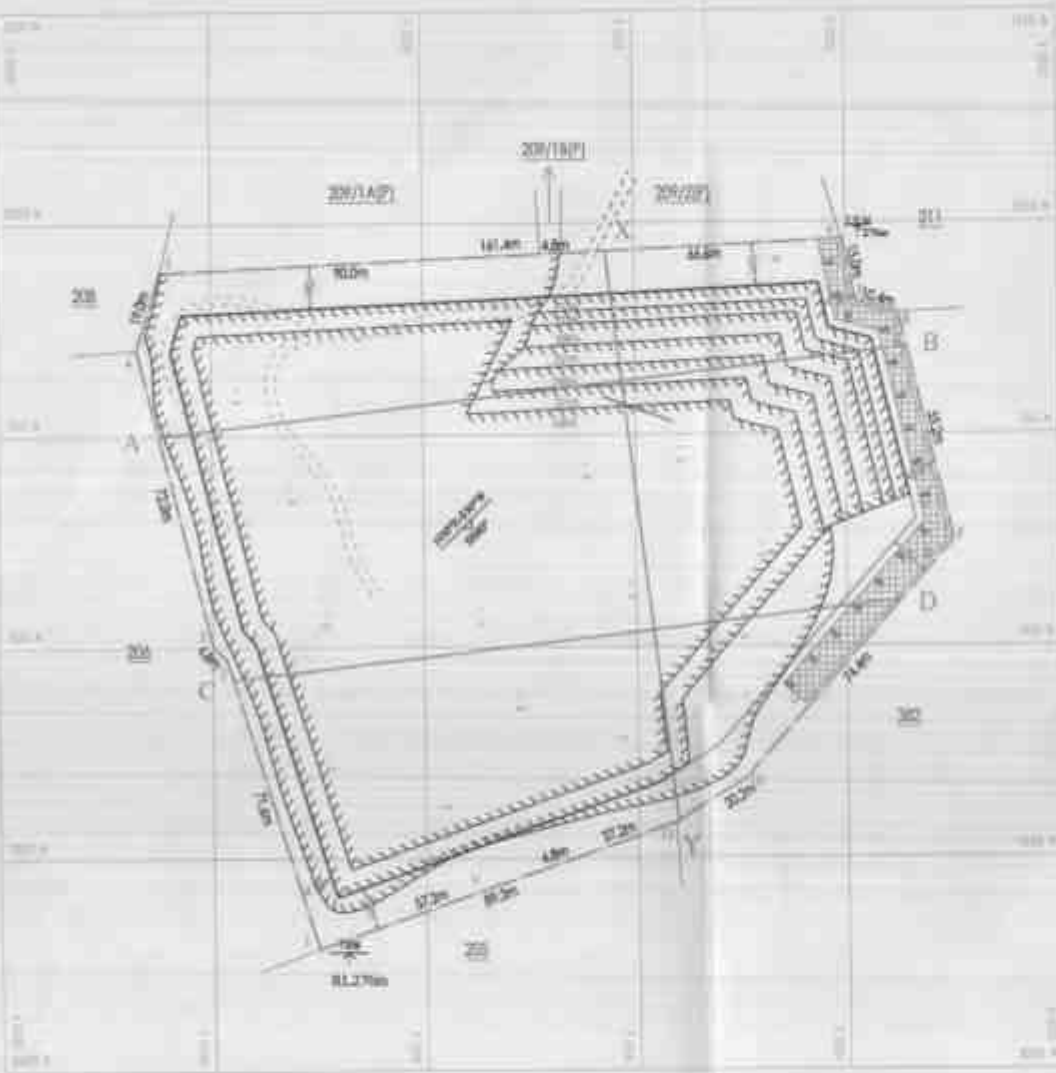
M/s. Murali Associates  
No. 17, Thiruvananthapuram Road,  
Chennai - 600 009



BOUNDARY CO-ORDINATES

S.N	LASTICE	LONGITUDE
1	11°08'18.54"N	77°20'11.84"E
2	11°08'30.77"N	77°20'11.18"E
3	11°08'33.89"N	77°20'11.07"E
4	11°08'33.14"N	77°20'10.57"E
5	11°08'33.75"N	77°20'10.47"E
6	11°08'33.93"N	77°20'14.01"E
7	11°08'33.47"N	77°20'14.17"E
8	11°08'33.89"N	77°20'14.44"E
9	11°08'31.62"N	77°20'14.84"E
10	11°08'19.87"N	77°20'13.21"E
11	11°08'18.47"N	77°20'14.44"E

DATA : UDANGOLA ZONE 43 NORTH

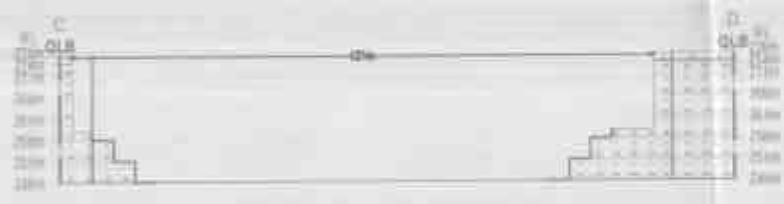


SECTION ALONG X-Y



Ultimate Pit Dimension (meters)  
= 121m x 104m x 9m

SECTION ALONG A-B



INDEX

- Q.L. APPLIED AREA BOUNDARY
- 10m & 7.3m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGHSTONE
- STICKS & OP
- QUARRY PIT
- SHRUB
- QUARRY HAUL ROAD
- APPROACH ROAD
- IV Y PLANTATION

**APPLICANT:**  
 Mrs. V. BEVATHI,  
 S/o. M. VIJAYAKUMAR,  
 No. 8/ 203, CHIRYA KADAPALAYAM,  
 UTHURU TALUK,  
 TRIPPLUR DISTRICT - 638 812.

**LOCATION OF Q.L. APPLIED AREA:**  
 S.F.No. : 209/1A(P), 209/18(P) & 209/2(P).  
 EXTENT : 2.25.5 Hrs.  
 VILLAGE : MADRATUPALAYAM,  
 TALUK : UTHURU TALUK,  
 DISTRICT : TRIPPLUR,  
 STATE : TAMILNADU.

PLATE NO - V  
 DATE OF SURVEY : 19.11.2022

**CONCEPTUAL PLAN & SECTIONS**  
 SCALE : 1 : 1000

**PREPARED BY:**  
 This is to certify that the information in this plan is true and correct to the best of my knowledge based upon the data and measurements by STATE GOVERNMENT.

*(Signature)*  
 S. P. MANJUNATHAN, P.E.,  
 SURVEY ENGINEER

**Hydrogeological Report for**  
**Rough stone and Gravel Quarry Over an**  
**extent of 2.25.5ha in S.F.Nos. 209/1A (P),**  
**209/1B (P) & 209/2 (P) at Morattupalayam**  
**Village of Uthukuli Taluk,**  
**Tiruppur District**

## **HYDROGEOLOGICAL REPORT FOR MORATTUPALAYAM**

### **ROUGH STONE AND GRAVEL QUARRY**

#### **1. INTRODUCTION**

##### **NAME OF THE APPLICANT WITH ADDRESS-**

Applicant Name : Tmt.V.Revathi,  
Address : W/o. M.Vijayakumar,  
No. 8/223, Chinna Kadapalayam,  
Uthukuli Taluk,  
Tiruppur District - 638 812  
State : Tamilnadu.  
Mobile : 98430 60018

##### **DETAILS OF THE AREA-**

Land Classification : Patta Land  
Survey No : 209/1A (P), 209/1B (P) & 209/2 (P)  
Extent : 2.25.5ha  
Village : Morattupalayam  
Taluk : Uthukuli  
District : Tiruppur

The Clients requires detailed information on Ground Water Occurrences at Proposed Project Site is rough stone quarry. The objective of the present study is to assess the availability of groundwater and comment on aspects of depth to potential aquifers, aquifer availability and type, possible yields and water quality. For this purpose all available hydrogeological information of the areas has been analyzed, and a geophysical survey was done.

The investigations involved hydrogeological, geophysical field investigations and a detailed study in which the available relevant geological and hydrogeological data were collected, analyzed, collated and evaluated within the context of the Client's requirements. The data sources consulted were mainly:

- a) Central Ground Water Board (CGWB) Data
- b) State & District Geological and Hydrogeological Reports and Maps.
- c) Technical reports of the area by various organizations.

## **2. SCOPE OF THE WORKS –**

The scope of works includes:

- Site visits to familiarize with the project areas. Identify any issues that might impact the Ground Water Scenario due to proposed mining activities.
- To obtain, study and synthesize background information including the geology, hydrogeology and existing borehole data, for the purpose of improving the quality of assessment and preparing comprehensive hydrogeological reports,
- To carry out hydrogeological evaluation and geophysical investigations in the selected sites in order to determine potential for groundwater at project site.
- To prepare hydrogeological survey reports in conformity with the provisions of the rules and procedure outlined by the Central Ground Water Board (CGWB), by Assessment of water quality and potential infringement of National standards, Assessment of availability of groundwater and Impact of proposed activity on aquifer, water quality and other abstractors.

## **3. BACKGROUND INFORMATION**

### **Location**

The investigated site falls in the Toposheet No: 58 - E/08 Latitude between: 11°08'18.54"N to 11°08'23.95"N and Longitude between: 77°25'10.51"E to 77°25'16.84"E on WGS datum-1984.

### **4.0. REGIONAL GEOLOGY OF TIRUPPUR DISTRICT-**

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely i) Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite, ii) Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss, iii) Basic intrusive include Pyroxinite/Dunite iv) Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and v) Quaternary sediments of Kankar and soil.

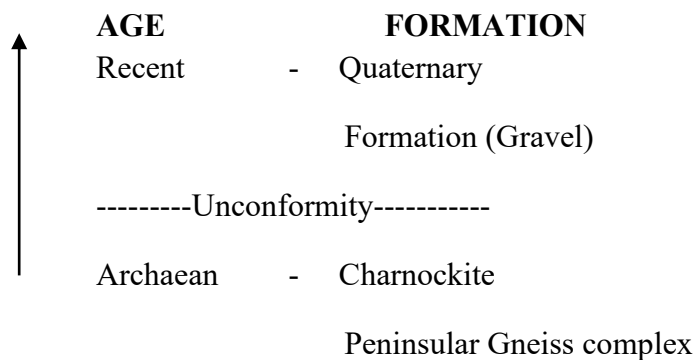
### **Regional Geology of the District-**

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey

in colour and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey coloured and greasy and exposed as bouldery outcrops and small knolls. It is well exposed in Central, Western and Southern parts of the Tiruppur District. The general strike of foliation varies from ENE-WSW, E-W with dipping towards NW and N respectively. Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinashi area. Basic intrusives such as pyroxinite/dunite occurs as bouldery outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusives are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale the Charnockite body N50°E – S50°W with dipping SE80°.

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



**GEOPHYSICAL INVESTIGATION METHODS**

A variety of methods are available to assist in the assessment of geological sub-surface conditions. The main emphasis of the fieldwork undertaken was to determine the thickness and composition of the sub-surface formations and to identify water-bearing zones. This information was principally obtained in the field using, and vertical electrical soundings (VES). The VES probes the resistivity layering below the site of measurement. This method is described below.

## **Resistivity Method**

Vertical electrical soundings (VES) were carried out to probe the condition of the subsurface and to confirm the existence of deep groundwater. The VES investigates the resistivity layering below the site of measurement.

### **Basic Principles**

The electrical properties of rocks in the upper part of the earth's crust are dependent upon the lithology, porosity, and the degree of pore space saturation and the salinity of the pore water. Saturated rocks have lower resistivity than unsaturated and dry rocks. The higher the porosity of the saturated rock, or the higher the salinity of the saturating fluids, the lower is the resistivity. The presence of clays and conductive minerals also reduces the resistivity of the rock.

The resistivity of earth materials can be studied by measuring the electrical potential distribution produced at the earth's surface by an electric current that is passed through the earth. Current is moved through the subsurface from one current electrode to the other and the potential difference is recorded as the current passes. From this information, resistivity values of various layers are acquired and layer thickness can be identified.

The apparent resistivity values determined are plotted as a log function versus the log of the spacing between the electrodes. These plotted curves identify thickness of layers. If there are multiple layers (more than 2), the acquired data is compared to a master curve to determine layer thickness.

This method is least influenced by lateral in-homogeneities and capable of providing higher depth of investigation.

The resistance  $R$  of a certain material is directly proportional to its length  $L$  and cross-sectional area  $A$ , expressed as:

$$R = R_s * L/A \text{ (in Ohm)}$$

Where  $R_s$  is known as the specific resistivity (characteristic of the material and independent of its shape or size)

With Ohm's Law,

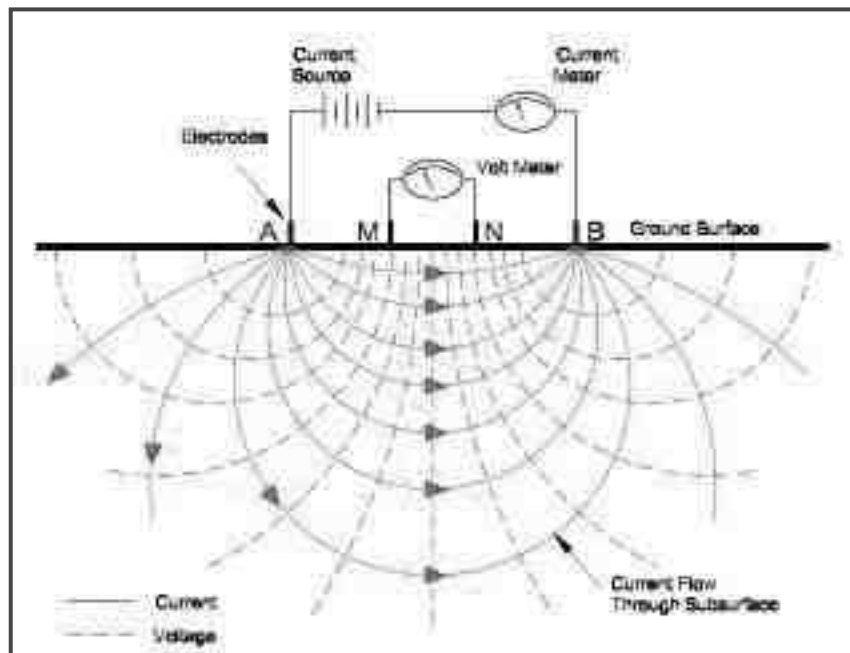
$$R = dV/I \text{ (Ohm)}$$

Where  $dV$  is the potential difference across the resistor and  $I$  is the electric current through the resistor. The specific resistivity may be determined by:

$$R_s = (A/L) * (dV/I) \text{ (in Ohm m)}$$

### Vertical Electrical Sounding (VES)

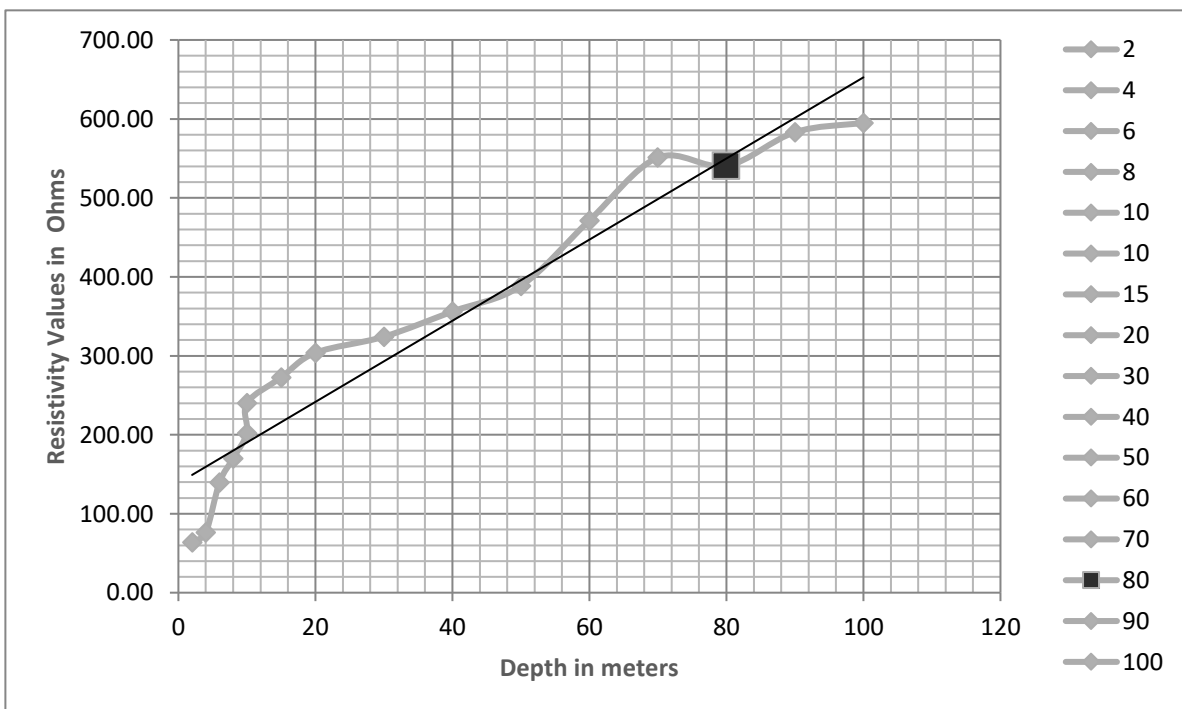
When carrying out a resistivity sounding, current is led into the ground by means of two electrodes. With two other electrodes, situated near the center of the array, the potential field generated by the current is measured. From the observations of the current strength and the potential difference, and taking into account the electrode separations, the ground resistivity can be determined. During a resistivity sounding, the separation between the electrodes is step-wise increased (known as a Schlumberger Array), thus causing the flow of current to penetrate greater depths. When plotting the observed resistivity values against depth on double logarithmic paper, a resistivity graph is formed, which depicts the variation of resistivity with depth. This graph can be interpreted with the aid of a computer, and the actual resistivity layering of the subsoil is obtained. The depths and resistivity values provide the hydro geologist with information on the geological layering and thus the occurrence of groundwater.



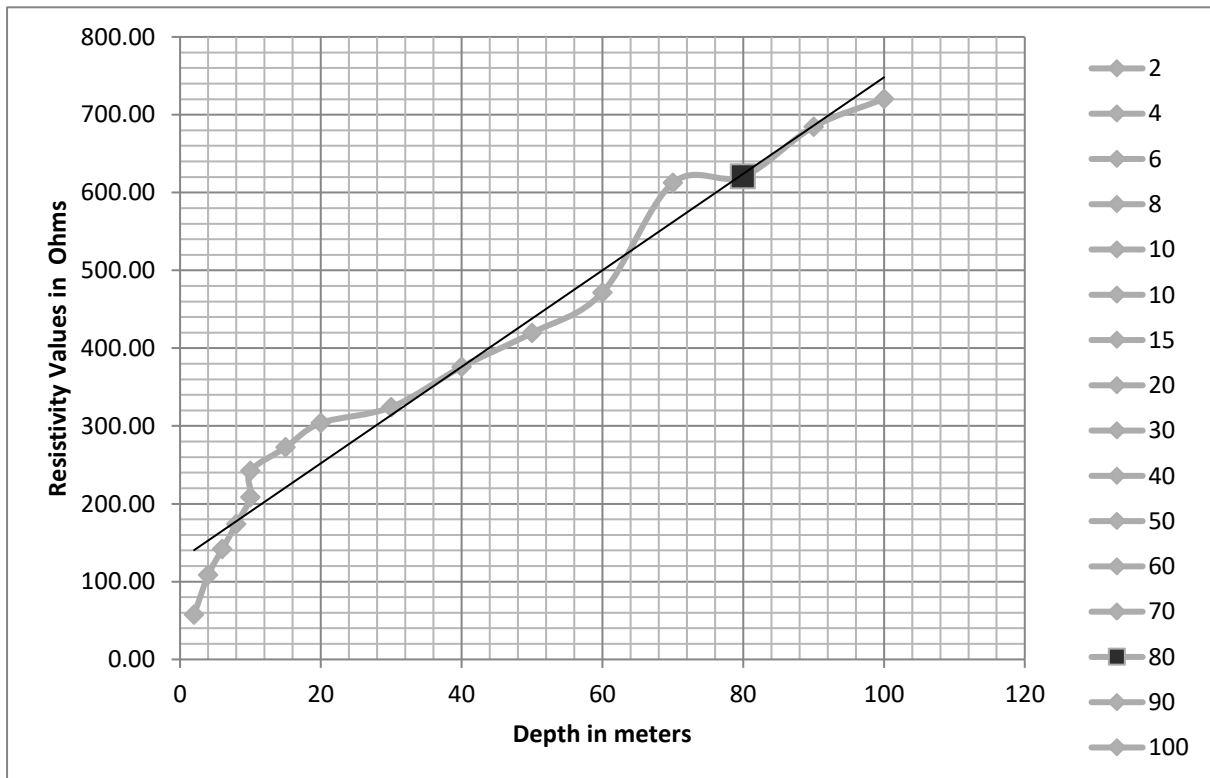


**Vertical electrical sounding data's and Diagrams**

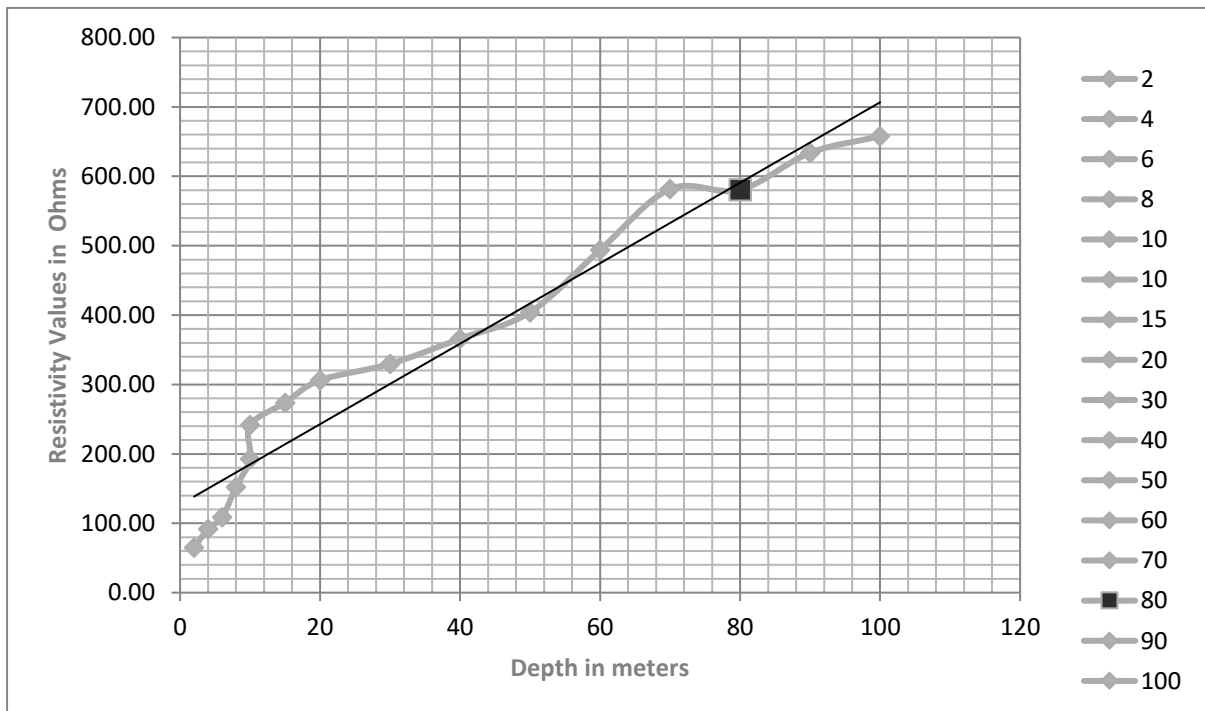
STATION-1					
GPS Coordinates - 11° 3'58.38"N 77°17'45.50"E					
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	13.56	63.87
2	4	1	23.55	3.24	76.30
3	6	1	54.95	2.54	139.57
4	8	1	98.91	1.72	170.13
5	10	1	155.45	1.30	202.09
6	10	5	23.55	10.20	240.21
7	15	5	62.80	4.34	272.55
8	20	5	117.75	2.58	303.80
9	30	5	274.75	1.18	324.21
10	40	5	494.55	0.72	356.08
11	50	5	777.15	0.50	388.58
12	60	5	1122.55	0.42	471.47
13	70	5	1530.75	0.36	551.07
14	80	5	2001.75	0.27	540.47
15	90	5	2535.55	0.23	583.18
16	100	5	3132.15	0.19	595.11



STATION-2					
GPS Coordinates - 11° 3'58.15"N 77°17'43.84"E					
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	12.24	57.65
2	4	1	23.55	4.60	108.33
3	6	1	54.95	2.58	141.77
4	8	1	98.91	1.76	174.08
5	10	1	155.45	1.34	208.30
6	10	5	23.55	10.28	242.09
7	15	5	62.80	4.34	272.55
8	20	5	117.75	2.58	303.80
9	30	5	274.75	1.18	324.21
10	40	5	494.55	0.76	375.86
11	50	5	777.15	0.54	419.66
12	60	5	1122.55	0.42	471.47
13	70	5	1530.75	0.40	612.30
14	80	5	2001.75	0.31	620.54
15	90	5	2535.55	0.27	684.60
16	100	5	3132.15	0.23	720.39



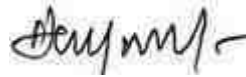
STATION-3					
GPS Coordinates - 11° 3'57.34"N 77°17'44.40"E					
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	13.78	64.90
2	4	1	23.55	3.90	91.85
3	6	1	54.95	1.98	108.80
4	8	1	98.91	1.54	152.32
5	10	1	155.45	1.24	192.76
6	10	5	23.55	10.26	241.62
7	15	5	62.80	4.36	273.81
8	20	5	117.75	2.60	306.15
9	30	5	274.75	1.20	329.70
10	40	5	494.55	0.74	365.97
11	50	5	777.15	0.52	404.12
12	60	5	1122.55	0.44	493.92
13	70	5	1530.75	0.38	581.69
14	80	5	2001.75	0.29	580.51
15	90	5	2535.55	0.25	633.89
16	100	5	3132.15	0.21	657.75



◆ Vertical electrical Sounding Graph indicates purple mark point is fracture zone.

## 6. CONCLUSION –

Based on the available information and the geophysical investigations it is concluded that the project area is considered to have medium groundwater potential. Productive aquifers are expected at depth of 75m to 80m where minor fractures are observed and shallow aquifers are expected above 65m-70m BGL. The ultimate pit limit as per the approved mining plan depth is 32m BGL (2m Gravel + 30m Rough Stone), which will have no impact on the Ground Water.



**Dr. P. Thangaraju, M.Sc., Ph.D.,**

Govt. Approved Hydro Geologist

M/s. Geo Exploration and Mining Solutions,

Regd. Office: No. 17, Advaita Ashram Road,

Alagapuram, Salem – 636 004, Tamil Nadu

Mobile: +91 - 94433 56539

E-Mail: [infogeoexploration@gmail.com](mailto:infogeoexploration@gmail.com)



அனுப்புநர்:

திருமதி.ச.வைலஜா,பி.ஏ.,  
வட்டாட்சியர்,  
ஊத்துக்குளி.

23/06/2022

பெறுநர்:

வருவாய் கோட்டாட்சியர்,  
திருப்பூர்.

ந.க.1936/2022/அ2 நாள்: 16.08.2022.

அய்யா,

பொருள்:- கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

- பார்வை :-
- 1) திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் அலுவலக ந.க.2427/2022/ஈ1 நாள்: 07.07.2022
  - 2) இவ்வலுவலக ந.க.1936/2022/அ2, நாள்:- 15.07.2022
  - 3) ஊத்துக்குளி நில வருவாய் ஆய்வாளர் அறிக்கை நாள்:10.08.2022.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி , 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் 11.08.2022 அன்று புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு எனது அறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு.P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, பட்டா எண். 152, புல.எண். 209/1A பு.ஏக்கர் 2.67 பட்டா எண். 273 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்:-13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியப்பட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 1/4 பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 740/2000 நாள்: 12..07.2000-ன் படி பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாமி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2ல் பு.ஏ.1.70 மற்றும் புல எண் 209/1A பு.ஏ. 1.33½

பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018- நாள்:10.11.2018 ன் படி பாத்தியப்பட்டதாகும். மற்றும் மொரட்டுப்பாணையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 மீட்டர் எண். 570 ன் படி ஆக மொத்தம் பு.ஏ. 3.17 3/4 பாத்தியப்பட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கலிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாமி, திரு. முத்துச்சாமி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பாராருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலம் எதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள்,சூழியிருப்புகள்,கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள்,மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுப்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிலப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபனை ஏதும் வரப்பெறவில்லை
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி ) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பாட்டில் இல்லை
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

எனவே, திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிமங்கள் சலுகை விதி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்கலாம் என்பதை பணிஷடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு: ஆவணங்கள்.

தங்கள் உண்மையுள்ள,

வட்டாட்சியர்,  
ஊத்துக்குளி.

நகல்:  
மாவட்ட ஆட்சியர்,  
திருப்பூர் அவர்களுக்கு தகவலுக்காக பணிந்து அனுப்பப்படுகிறது

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பாரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலம் எதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனைபிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள், மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுப்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை.
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி ) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A, 209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பாட்டில் இல்லை.
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

எனவே, திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல் பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறு கணிமங்கள் சலுகை விதி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்கலாம் என திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களுக்கு முன்மொழிவுகள் தயார் செய்து வைக்கவும்.

வட்டாட்சியர்,  
ஊத்துக்குளி.



புலத்தணிக்கைக்குறிப்பு

தணிக்கை அலுவலர்: வட்டாட்சியர், ஊத்துக்குளி.  
கிராமம்: மொரட்டுப்பாளையம்.  
புல எண்: 209/ 1A, 209/1B, 209/2  
தணிக்கை நாள்: 11.08.2022.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி , 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி மனு செய்ததின் பேரில் 11.08.2022 அன்று புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு எனது அறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு.P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, பட்டா எண். 152, புல.எண். 209/1A பு.ஏக்கர் 2.67 பட்டா எண். 273 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்:-13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியப்பட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 1/4 பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 740/2000 நாள்: 12.07.2000-ன் படி பாத்தியப்பட்டதாகும். ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாமி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2ல் பு.ஏ.1.70 மற்றும் புல எண் 209/1A பு.ஏ. 1.33½ பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018- நாள்:10.11.2018 ன் படி பாத்தியப்பட்டதாகும். மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 3.17 ¾ பாத்தியப்பட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாமி, திரு. முத்துச்சாமி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

உ.நா. 96/2022

நில வருவாய் ஆய்வாளர் அலுவலகம்,  
ஊத்துக்குளி.

பணிநீதனுப்பப்படுகிறது.

நாள்: 10.08.2022.

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்பதல் - தொடர்பாக

பார்வை :-

1. திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் அலுவலக ந.க.2427/2022/ஈ1 நாள்: 07.07.2022
  2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.1936/2022 /அ2 நாள்:- 15.07.2022
  3. மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் அறிக்கை நாள்:-08.08.2022
- \*\*\*\*\*

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி , 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கப்பட்டது. குத்தகைதாரர் உரிமம் காலக்கொடு முடிவடைந்து விட்டதால் உரிமம் ரத்து செய்ய வரபெற்ற மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்க்கண்டவாறு அறிக்கை சமர்ப்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு. P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் பு.ஏ.2.13, புல.எண். 209/1A பு.ஏக்கர் 2.67 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள் 739/2000 நாள்: 12.07.2000 ,591/2001 நாள்:-13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியப்பட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 4.94 1/4 பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 பு.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 740/2000 நாள்: 12.07.2000-ன் படி பாத்தியப்பட்டதாகும். ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாமி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2ல் பு.ஏ.1.70 மற்றும் புல எண் 209/1A பு.ஏ. 1.33½ பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018-

நாள்:10.11.2018 ன் படி பாத்தியப்பட்டதாகும். மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.எ. 3.17 3/4 பாத்தியப்பட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாமி, திரு. முத்துச்சாமி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபணை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.


மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface act) வின்னப்பராரருக்கு இல்லை மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மணையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள், மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்காட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி ) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மழைப்பகுதியின் ஆணையத்தின் கட்டுப்பட்டில் இல்லை
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம் , யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல  
எண். 209/ 1A பகுதி புறே 1.23.50 , 209/1B-ல்பகுதி புறே 0.04.50 மற்றும் 209/2 ல் பகுதி  
புறே 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ  
விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிமங்கள் சலுகை  
விதிகளின் படி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க  
பரிந்துரைக்கலாம் என்பதைபணிபுடன் தெரிவித்துக்கொள்கிறேன்.  
இணைப்பு : ஆவணங்கள்

பெறுநர்:-

வட்டாட்சியர் அவர்கள்,  
ஊத்துக்குளி.


  
நில வருவாய் ஆய்வாளர்,  
ஊத்துக்குளி ஆய்வாளர்  
ஊத்துக்குளி வட்டம்  
ஊத்துக்குளி வட்டம்

## அ1 அறிவிப்பு


திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம் மொரட்டுப்பாளையம் கிராமத்தில் வசிக்கும் பொதுமக்களுக்கு தெரிவிப்பது என்னவென்றால்,

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/1A(ப) (1.23.5) 209/1B(ப) (0.04.5) மற்றும் 209/2(ப) (0.97.5) ஆகமொத்தம் 2.25.5 ஹெக்டேர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க ஐந்து வருடங்களுக்கு குத்தகை உரிமம் வழங்க கோரி, செங்கப்பள்ளி கிராமம், சின்ன காடபாளையம் கதவு எண் 8/233 என்ற முகவரியில் வசிக்கும் திருமதி.ரேவதி க/பெ.விஜயகுமார் என்பவர் மனு அளித்ததன் பேரில் முன்மொழி அறிக்கை அனுப்ப நடவடிக்கை எடுக்கப்பட்டு வருகிறது.

எனவே, மேற்காண் மனுதாரர் கோரும் குவாரிக்கு உரிமம் வழங்குவது தொடர்பாக ஆட்சேபணை தெரிவிப்போர், அது குறித்து, ஊத்துக்குளி வட்டாட்சியர் அவர்களிடமோ அல்லது ஊத்துக்குளி உள்வட்ட நிலவருவாய் ஆய்வாளர் அவர்களிடமோ எழுத்து மூலமாக 15 தினங்களுக்குள் தெரிவிக்குமாறு கேட்டுக் கொள்ளப்படுகிறார்கள். குறிப்பிட்ட காலக்கெடுவிற்குள் ஆட்சேபணை ஏதும் வரப்பெறாவிடின், குவாரிக்கு உரிமம் புதுபிக்க நடவடிக்கைகள் மேற்கொள்ளப்படும் என இதன் மூலம் தெரிவித்துக் கொள்ளப்படுகிறது.

  
15/07/2022  
நிலவருவாய் ஆய்வாளர்,  
நிலக்குவாய் ஆய்வாளர்  
ஊத்துக்குளி உள் வட்டம்  
ஊத்துக்குளி வட்டம்

மேற்காண் அ1 விளம்பரத்தை மொரட்டுப்பாளையம் கிராம மக்களிடையே விளம்புகை செய்து பொது மக்களிடம் கையொப்பம் பெற்று மீள சமர்ப்பிக்குமாறு மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் கேட்டுக் கொள்ளப்படுகிறார்.

  
15/07/2022  
நிலவருவாய் ஆய்வாளர்,  
நிலக்குவாய் ஆய்வாளர்  
ஊத்துக்குளி உள் வட்டம்  
ஊத்துக்குளி வட்டம்

பெறுநர்:

கிராம நிர்வாக அலுவலர்,  
மொரட்டுப்பாளையம் கிராமம்.





## பொதுமக்கள் வாக்குமூலம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் புல எண். 209/ 1A பகுதி பு.ஹெ 1.23.50, 209/1B-ல் பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பிக்க கோரி விண்ணப்பம் செய்ததைத் தொடர்ந்து, மேற்படி மனுதாரருக்கு கல்குவாரி உரிமம் புதுப்பித்து வழங்க உத்தேசிக்கப்பட்டுள்ளது என்பதை தெரிந்து கொண்டோம். மேற்படி திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பித்து வழங்குவது குறித்து ஊர் பொதுமக்களாகிய எங்களுக்கு எந்தவிதமான ஆட்சேபனையும் இல்லை என்பதை இதன் மூலம் தெரிவித்துக்கொள்கிறோம்.

\* 077407

\* 14.6.2017

\* சிபகாமி

\* வேலு

\* K. mukul

7 Balamata

4 Kanjana

9 கண்ணகிரி

9 பரிநாயகி

4 Shy

4 ராஜ. சந்திரன்

9 R. Manikandan

9 மகாத்மியா

4 சி. சி.

N. Rajan

சம. 18-8-22  
 சிரம நிர்வாக அறையின்  
 மற்றும் பிறப்பு இறப்பு பதிவாளர்  
 வ. நரசிம்மாசாரியம் குருட்,  
 201 சுகனி வட்டம்,  
 சைலந்தூர்

சைலந்தூர்  
 சி. சி. சி.  
 நில வருவாய் ஆய்வாளர்  
 சைலந்தூர் குனி உள் வட்டம்  
 சைலந்தூர் குனி வட்டம்



கிராம நிர்வாக அலுவலகம்,  
மொரட்டுப்பாளையம் குருப்,

நாள்: 08.08.2022.

பணிநீதனுப்பப்படுகிறது.

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண். 209/ 1A பகுதி 4.ஹெ 1.23.50 , 209/1B-ல்பகுதி 4.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி 4.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக்கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புகல் - தொடர்பாக

பார்வை :-

1. திருப்பூர் வருவாய் கோட்டாட்சியர் அவர்களின் அலுவலக ந.க.2427/2022/ஈ1 நாள்: 07.07.2022
2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.1936/2022 /அ2 நாள்:- 15.07.2022

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திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 209/ 1A பகுதி , 209/1B-ல்பகுதி மற்றும் 209/2 ல் பகுதி 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கப்பட்டது. குத்தகைதாரர் உரிமம் காலக்கொடு முடிவடைந்து விட்டதால் உரிமம் ரத்து செய்ய வரபெற்ற மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்க்கண்டவாறு அறிக்கை சமர்ப்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் கருப்பணகவுண்டர் மகன் திரு. P.K கிருஷ்ணசாமி என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2 ல் 4.ஏ.2.13, புல.எண். 209/1A 4.ஏக்கர் 2.67 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண்கள்739/2000 நாள்: 12.07.2000 ,591/2001 நாள்:-13.06.2001, 369/2002 நாள்: 21.03.2002 ன் படி பாத்தியப்பட்டதாகும் மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B 4.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் 4.ஏ. 4.94 1/4 பாத்தியப்பட்டதாகும்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சேனாதிபதிசெட்டிபாளையம் என்ற முகவரியில் வசிக்கும் நாச்சிமுத்து மகன் சிதம்பரம் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/1 4.ஏ 1.00 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 740/2000 நாள்: 12.07.2000-ன் படி பாத்தியப்பட்டதாகும். ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், செங்கப்பள்ளி கிராமம் மஜரா சின்னகாடாபாளையம் என்ற முகவரியில் வசிக்கும் திரு. முத்துச்சாமி மகன் ஆ. விஜயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண். 209/2ல் 4.ஏ.1.70 மற்றும் புல எண் 209/1A 4.ஏ. 1.33½ பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 3610/2018-

நாள்:10.11.2018 ன் படி பாத்தியப்பட்டதாகும். மற்றும் மொரட்டுப்பாளையம் கிராமம் புல எண் 209/1B பு.ஏ. 0.14 1/4 பட்டா எண். 570 ன் படி ஆக மொத்தம் பு.ஏ. 3.17 3/4 பாத்தியப்பட்டதாகும்.


திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.508/கனிமம்/2015 நாள்21.09.2016-ன் படி 21.09.2016 முதல் 20.09.2021 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.P.K கிருஷ்ணசாமி மற்றும் K. முத்துச்சாமி என்பவர்களுக்கு வழங்கப்பட்டுள்ளது. மேற்படி நபர்கள் திரு.P.K கிருஷ்ணசாமி, திரு. முத்துச்சாமி மகன் M.விஜயகுமார் மற்றும் சிதம்பரம் ஆகியோர்கள் சேர்ந்து திருமதி. ரேவதி க/பெ விஜயகுமார் என்பவருக்கு குத்தகை உரிமம் பெறுவதற்கு ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface act) விண்ணப்பாரருக்கு இல்லை மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள், மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள், மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியல் துறை கட்டுக்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு ஆட்சேபனை ஏதும் வரப்பெறவில்லை
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண். 382/2A- ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண். 392 (பகுதி ) ல் அய்யாதுரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில் 209/1A,209/1B, 209/2 (பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மழைப்பகுதியின் ஆணையத்தின் கட்டுப்பட்டில் இல்லை
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம் , யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புல  
எண். 209/ 1A பகுதி பு.ஹெ 1.23.50 , 209/1B-ல்பகுதி பு.ஹெ 0.04.50 மற்றும் 209/2 ல் பகுதி  
பு.ஹெ 0.97.50 ஆக மொத்தம் 2.25.50 ஹெக்டேர் பரப்பு பூமியில் திருமதி. ரேவதி க/பெ  
விஜயகுமார் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ் நாடு சிறு கணிபங்கள் சலுகை  
விதிகளின் படி 19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க  
பரிந்துரைக்கலாம் என்பதைபணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்

  
கிராம தீர்வாக ஒதுபவர்  
மற்றும் பிறப்பு இறப்பு பதிவுகளை  
மொரட்டுப்பாளையம் குகல்,  
ஊத்துக்குளி வட்டம்,  
கடலூர் மாவட்டம்.

## SRI SELVANAYAGIAMMAN EXPLOSIVES

P.Thirunavukarasu  
(Explosive Blasting Contractor)

94451-30006  
NO.52, Kaveri Street  
Bhavani Tk, Erode Dt.

Magazine at: 97/2, Thalavaipalayam Village, Uthukuli (Tk), Tirupur(Dt)

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Date: 01.12.2022

To:

V. REVATHI  
W/O Vijayakumar,  
No. 8/223 , Chinna Kadapalayam ,  
Sengapalli Post,  
Uthukuli Taluk,  
Tirupur District.

Ref: Your Letter dated

Sub: Regarding blasting work using explosives in your proposed quarry.

We are having explosives license in Form 22 holding No: E/SC/TN/22/339 (E10241) situate in Survey S.F.No.97/2 Thalavaipalayam Village, Uthukuli Taluk, Tirupur District. Our office functions at Address No.52, Kaveri Street, Bhavani (Tk), Erode (Dt).

We are enacting 2 explosives vans for transporting detonators and class 2 separately for our Magazine to our site and well experienced and licensed blasters and shot firer for safe Blasting work since 5 years without untoward incident.

We are willing to undertake work on contract basis at your SF.No.209/1A(Part) 1.23.5 Hectors & 209/1B(part) 0.04.5 Hector & 209/2 (Part) 0.97.5 Hector, over an extent of 2.25.5 hec. Morattupalayam Village, Uthukuli Taluk, Tirupur District.

Thanking You,

Signature

For Sri Selvanayagamman Explosives

  
P. Thirunavukarasu

Proprietor

Enclosure:

1. License Copy

**अनुमति प्रथम एवं द्वि-उ (LICENCE FORM)-3**  
(विस्फोटक नियम 2008 की अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (2) दखिरे।)  
(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)

(आ) उपरोक्त के लिए एक समय पर तब (2) (3) (4) (5) (6) (7) के विस्फोटक या किसी समूहों में तब 6 के विस्फोटक रखने के लिए (Licence to possess) (a) for use explosion of class - 1.5, 1.5 B or 7 in a magazine

अनुमति सं. (Licence No.): E/SO TN/22/339/1/10241  
वार्षिक फीस राशि (Annual Fee Rs): 7000/-



Licence is hereby granted to  
**SRI SETHYANAYAGI ANIMALS EXPLOSIVES (प्रतिभागी / Occupier) PUTHIRU NAVI KARBASI, 52, Ginnery Street, Thiruvananthapuram, (Town/Village)-Thiruvananthapuram, District-ERODE, State (अथवा)-Tamil Nadu- Pincode - 635004**

को अनुमति अनुदान की जाती है।  
अनुमतिधारियों की संरचना (Status of licensee): Partnership Firm

अनुमति निम्नलिखित प्रयोजनों के लिए विधिमान्य है।  
Licence is valid only for the following purpose: possess for use of Safety Fuse, Electric and/or Ordinary Detonators, Nitro Compound Mixture. (के उपयोग के लिए)

अनुमति विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमान्य है।  
Licence is valid for the following kinds and quantity of explosives - (Per Year)

क्र. सं. (Sl. No)	नाम और विवरण (Name and Description)	किसी और वर्गीकरण (Class & Division)	प्र.प्र.सं. (No. of items)	मात्रा (कि.ग्रा. एक समय में) (Quantity at any one time)
1	Nitro Compound Mixture	7.1	0	700 Kg
2	Safety Fuse	6.1	0	3000 Mtrs
3	Fuzing and/or Ordinary Detonators	6.1	0	7000 Nos

(क) किसी एक क्लेस में खरीदे जाने वाले विस्फोटक की मात्रा (अनुच्छेद 3(क) और (ग) के अधीन अनुमति से लिए) (Quantity of explosives to be purchased in a calendar month applicable for licence under article 3(b) and (g)) 15 times allowable.

अनुमतिधारियों के निम्नलिखित चित्रों का प्रयोग किया जाएगा।  
The licensed premises shall conform to the following drawings: (चित्र सं. (Drawing No) E/SO TN/22/339/1/10241) (दिनांक (Date) 05.10.2021)

अनुमति परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address:  
Survey No.6, S.F.97/2, नाम (Town/Village)- Thathavolpalayam, Ethakudi taluqa

जिला (District) - ERODUR राज्य (State) - तमिल नाडु (Tamil Nadu)  
पिनकोड (Pincode) - 750294 (Post) - कुमले (Kumale)  
पुलिस थाना (Police Station) - Ethakudi  
फैक्स (Fax) -

अनुमति परिसर में निम्नलिखित सुविधाएं उपलब्ध हैं।  
The licensed premises consist of following facilities: Main room, lobby and detonator room

अनुमति समान प्रथम पर लागू अधिनियम विस्फोटक अधिनियम, 1884 और उसके अधीन विरचित विस्फोटक नियम, 2008 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपबंधों के अधीन रहते हुए अनुदान की जाती है।  
The licence is granted subject to the provision of Explosives Act, 1884; its amended from time to time and the Explosives Rules, 2008 framed there under and the conditions, additional conditions and the following Annexures.

1. उपरोक्त प्रथम से 5 में तथा संबंधित रेखाचित्र (स्वातंत्र्य, सन्निवेश्यता, सुरक्षा और अन्य विवरण दर्शाते) के द्वारा (Drawings showing site, constructional and other details) as stated in Serial No. 5 above
2. अनुमति प्राधिकारी द्वारा हस्ताक्षरित इस अनुमति की शर्तों और अतिरिक्त शर्तों। (Conditions and Additional Conditions) of this licence signed by the licensing authority.
3. दूरी प्रथम (B-2) Distance From D-2

यह अनुमति तारीख 31 मार्च 2008 तक विधिमान्य रहेगी। This licence shall remain valid till 31st day of March 2008.

यह अनुमति अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 1 के प्रति निश्चित श्रेणी के अधीन तथा उपरोक्त इस अनुमति की शर्तों का अतिक्रमण करने या यदि अनुमति परिसर खोजना या उसकी संरचना अपभ्रंश में लाने के लिए विरचित के अनुसार गैरि पाए जाने पर निरस्त या प्रतिबंधित की जा सकती है, जहां तक लागू हो।

This licensee is liable to be suspended or revoked if any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

तारीख (The Date) - 06-09-2004

अधुना मुख्य विस्फोटक नियंत्रक  
Main Chief Controller of Explosives  
South Circle, Chennai

- Annexments:
- Amendment of Quantity of Explosives/Monthly Purchase Limit dated - 17/08/2011
  - Amendment of Quantity of Explosives/Monthly Purchase Limit dated - 05/10/2011
- Transfers:
- Change in Licensee Name Address Status dated - 26/03/2018

राजनीतिकरण के दृष्टान्त के लिए प्रस्ताव  
Scheme for Enforcement of Renewal

नवीकरण की तारीख (Date of Renewal)	अनुमति की तारीख (Date of Expiry)	अनुमति प्राधिकारी के हस्ताक्षर और स्टाम्प (Signature of licensing authority and stamp)
06/09/2004	31/03/2025	SD- Jt. Chief Controller of Explosives, South Circle, Chennai

**कानूनी चेतावनी - विस्फोटकों को गलत ढंग से संचालन या उनका दुरुपयोग विधि के अधीन गैरि दंडित अपराध होगा।**  
Statutory Warning: Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

**Note :- This is system generated document does not require physical signature. Applicant may take printout for their records.**



அனுப்புநர்

திருமதி.டி.சாந்திலட்சுமி,  
வட்டார வளர்ச்சி அலுவலர்(வ.ஊ),  
ஊத்துக்குளி வட்டாரம்.

பெறுநர்

துணை இயக்குநர்,  
புவியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.

ந.க.எண் : 2921/2022/அ2

ஐயா,

நாள்: 19.07.2022.

பொருள் :	விசாரணை அறிக்கை கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரணகற்கள் மற்றும் கிராவல் மண் - திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் பட்டாபுல எண்கள் 209/1A(ப)(1.23.5) 209/1B(ப)(0.04.5) மற்றும் 209/2(ப)(0.97.5), ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திருமதி.வி.ரேவதி க/பெ.எம்.விஜயகுமார் மொரட்டுப்பாளையம் என்பவர் மனு செய்துள்ளார் குவாரி உரிமம் கோரியது - விசாரணை அறிக்கை அனுப்பிவைத்தல் - தொடர்பாக.
பார்வை :	துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் அவர்களின் ந.க.எண்: 584/2022/கனிமம், நாள்: 04.07.2022.

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திருப்பூர் மாவட்டம், ஊத்துக்குளி - திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் பட்டாபுல எண்கள் 209/1A(ப)(1.23.5) 209/1B(ப)(0.04.5) மற்றும் 209/2(ப)(0.97.5), ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திருமதி.வி.ரேவதி க/பெ.எம்.விஜயகுமார் மொரட்டுப்பாளையம் என்பவர் மனு செய்துள்ளார் குவாரி உரிமம் கோரியது விண்ணப்பித்ததையடுத்து, பார்வையில் காணும் துணை இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் கடிதத்தில் மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்புமனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் உள்ளதா என அறிக்கை கோரப்பட்டுள்ளது.

மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் இல்லை என்ற விவரமும், புலத் தணிக்கை மற்றும் விசாரணையின் மூலமாக தெரியவருகிறது என்பதை தெரிவித்துக் கொள்கிறேன்.

டி.சாந்திலட்சுமி  
19.7.2022  
வட்டார வளர்ச்சி அலுவலர்(வ.ஊ),  
ஊத்துக்குளி.

அனுப்புநர்  
19/7/2022

சீரணி

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி  
 உளியலம், மாநாட்டுப்பாளையம் கிராமத்தில் 40 ஏக்கர்  
 209/1A-ல் 4.07.92 2.02.5 ஏக்கர் மஞ்சள் 209/1B-ல்  
 4.07.92 0.11.50. ஏக்கர் 209/2-ல் 4.07.92 1.55.50.  
 ஆக மொத்தம் 4.07.92 3.60.00 ஏக்கர் நிலம் பட்டா  
 எண் 273, 570, 152, கடுப்பண்ண கழனிப் பள்ளி  
 கிடுவண்ணகாடி ① நாச்சிக்குத்திகழனிப் பள்ளி கிரம்பரம் ②  
 முத்துக்காடி பள்ளி ஊதயகுமாரி ③ குடியாநிலை உள்நாடு  
 மேற்படி 40 ஏக்கர் 209/1A, 209/1B, 209/2 3.60.00  
 ஏக்கர் நிலத்தை சீரணி 300-கீடர் சீரணனைக் குடியாதுப்பள்ளி  
 கோயல்கள், பள்ளிக்கூடம், சூதம் கிணர் என குறையதீர்  
 தொழில்நுட்பம்

சீரணி நிர்வாக அலுவலர்  
 25-11-22  
 மற்றும் பிறப்பு இறப்பு பதிவாளர்  
 மாநாட்டுப்பாளையம் குருப். ஊத்துக்குளி வட்டம்  
 திருப்பூர் மாவட்டம்

**TOPOGRAPHICAL VIEW OF MORATTUPALAYAM ROGH STONE  
AND GRAVEL QUARRY LEASE APPLIED AREA**




Name of the Applicant : **V.Revathi,**  
Address : W/o. M.Vijayakumar,  
No. 8/223, Chinna Kadapalayam,  
Uthukuli Taluk,  
Tiruppur District – 638 812.

**Location:**

S.F.Nos. : 209/1A (P), 209/1B (P) & 209/2 (P)  
Extent : 2.25.5 Ha  
Village : Morattupalayam  
Taluk : Uthukuli  
District : Tiruppur

Signature of the Applicant

V.Revathi

  
25.11.2021  
மற்றும் பிற்படி கீறல் பதிவாளர்  
மாரட்டுப்பாளையம் குருப், உடத்துக்குளி வட்டம்  
திருப்பூர் மாவட்டம்



## தமிழ்நாடு அரசு வனத்துறை

அனுப்புநர்

திரு.ச.ந.தேஜஸ்வி, இ.வ.ப.,  
துணை இயக்குநர்  
ஆணைமலை புலிகள் காப்பகம்,  
திருப்பூர் வனக்கோட்டம்,  
உடுமலைப்பேட்டை - 642 126.

பெறுநர்

உதவி இயக்குநர்,  
புனியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.

இ.மு.எண்.13382/2022/வா, நாள்.20.12.2022

ஐயா,

பொருள் : கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரண கற்கள் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண்.209/1A (பு) (1.23.5), 209/1B (பு) (0.04.5) மற்றும் 209/2 (பு) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி குத்தகை உரிமம் கோரி திருமதி.வி.ரேவதி, க/பெ.எம்.விஜயகுமார், என்பவர் மனு செய்துள்ளது - அறிக்கை கேட்டல் - தொடர்பாக.

பார்வை : 1. உதவி இயக்குநர், புனியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் ந.க.எண்.584/கனிமம்/2022, நாள்.05.12.2022.  
2. திருமதி.வி.ரேவதி, க/பெ.எம்.விஜயகுமார், என்பவரின் மனு நாள்.29.11.2022.

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மேற்காண் பொருள் தொடர்பாக, பார்வையிலான கடிதத்தில் திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண்.209/1A (பு) (1.23.5), 209/1B (பு) (0.04.5) மற்றும் 209/2 (பு) (0.97.5) ஆகியவற்றில் மொத்தம் 2.25.5 ஹெக்டர் பரப்பில் திருமதி.வி.ரேவதி, க/பெ.எம்.விஜயகுமார், என்பவர் சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி குத்தகை உரிமம் கோரி கேட்கப்பட்ட குவாரி அமையவுள்ள இடத்தினை திருப்பூர் வனச்சரக அலுவலரால் 14.12.2022-ம் தேதியன்று களத்தணிக்கை செய்யப்பட்டதில் மேற்படி குவாரியானது அருகில் உள்ள சென்னிமலைக் காப்புக்காடு எல்லையிலிருந்து சுமார் 14.20 கி.மீ., தொலைவிலும், ஆணைமலை புலிகள் காப்பக எல்லை பகுதியிலிருந்து சுமார் 78.05 கி.மீ., தொலைவிலும் அமைந்துள்ளது என்பதை தெரிவித்துக்கொள்கிறேன்.

ஓம்/- ச.ந.தேஜஸ்வி  
துணை இயக்குநர்  
திருப்பூர் வனக்கோட்டம்  
ஆணைமலை புலிகள் காப்பகம்  
உடுமலைப்பேட்டை

நகல்:- திருமதி.வி.ரேவதி, க/பெ.எம்.விஜயகுமார், எண்.8/223, சின்னகாடேபாளையம், ஊத்துக்குளி வட்டம், திருப்பூர் மாவட்டம் - 638 812.

-உண்மை நகல்/ உத்தரவுப்படி -

தி. மு. ஜெ. சுவாமி  
20/12/22  
வரைதொழில் அலுவலர்



TMT. P. RAJESWARI, I.F.S.,  
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY – TAMIL NADU

3<sup>rd</sup> Floor, Panagal Maaligal,  
No.1, Jeeris Road, Saidapet,  
Chennai-15,  
Phone No. 044-24359973  
Fax No. 044-24359975

**TERMS OF REFERENCE (ToR)**

**Lr.No.SEIAA-TN/E.No.8614/SEAC/ToR-1019/2021 Dated:23.08.2021**

To

Thiru. U. Prabhakaran,  
S/o. Udhayakumar,  
No.6/67, Sappattanaickenpalayam,  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District – 638 752.

Sir / Madam,

**Sub:** SEIAA, Tamil Nadu – Terms of Reference (ToR) with Public Hearing for the Proposed Rough Stone & Gravel Quarry lease over an extent of 0.68.8 Ha at S.F.No. 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru. U. Prabhakaran under project category - "B1" and Schedule S.No. 1(a) – ToR issued along with Public Hearing – preparation of EIA report – Regarding.

- Ref:**
1. Online proposal No.SIA/TN/MIN/64360/2021, Dated: 01.07.2021
  2. Your application submitted for Terms of Reference dated: 07.07.2021
  3. Minutes of the 220<sup>th</sup> Meeting of SEAC held on 20.07.2021
  4. Minutes of the 454<sup>th</sup> Meeting of SEIAA held on 16.08.2021

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

The proponent, Thiru. U. Prabhakaran submitted application for ToR on 07.07.2021, in Form-1, Pre- Feasibility report for the Proposed Rough Stone & Gravel Quarry lease over an


extent of 0.68.8 Ha at S.F.No, 389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

**Discussion by SEAC and the Remarks:-**

The proposal was placed in the 220<sup>th</sup> meeting of SEAC held on 20.07.2021. Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Terms of Reference (ToR) with Public Hearing, subject to the following ToR in addition to the standard terms of reference for EIA study for non-coal mining projects and details issued by the MoEF & CC to be included in EIA/EMP report:

1. A detailed study of the lithology of the mining lease area shall be furnished.
2. The proponent shall form the proper benches as per the approved mining plan during the operation of the quarry considering the hydro-geological regime of the surrounding area as well as for safe mining.
3. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees, & safety distance between the adjacent quarries & water bodies nearby provided as per the approved mining plan.
4. The Project Proponent shall conduct the hydro-geological study to assess the impact considering the contour map of the ground water table detailing the number of ground water pumping & open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) along with the water levels for both monsoon and non-monsoon seasons from the PWD / TWAD.
5. The Proponent shall carry out the Cumulative impact study due to mining from all the mines on the environment in terms of air pollution, water pollution, & health impacts, accordingly the Environment Management plan should be prepared.
6. The Socio-economic studies should be carried out within a 10 km buffer zone from the mines.
7. A tree survey study shall be carried out (nos., name of the species, age etc.) both within the mining lease applied area & 300m buffer zone and its management during mining activity.
8. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality, &

23 AUG 2021

  
MEMBER SECRETARY  
SEIAA-TN

- flora/fauna including traffic/vehicular movement study to assess the cumulative impact of the proposed project on the environment and in order to propose Environment management plan including CER activities proposed with implementation and cost estimation details, considering the requirement raised during public hearing by the local habitants in regard to as per Office Memorandum of MoEF&CC accordingly.
9. Fugitive emission measurements should be carried out during the mining operation and the report on the same may be submitted to SEIAA once in six months.
  10. The proponent shall submit waste/reject handling and management /mode of disposal for the proposed mining activity.
  11. A detailed mining closure plan for the proposed project shall be submitted.
  12. A detail report on the safety and health aspects of the workers and for the surrounding habitations during operation of mining for drilling and blasting shall be submitted.
  13. The Ambient silica analysis needs to be carried out once in six months and report the same to SEIAA.
  14. The recommendation for the issue of "Terms of Reference" is subjected to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A No.186 of 2016 (M.A.No.350/2016) and O.A. No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A. No. 843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No. 981/2016, M.A.No.982/2016 & M.A.No.384/2017).
  15. The project proponent shall furnish the details of the existing Green belt area earmarked with GPS coordinates and list of trees planted to be planted with a copy of photos/documents of the existing green belt, and be included in the EIA Report.
  16. The project proponent should provide a detailed plan regarding the green belt area surrounding the mining area at least with a width of 3m.

**Discussion by SEIAA and the Remarks:-**

The proposal was placed in the 454<sup>th</sup> meeting of SEIAA held on 16.08.2021. After detailed discussions, the Authority unanimously accepts the recommendation of SEAC and decided to grant **Terms of Reference (ToR) with Public Hearing** under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment

23 AUG 2021

  
MEMBER SECRETARY  
SEIAA-TN


Management Plan subject to the conditions as recommended by SEAC & normal condition in addition to the following conditions:

1. As per the MoEF&CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.

#### **A. STANDARD TERMS OF REFERENCE**

- 1) Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.
- 2) A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.
- 3) All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.
- 4) All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ topo sheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).
- 5) Information should be provided in Survey of India Topo sheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.
- 6) Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.
- 7) It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into

23 AUG 2021

  
MEMBER SECRETARY  
SEIAA-TN



focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

- 8) Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.
- 9) The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.
- 10) Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.
- 11) Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.
- 12) Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.
- 13) Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of Net Present Value (NPV) and Compensatory Afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.
- 14) Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.
- 15) The vegetation in the RF / PF areas in the study area, with necessary details, should be

- given.
- 16) A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.
  - 17) Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.
  - 18) A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating the Schedule of the fauna present. In case of any scheduled-I fauna found in the study area, the necessary plan along with budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.
  - 19) Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.
  - 20) Similarly, for Coastal Projects, a CRZ map duly authenticated by one of the authorized agencies demarcating LTL, HTL, CRZ area, location of the mine lease with respect to CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).
  - 21) R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation &

23 MS 111

Member Secretary  
SEIAA-TN

Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

- 22) One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)] primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.
- 23) Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of Vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.
- 24) The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.
- 25) Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.
- 26) Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.



- 27) Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.
- 28) Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.
- 29) Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.
- 30) Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.
- 31) A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.
- 32) Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.
- 33) Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

23 AUG 2021

  
MEMBER SECRETARY  
SEIAA-TN

- 34) Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.
- 35) Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.
- 36) Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.
- 37) Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.
- 38) Detailed Environmental Management Plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.
- 39) Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.
- 40) Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
- 41) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
- 42) A Disaster management Plan shall be prepared and included in the EIA/EMP Report.
- 43) Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.
- 44) Besides the above, the below mentioned general points are also to be followed:-
  - a) Executive Summary of the EIA/EMP Report
  - b) All documents to be properly referenced with index and continuous page numbering.

- c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.
- d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF&CC/NABL accredited laboratories. All the original analysis/testing reports should be available during appraisal of the Project.
- e) Where the documents provided are in a language other than English, an English translation should be provided.
- f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.
- g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF&CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.
- h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF&CC with reasons for such changes and permission should be sought, as the ToR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.
- i) As per the circular no. J-11011/618/2010-IA.II(T) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the Environment Clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.
- j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

**In addition to the above, the following shall be furnished:-**

**The Executive summary of the EIA/EMP report in about 8-10 pages should be prepared incorporating the information on following points:**

1. Project name and location (Village, District, State, Industrial Estate (if applicable).

23 AUG 2021

  
MEMBER SECRETARY  
SEIAA-TN

2. Process description in brief, specifically indicating the gaseous emission, liquid effluent and solid and hazardous wastes.
3. Measures for mitigating the impact on the environment and mode of discharge or disposal.
4. Capital cost of the project, estimated time of completion.
5. The proponent shall furnish the contour map of the water table detailing the number of wells located around the site and impacts on the wells due to mining activity.
6. A detailed study of the lithology of the mining lease area shall be furnished.
7. Details of village map, "A" register and FMB sketch shall be furnished.
8. Detailed mining closure plan for the proposed project approved by the Geology of Mining department shall be submitted along with EIA report.
9. Obtain a letter /certificate from the Assistant Director of Geology and Mining standing that there is no other Minerals/resources like sand in the quarrying area within the approved depth of mining and below depth of mining and the same shall be furnished in the EIA report.
10. EIA report should strictly follow the Environmental Impact Assessment Guidance Manual for Mining of Minerals published February 2010.
11. Detail plan on rehabilitation and reclamation carried out for the stabilization and restoration of the mined areas.
12. The EIA study report shall include the surrounding mining activity, if any.
13. Modeling study for Air, Water and noise shall be carried out in this field and incremental increase in the above study shall be substantiated with mitigation measures.
14. A study on the geological resources available shall be carried out and reported.
15. A specific study on agriculture & livelihood shall be carried out and reported.
16. Impact of soil erosion, soil physical chemical and biological property changes may be assumed.
17. Site selected for the project - Nature of land - Agricultural (single/double crop), barren, Govt./ private land, status of its acquisition, nearby (in 2-3 km.) water body, population, within 10km other industries, forest, eco-sensitive zones, accessibility, (note - in case of industrial estate this information may not be necessary)
18. Baseline environmental data - air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population
19. Identification of hazards in handling, processing and storage of hazardous material and

23 AUG 2021

MEMBER SECRETARY  
SEIAA-TN

- safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population
  21. Emergency preparedness plan in case of natural or in plant emergencies
  22. Issues raised during public hearing (if applicable) and response given
  23. CER plan with proposed expenditure.
  24. Occupational Health Measures
  25. Post project monitoring plan
  26. The project proponent shall carry out detailed hydro geological study through intuitions/NABET Accredited agencies.
  27. A detailed report on the green belt development already undertaken is to be furnished and also submit the proposal for green belt activities.
  28. The proponent shall propose the suitable control measure to control the fugitive emissions during the operations of the mines.
  29. A specific study should include impact on flora & fauna, disturbance to migratory pattern of animals.
  30. Reserve funds should be earmarked for proper closure plan.
  31. A detailed plan on plastic waste management shall be furnished. Further, the proponent should strictly comply with, Tamil Nadu Government Order (Ms) No.84 Environment and forests (EC.2) Department dated 25.06.2018 regarding ban on one time use and throw away plastics irrespective of thickness with effect from 01.01.2019 under Environment (Protection) Act, 1986. In this connection, the project proponent has to furnish the action plan.

**Besides the above, the below mentioned general points should also be followed:-**

- a. A note confirming compliance of the TOR, with cross referencing of the relevant sections / pages of the EIA report should be provided.
- b. All documents may be properly referenced with index, page numbers and continuous page numbering.
- c. Where data are presented in the report especially in tables, the period in which the data were collected and the sources should be indicated.
- d. While preparing the EIA report, the instructions for the proponents and instructions for the consultants issued by MoEF & CC vide O.M. No. J-11013/41/2006-IA.II (I) dated



4<sup>th</sup> August 2009, which are available on the website of this Ministry should also be followed.

- e. The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India (QCI)/National Accreditation Board of Education and Training (NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other organization/Laboratories including their status of approvals etc. In this regard circular no F. No.J-11013/77/2004-IA-II(I) dated 2<sup>nd</sup> December 2009, 18<sup>th</sup> March 2010, 28<sup>th</sup> May 2010, 28<sup>th</sup> June 2010, 31<sup>st</sup> December 2010 & 30<sup>th</sup> September 2011 posted on the Ministry's website <http://www.moef.nic.in/> may be referred.

- After preparing the EIA (as per the generic structure prescribed in Appendix-III of the EIA Notification, 2006) covering the above mentioned points, the proponent will take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.
- The final EIA report shall be submitted to the SEIAA, Tamil Nadu for obtaining Environmental Clearance.
- The TORs with Public Hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OM No.J-11013/41/2006-IA-II(I)(part) dated 29<sup>th</sup> August 2017.

  
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**Copy to:**

1. The Principal Secretary to Government, Environment & Forests Dept.  
Govt. of Tamil Nadu, Fort St. George, Chennai - 9.
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan,  
CBD Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
3. The Member Secretary, Tamil Nadu Pollution Control Board,  
76, Mount Salai, Guindy, Chennai - 600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ).

34. HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi - 110 003.
6. The District Collector, Tiruppur District.
7. Stock File.



**SEIAA**  
**TN**



From

Dr. S.Vediappan, M.Sc., Ph.D.,  
Deputy Director,  
Dept. of Geology and Mining,  
Tiruppur.

To

Thiru. U. Prabhakaran,  
S/o. Udhayakumar,  
No. 6/67, Sarppattaickenpalayam,  
Morattupalayam village,  
Uthukuli Taluk, Tiruppur District

**R.c. No. 465/2021/Mines Dated : 17.06.2021**

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel – Tiruppur District – Uthukuli Taluk – Morattupalayam Village – Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares – Quarry lease application preferred by Thiru. U. Prabhakaran, S/o. Udhayakumar - Precise area communicated - Draft mining plan submitted – Approved – Other quarries situated in 500m radius details - Requested - Regarding.

- Ref: 1. Thiru. U. Prabhakaran, S/o. Udhayakumar, No. 6/67, Sarppattaickenpalayam, Morattupalayam village, Uthukuli Taluk, Tiruppur District quarry lease application dated: 31.03.2021.
2. The Deputy Director, Geology and Mining, Tiruppur letter R.C. No. 465/2021/Mines dated 10.06.2021
3. Mining Plan submitted by Thiru. U. Prabhakaran, S/o. Udhayakumar in letter dated 14.06.2021.

\*\*\*\*\*

1. Thiru. U. Prabhakaran, S/o. Udhayakumar has preferred application for the grant of Rough Stone and Gravel quarry lease in Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares of Morattupalayam Village of Uthukuli Taluk of Tiruppur District.

2. Based on reports and records available, precise area has been communicated to the applicant with a direction to submit mining plan and also to submit environmental clearance as stipulated in rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 vide memo dated 10.06.2021.

3. Accordingly Thiru. U. Prabhakaran, S/o. Udhayakumar has submitted the draft mining plan and the same has been approved by the Deputy Director (Geology & Mining) on 17.06.2021 and also requested to furnish the details of Quarry Lease / Mining Lease situated within 500 mts radius and pit dimension details from the subject quarry for obtaining Environment Clearance from the State level Environment Impact Assessment Authority.



4. In this connection the details of existing / abandoned quarries located within 500m radius from the proposed area are as follows.

**a. Existing quarries**

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1	N. Ayyadurai	Morattu palayam	392 Part	2.02.5	341 / Mines / 2017 DATE 28.9.2018	28.09.2018 - 27.09.2023
	S. Rajasekar	Morattu palayam	382/2A (Part)	1.98.5	105 / Mines / 2017 Date 25.9.2018	25.09.2018 - 24.09.2023
	T.S. Udhaya kumar	Morattu palayam	388 Part A	1.26.5	174 / MINES / 2017 DATED 6.4.2018	(6.4.2018 TO 5.4.2023)
	S. Raju	Morattu palayam	388 Part B	1.58.0	175 / MINES / 2017 DATED 9.4.2018	(9.4.2018 TO 8.4.2023)

**b. Abandoned / expired quarries**

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period expired on
1	S. Raju	Morattu palayam	389/1B1	1.62.0	292 / Mines / 2014 date 19.06.2015	24.06.2015 – 23.06.2020 Lease expired
2	M. Palanisamy	Morattu palayam	385/2 (Part)	0.59.5	300/ Mines /2015 dated 13.01.2016	21.01.2016 – 20.01.2021 lease expired


**c. Present proposed quarries**

S. No	Name of the lessee	Village	S.F. No	Extent Hect.	Collector's proceedings No. & Date	Lease period
1.	P. Thanga muthusamy	Morattu palayam	383/2A1 382/2B	3.24.0	--	Nearby applied area
2	T. Thangaraj	Morattu palayam	383/2A2B, 383/2A 2A2A	1.88.72	--	Nearby applied area
3	K. Senthil kumar	Morattu palayam	383/1 (P), 383/2A2A1 (P)	0.71.5	--	Nearby applied area
4	M. Thangaraj	Morattu palayam	383/2B2	1.51.0	--	Nearby applied area
5	U. Prabha karan	Morattu palayam	389/1C2	0.68.8	--	Proposed area.

In this regard, as per the approved Mining Plan, the dimension of the existing pit for which previously lease was granted to Thiru. T.S. Udhayakumar for a period of 5 years over

an extent of 0.68.8 in S.F. No. 389/1C2 vide District Collector, Tiruppur proceedings R.C. 195/Mines/2014 dated 23.05.2015 for the period from 28.05.2015 to 27.05.2020 is given detailed below:-

Length in (m) (Max)	Width in (m) (Max)	Depth in (m) (Max)
94	42	11 m below ground level

  
17.06.20  
Deputy Director,  
Geology and Mining,  
Tiruppur.

Copy to

The Chairman, State Level Environment Impact,  
Assessment Authority, Tamil Nadu,  
3rd Floor, PanagalMaaligai, No.1 Jeenis Road, Saidapet, Chennai-15.



From

Dr. S.Vediappan, M.Sc., Ph.D.,  
Deputy Director,  
Dept. of Geology and Mining,  
Tiruppur.

To

Thiru. U. Prabhakaran,  
S/o. Udhayakumar,  
No. 6/67, Sarppattaickenpalayam,  
Morattupalayam village,  
Uthukuli Taluk, Tiruppur District

**R.c. No. 465/2021/Mines Dated : 17.06.2021**

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel – Tiruppur District – Uthukuli Taluk – Morattupalayam Village – Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares – Quarry lease application preferred by Thiru. U. Prabhakaran, S/o. Udhayakumar - Precise area communicated - Draft mining plan submitted – Approved – Other quarries situated in 500m radius details - Requested - Regarding.

- Ref: 1. Thiru. U. Prabhakaran, S/o. Udhayakumar, No. 6/67, Sarppattaickenpalayam, Morattupalayam village, Uthukuli Taluk, Tiruppur District quarry lease application dated: 31.03.2021.  
2. The Deputy Director, Geology and Mining, Tiruppur letter R.C. No. 465/2021/Mines dated 10.06.2021  
3. Mining Plan submitted by Thiru. U. Prabhakaran, S/o. Udhayakumar in letter dated 14.06.2021.

\*\*\*\*\*

1. Thiru. U. Prabhakaran, S/o. Udhayakumar has preferred application for the grant of Rough Stone and Gravel quarry lease in Patta land in S.F.No. 389/1C2 over an extent of 0.68.8 Hectares of Morattupalayam Village of Uthukuli Taluk of Tiruppur District.

2. Based on reports and records available, precise area has been communicated to the applicant with a direction to submit mining plan and also to submit environmental clearance as stipulated in rule 41 and 42 of Tamil Nadu Minor Mineral Concession Rules, 1959 vide memo dated 10.06.2021.

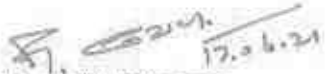
3. Accordingly, Thiru. U. Prabhakaran, S/o. Udhayakumar has submitted the Draft Mining Plan and the same has been examined in detail and it is found correct. Therefore, in exercise of the powers delegated under Rule 42 of Tamil Nadu

Minor Mineral Concession Rules, 1959, and as per the guidelines / instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Roc.No.3868/LC/2012 dated 19.11.2012, the mining plan submitted by Thiru. U. Prabhakaran, S/o. Udhayakumar in respect of the subject area is hereby approved subject to the following conditions:

- (i). That the mining plan is approved without prejudice to any other Law applicable to the quarry lease from time to time whether such Laws are made by the Central Government, State Government or any other authority.
- (ii). This approval of the mining plan does not in any way imply the approval of the Government in terms of any other provisions of 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 the Tamil Nadu Minor Mineral Concession Rules, 1959.
- (iii). That the mining plan is approved without prejudice to any other order or direction from any court of competent jurisdiction.
- (iv). Quarrying shall be done as per the approved Mining Plan and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (v). If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
- (vi). Safety distances mentioned in the precise area has to be maintained for the entire duration of the lease period.

- (vii). Waste material should be dumped within the lease granted area as earmarked in the Mining Plan.
- (viii). Necessary Environmental Clearance has to be obtained by the applicant from the competent authority before the grant of quarry lease as per the rules.
- (ix). Quarrying operations and production shall be carried out as per the approved Mining Plan and the applicant shall be liable to pay the cost of mineral if there is any deviation in the quantum indicated in the approved year wise quantum of production and any such cases as on date are to be dealt with as per Court direction.
- (x). If any violation is found during quarrying operation, the penal provisions of Tamil Nadu Minor Mineral Concession Rules shall attract.
- (xi). The applicant should strictly adhere to the statutory and safety requirements.

Encl: Approved Mining Plan.

  
Deputy Director,  
Geology and Mining,  
Tiruppur.

Copy to

1. The Commissioner,  
Department of Geology and Mining,  
Guindy, Chennai - 600 032.
2. The Chairman ,  
State Level Environment Impact Assessment Authority,  
Panagal park Building, Saidapet, Chennai -600 015.
3. Dr. P. Thangaraju, RQP,  
Reg.off.No.17, Advaita Ashram Road,  
Alagapuram, Salem-636 004.

**MINING PLAN AND PROGRESSIVE QUARRY  
CLOSURE PLAN FOR MORATTUPALAYAM  
ROUGH STONE AND GRAVEL QUARRY**

(PREPARED UNDER RULES 41 & 42 AS AMENDED IN TAMILNADU MINOR MINERAL CONCESSION RULES, 1999)

*Putta Land / Lease Period = Five Years*

IN

**LOCATION OF THE QUARRY LEASE APPLIED AREA**

EXTENT : 0.68.8ha  
S.F.NO : 389/1C2  
VILLAGE : MORATTUPALAYAM  
TALUK : UTHUKULI  
DISTRICT : TIRUPPUR  
STATE : TAMIL NADU

FOR

**APPLICANT**

**Thiru.U.Prabhakaran,**

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District,  
Tamil Nadu State – 638 752.

**PREPARED BY**

**Dr. P. Thangaraju, M.Sc., Ph.D.,**

Qualified Person

Regd. Off. No.17, Advaita Ashram Road,  
Alagapuram, Salem District – 636 004.  
Cell: +91 94422 78601 & 94433 56539.  
E-mail: infogeoexploration@gmail.com





**U.Prabhakaran,**  
S/o. Udhayakumar,  
No.6/67, Sappattanaickenpalayam,  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District,  
Tamil Nadu State – 638 752.

**CONSENT LETTER FROM APPLICANT**

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.Sha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared by

**Dr. P. Thangaraju, M.Sc., Ph.D.,**  
Qualified Person

I request to the Deputy Director, Department of Geology and Mining, Tiruppur District to make further correspondence regarding the modification of the Mining Plan with the said Qualified Person at his following address.

**Dr. P. Thangaraju, M.Sc., Ph.D.,**  
Regd. Off. No. 17,  
Advaitha Ashram Road,  
Alagapuram, Salem District – 636 004.  
Cell: +91 94422 78601 & 94433 56539.

I hereby undertake that all the modifications, if any made in the Mining Plan by the Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Signature of the Applicant

  
U.Prabhakaran

Place: Tiruppur  
Date: 11.06.2021





**U.Prabhakaran,**

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State – 638 752.

**DECLARATION OF THE APPLICANT**

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.Sha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant

U.Prabhakaran

Place: Tiruppur

Date: 11.06.2021



### CERTIFICATE

Certified that I am, **Dr. P. THANGARAJU**, M.Sc., Ph.D., having an office at Regd. Off. No. 17, Advaita Ashram Road, Alagapuram, Salem – 636 004, holding a Post Graduate Degree in Geology (M.Sc. Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

Rule 15(I)(a) and (b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 stipulates the eligibility for preparing Mining plans as “(I)(a) a post graduate degree in Geology granted by a university established” and (I)(b) “Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree”. Since my qualification and experience are satisfied the Rule (I)(a) and (I)(b) of 15 of the said Rules, I am eligible to prepare Mining Plans for both Major and Minor Minerals.

Accordingly, I am prepare this Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State for **Thiru.U.Prabhakaran**, S/o. Udhayakumar, No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 14.06.2021



**Dr. P. Thangaraju, M.Sc., Ph.D.,**

Regd. Off. No. 17,

Advaitha Ashram Road,

Alagapuram, Salem District – 636 004.

Cell: +91 94422 78601 & 94433 56539.

**CERTIFICATE FROM THE QUALIFIED PERSON**

This is to certify that the Provisions of under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

**Thiru.U.Prabhakaran,**

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State – 638 752.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the Deputy Director, Department of Geology and Mining, Tiruppur District, Tamil Nadu for such permissions/ exemptions/ relaxations and approvals.

It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 14.06.2021



**Dr. P. Thangaraju, M.Sc., Ph.D.,**

Regd. Off. No. 17,

Advaita Ashram Road,

Alagapuram, Salem District – 636 004.

Cell: +91 94422 78601 & 94433 56539.

**CERTIFICATE FROM THE QUALIFIED PERSON**

Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.389/1C2 over an extent of 0.68.8ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

**Thiru.U.Prabhakaran,**

S/o. Udhayakumar,

No.6/67, Sappattanaickenpalayam,

Morattupalayam Village, Uthukuli Taluk,

Tiruppur District,

Tamil Nadu State – 638 752.

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

It is also certified that information furnished in the Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 14.06.2021



## LIST OF CONTENTS

<b>S. No.</b>	<b>Description</b>	<b>Page No.</b>
1.0	Introduction and Executive Summary	1
2.0	General Information	5
3.0	Location	6
	<u>PART-A</u>	
4.0	Geology and Mineral Reserves	8
5.0	Mining	11
6.0	Blasting	15
7.0	Mine Drainage	17
8.0	Other Permanent Structures	18
9.0	Employment Potential & Welfare Measures	20
	<u>PART-B</u>	
10.0	Environment Management Plan	22
11.0	Progressive Quarry Closure Plan	30
12.0	Any Other Details Intend to Furnish by the Applicant	37



### LIST OF ANNEXURES

S. No.	Description	Annex. No.
1.	Copy of Precise Area Communication	I
2.	Copy of FMB	II
3.	Copy of Village Map	III
4.	Copy of Patta	IV
5.	Copy of Adangal	V
6.	Copy of A-Register	VI
7.	Copy of ID Proof	VII
8.	Copy of Educational Certificate of Qualified Person	VIII
9.	Copy of Experience Certificate of Qualified Person	IX

### LIST OF PLATES

S. No.	Description	Plate No.
1.	Location Plan	I
2.	Topo sketch of Quarry Lease Applied Area for 10km Radius	I-A
3.	Environmental & Landuse Plan	I-B
4.	Route Map	I-C
5.	Quarry Lease Plan & Surface Plan	II
6.	Topography, Geological Plan, Yearwise Development & Production Plan & Sections	III
7.	Progressive Quarry Closure Plan & Sections	IV
8.	Conceptual Plan & Sections	V



**MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR  
MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN  
EXTENT OF 0.68.8ha IN MORATTUPALAYAM VILLAGE,  
UTHUKULI TALUK, TIRUPPUR DISTRICT, TAMIL NADU STATE.**

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL  
CONCESSION RULES, 1959)

**1.0 INTRODUCTION AND EXECUTIVE SUMMARY**

This Mining Plan and Environment Management Plan are prepared for **Thiru.U.Prabhakaran**, S/o. Udhayakumar, residing at No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752.

The applicant applied for Rough stone and Gravel quarry over an extent of 0.68.8ha of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State under Rules 19 of Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Deputy Director, Department of Geology and Mining, Tiruppur District and passed a Precise Area Communication letter vide **Rc.No.465/Mines/2021, Dated:10.06.2021** to submit Mining Plan for the approval in Department of Geology and Mining, Tiruppur District and obtain Environmental Clearance from the Competent Authority, Tamil Nadu State, with the conditions to provide:

1. The quarried out minerals should be transported after paid the necessary seniorage fee as per Appendix- II of Tamil Nadu Minor Mineral Concession Rules, 1959.
2. Quarrying should be leaving a safety distance of 7.5m to the adjacent Patta land.
3. Quarrying should be leaving a safety distance of 10m to the Geographical Cart Track of East-West direction in S.F.No.389/2C in Southwest side of the applied area.
4. Quarrying should be leaving a safety distance of 10m to the Government Poramboke land in S.F.No.388 in South side of the applied area.
5. Quarrying should be leaving a safety distance of 50m to the LT line of North-South direction in Eastern side about 45m away from the applied area.
6. The quarry operation should be carried out with slurry explosives by an authorized explosive

agency and no hindrance shall be caused to the adjacent Patta land and Government lands. This Mining Plan is approved subject to the Conditions indicated in the Mining Plan approved Letter

No. **465/2021/mines**  
Dated **17.06.2021**

Powers conferred under rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959

**DEPUTY DIRECTOR**  
**Geology and Mining**  
17.06.2021



7. The applicant shall submit the approved mining plan within the time stipulated in the precise area communication letter.
8. Prior Environment clearance should be obtained from the competent authority in respect of the area applied for quarry lease before grant of quarry lease.

(Please refer Annexure No – I).

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less then 5ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the Mining Plan, Environmental Management Plan and Progressive Quarry Closure Plan for approval and subsequent submission of Form-I, Form-IM and Pre feasibility report to obtain environmental clearance from the Competent Authority, Tamil Nadu State, Rough stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 24.01.2019.

**Short Notes of Mining Plan:**

- a. Village Panchayat - Morattupalayam
- b. Panchayat Union - Uthukuli
- c. The Geological Resources are  $1,66,730\text{m}^3$  of Rough stone and  $288\text{m}^3$  of Gravel formation in the entire area.
- d. The Total Mineable Reserves are  $48,125\text{m}^3$  of Rough stone in the entire area and Gravel was removed in previous lease period.
- e. The proposed quantity of reserves/ (level of production) to be mined are  $48,125\text{m}^3$  of Rough stone for five years in the entire area.
- f. Total extent of the lease applied area = 0.68.8ha
- g. Topography of the area = The area exhibits plain topography
- h. Proposed Depth of mining = 36m (1m Gravel + 35m Rough stone) below ground level
- i. Mining Plan Period = Five years





- j. It is a fresh lease application but, the applied area has been considered quarrying operation earlier. The quarry lease was previously granted in the favour of **Thiru.T.S.Udhayakumar**, over an extent of 0.89.0hectares of Patta land in S.F.No.389/1C of Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide **Re.No.195/Mines/2014, Dated: 23.05.2015** for the period of five years from 28.05.2015 to 27.05.2020 for quarrying of Rough stone and Gravel. The applicant has once again applied a quarry lease on 31.03.2021, over an extent of 0.68.8hectares of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District for the period of five years. The application was meritoriously processed by the Deputy Director, Department of Geology and Mining, Tiruppur District and recommended the quarry lease for the period of five years. The maximum dimensions of the **existing quarry pits** are given table below (Refer Plate No. II).

Length (m) (max)	Width (m) (max)	Depth (m) (max)
94	42	1 m below ground level

- k. Method of mining / level of mechanization.  
Opencast mechanized method, the quarry operation involves shallow Jack hammer drilling, slurry blasting.
- l. Type of machineries proposed in the quarrying operation is given below:  
Excavators attached with rock breaker (Rental Basis).  
Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity) (Rental Basis).
- m. No trees will be uprooted due to this quarrying operation.
- n. The existing road from the main road to quarry is in good condition. The same will be maintained and utilized for Transportation of quarry materials and machineries.
- o. There is No Export of this Rough stone and Gravel.
- p. Topo sketch covering 10km and 1km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships is marked and enclosed as Plate Nos. IA & IB.
- q. The lease applied area is about 0.68.8ha bounded by five corners; the corners are designated as 1-5 Clockwise from the Southwestern corner the Co – ordinates for the all the corners are clearly marked in the Quarry Lease and Surface Plan enclosed as Plate No. II.
- r. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate Nos. III and IV.



- s. General conditions will not be applicable for the proposed area. The area applied for lease is 10Km away from the,
- Interstate Boundary*
  - Protected area under wild life protection ACT, 1972,*
  - Critically polluted areas as identified by CPCB,*
  - Notified Eco sensitive areas.*
- t. There is no waste anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.
- u. Around 14 employees are deploying in the quarrying operation.
- v. Total Cost of the project is about **Rs.25,31,000/-**.
- w. Infrastructures around the lease applied area given below in the table:

TABLE-1

Particulars	Location	Approximate aerial distance and direction from lease applied area
Nearest Post Office	Sarkar Periyapalayam	2km – Southwest
Nearest School	Sarkar Periyapalayam	2km – Southwest
Nearest Dispensary	Uthukuli	5km – Northeast
Nearest Town	Uthukuli	5km – Northeast
Nearest Police Station	Uthukuli	5km – Northeast
Nearest Hospital	Uthukuli	5km – Northeast
Nearest D.S.P. Office	Tiruppur	9km – Southwest
Nearest Railway Station	Uthukuli	5km – Northeast
Nearest Airport	Coimbatore	53km – Southwest
Nearest Seaport	Kochi	184km – Southwest
District Head quarters	Tiruppur	9km – Southwest

**2.0 GENERAL INFORMATION**

**2.1 a) Name of the Applicant :** Thiru.U.Prabhakaran,  
S/o. Udhayakumar,

**b) Address of the Applicant (With Phone No and Aadhaar No)**

Address : No.6/67, Sappattanaickenpalayam,  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District.

Pin Code : 638 752

Mobile No : +91 98422 12353

Aadhaar No : 5073 2763 0533

Email ID : prabhupunk@gmail.com

**c) Status of the Applicant (Individual / Company / Firm):**

The applicant is an Individual.

**2.2 a) Mineral which the Applicant intends to mine:**

The Applicant intends to quarry Rough stone and Gravel only.

**b) Precise area communication letter details received from the Competent Authority of the Government:**

The precise area communication letter was received from the Deputy Director, Department of Geology and Mining, Tiruppur District vide **Re.No.465/Mines/2021, Dated: 10.06.2021** to submit approved mining plan and to obtain Environmental Clearance from the Competent Authority, Tamil Nadu State.

**c) Period of permission / lease to be granted:**

Five Years.

**d) Name and address of the Qualified Person who preparing the Mining Plan:**

Name : Dr. P. Thangaraju, M.Sc., Ph.D.,  
Qualified Person

Address : Reg. No.17,  
Advaitha Ashram Road,  
Alagapuram, Salem District – 636 004.

Telephone : 0427- 2431989 (Office)

Cell No : +91 94422 78601 & 94433 56539

Email : infogeoexploration@gmail.com

(Refer Annexure Nos. VIII and IX).



**3.0 LOCATION**

**a) Details of the area with location map:**

The lease applied area is about 9km Northeastern side of Tiruppur town and 5km Southwestern side of Uthukuli town, the lease applied area located along Morattupalayam Village at a distance of 1km Southwestern side.



Location Map of the Lease Applied Area

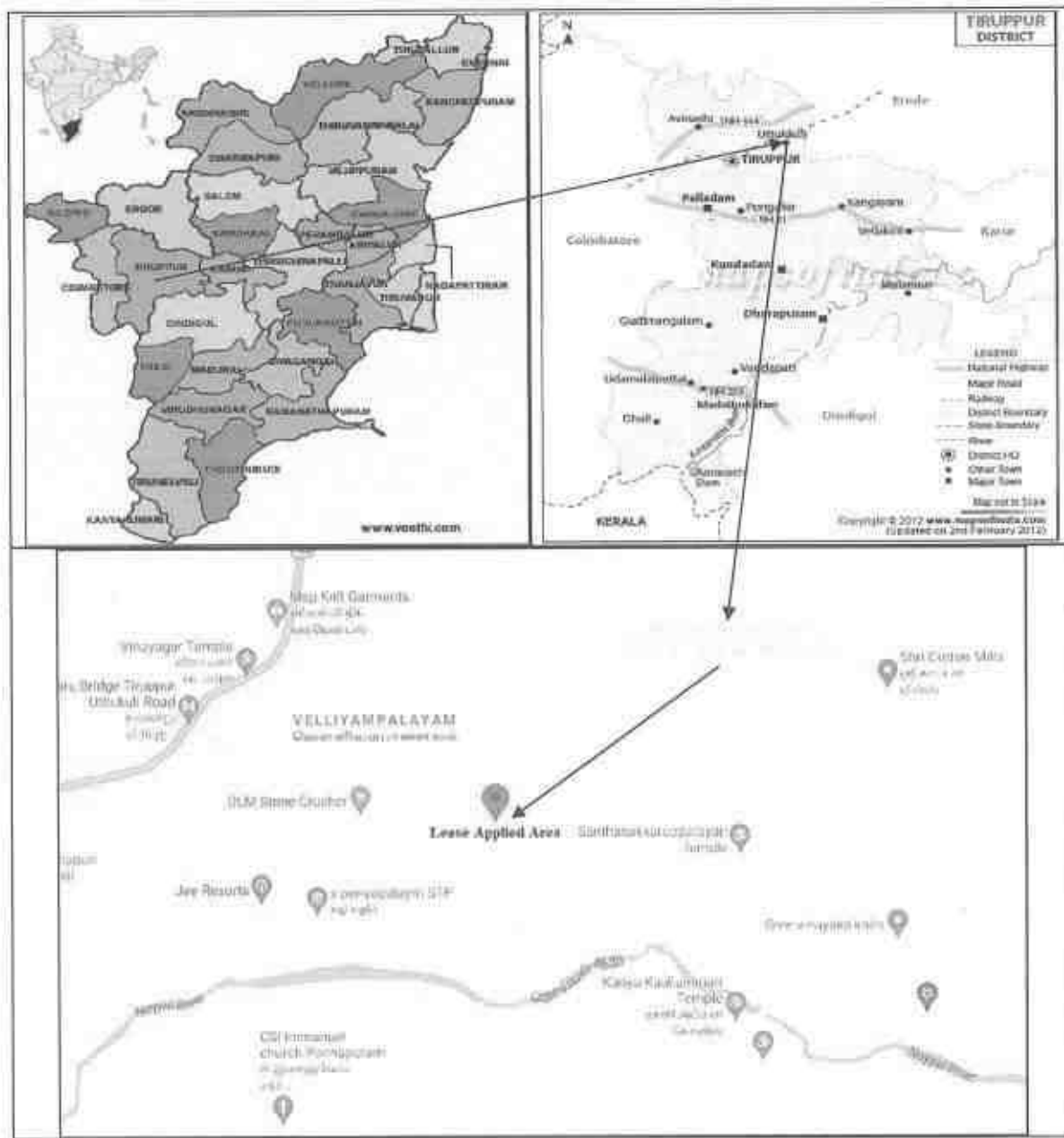




TABLE-2

District	Taluk	Village	S.F. No.	Lease Applied Area in ha.	Patta Nos.
Tiruppur	Uthukuli	Morattupalayam	389/1C2	0.68.8	1088
<b>Total Extent</b>				<b>0.68.8ha</b>	

**b) Classification of the area (Ryotwari/ Poramboke / others):**

It is a Patta land (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership / Occupancy of the applied area (surface right):**

It is a Patta land. Registered in the name of the applicant (Thiru.U.Prabhakaran), vide Patta No.1088. Refer Annexure No. IV.

**d) Topo sheet No. with latitude and longitude:**

The lease applied area falls in the Topo sheet No: 58 - E/08 Latitude between: 11°07'59.75"N to 11°08'03.55"N and Longitude between: 77°25'21.19"E to 77°25'23.61"E on WGS datum-1984. Please refer the Plate Nos. I to II.

**e) Existence of public road / Railway line, if any nearby and approximate distance:**

The approach (metal) road is situated on the Northeastern side which connects the Tirupur – Vijayamangalam (SH-19A) State Highway Road at a distance 900m from the Northwestern side of the applied area.

Multiple road access is available from the quarry to state highways and National Highway, no villages are enrooted hence the traffic density is not much more due to the transportation of Rough stone.

The approach road from the quarry is already existed and the same will be utilized for haulage and maintained during the entire lease period, tree sapling will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Coimbatore – Erode which is about 2km on the Northeastern side of the lease applied area.



**PART - A**

**4.0 GEOLOGY AND MINERAL RESERVES**

**4.1 Brief description of the Topography and general Geology of the area (with plans):**

The lease applied area exhibits plain topography. The area has gentle sloping towards Northeast side. The altitude of the area is 360m (max) above Mean Sea level. The area is covered by 1m thickness of Gravel and formation. Massive Charnockite is found after 1m (Gravel) which is clearly inferred from the existing quarry pits.

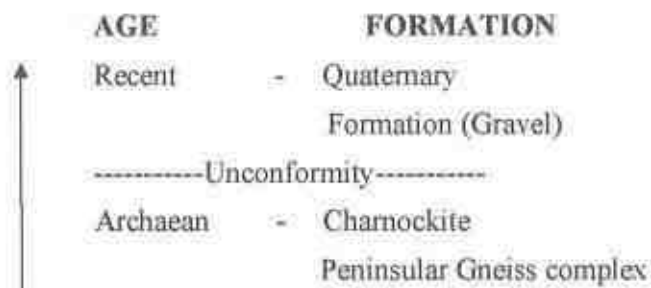
The Water table is found at a depth of 78m in summer and at 73m in rainy seasons. Average annual rainfall is about 618mm.

Topographical View of lease applied area



Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale of the Charnockite body is N35°E – S35°W with dipping towards SE70°.

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



**4.2 Details of exploration already carried out if any:**

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Tiruppur District. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area. The Rough stone formation is clearly inferred from the existing quarry pits.

**4.3 Estimation of Reserves:****a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000**

As far as Rough stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough stone within the field and careful evaluation of body luster, physical properties, engineering properties and commercial aspects etc.,

Totally two sections have been drawn, one section is drawn Length wise as (X-Y) and other one cross section is drawn Width wise as (A-B) to cover the maximum area considered for lease.

The Topographical, Geological Plan and Sections demarcated the commercial marketable Rough stone (Charnockite) deposit has been prepared in 1:1000 scale (please refer the Geological Plan and Sections Plate No. III). As the sale of Rough stone is in terms of cubic meters (Volume) only and not in terms of tonnage.

**Geological Resources (Plate No. III):**

The Geological Resources of Rough stone and Gravel are calculated up to a maximum depth of 36m (1m Gravel + 35m Rough stone) below ground level. **The total Geological resources are calculated by sectional method and the resources are estimated after depletion of existing quarry pits.** The total geological resources are given below:





**TABLE-3**

<b>GEOLOGICAL RESOURCES</b>						
<b>Section</b>	<b>Bench</b>	<b>Length in (m)</b>	<b>Width in (m)</b>	<b>Depth in (m)</b>	<b>Geological Resources in Rough stone (m<sup>3</sup>)</b>	<b>Gravel Formation (m<sup>3</sup>)</b>
XY-AB	I	18	16	1	-	288
	II	18	16	5	1440	-
	III	18	16	5	1440	-
	IV	113	58	5	32770	-
	V	113	58	5	32770	-
	VI	113	58	5	32770	-
	VII	113	58	5	32770	-
	VIII	113	58	5	32770	-
<b>Total</b>					<b>166730</b>	<b>288</b>

Total Geological Resources of Gravel formation : **288m<sup>3</sup>**

Total Geological Resources of Rough stone : **1,66,730m<sup>3</sup>**

**Existing Pit Dimension:**

The lease applied area has been quarried in earlier the existing pit dimensions are follows:

**TABLE-4**

<b>Length (m) (max)</b>	<b>Width (m) (max)</b>	<b>Depth (m) (max)</b>
94	42	11m below ground level

**Available Mineable Reserves:**

The available Mineable reserves are calculated after leaving the safety distance and bench loss to a maximum depth of 36m below ground level.

**TABLE-5**

<b>MINEABLE RESERVES</b>					
<b>Section</b>	<b>Bench</b>	<b>Length in (m)</b>	<b>Width in (m)</b>	<b>Depth in (m)</b>	<b>Mineable Reserves in Rough stone (m<sup>3</sup>)</b>
XY-AB	IV	95	43	5	20425
	V	85	33	5	14025
	VI	75	23	5	8625
	VII	65	13	5	4225
	VIII	55	3	5	825
<b>Total</b>					<b>48125</b>





The mineable reserves have been computed as **48,125m<sup>3</sup>** of Rough stone at the rate of 100% recovery upto a maximum depth of 36m below ground level for a period of five years and Gravel was removed in previous quarry operation.

## **5.0 MINING**

### **5.1 Method of mining (opencast / underground):**

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act - 1952.

### **5.2 Mode of working (mechanized, semi mechanized, manual):**

The Rough stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow jack hammer drilling, slurry explosives in blasting, excavation, loading and transportation of Rough stone to the needy crusher.

The production of Rough stone in this quarry involves the following method which is typical for Rough stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and slurry explosives blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

### **5.3 Proposed Bench Height and Width:**

The Charnockite is hard and compact rock, the bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.



**5.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):**

The overburden in the form of Gravel formation, the Gravel formation was removed in previous quarrying operation earlier. The excavated Rough stone will be directly loaded into tipper to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Green belt development are shown in Plate No-III.

**Yearwise development and Production**

TABLE-6

YEARWISE PRODUCTION DETAILS						
Years	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Recoverable Reserves in Rough stone (m <sup>3</sup> )
I	XY-AB	IV	30	43	5	6450
		V	20	33	5	3300
		<b>Total</b>				<b>9750</b>
II		IV	25	43	5	5375
		V	25	33	5	4125
		<b>Total</b>				<b>9500</b>
III		IV	40	43	5	8600
		V	8	33	5	1320
		<b>Total</b>				<b>9920</b>
IV	V	32	33	5	5280	
	VI	40	23	5	4600	
	<b>Total</b>				<b>9880</b>	
V	VI	35	23	5	4025	
	VII	65	13	5	4225	
	VIII	55	3	5	825	
	<b>Total</b>				<b>9075</b>	
<b>Grand Total</b>						<b>48125</b>

The Recoverable reserves have been computed as 48,125m<sup>3</sup> of Rough stone for five years of 100% recovery upto depth of 36m below ground level for a mining period.

The applicant ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the Rough stone locked up in benches will be exploited after obtaining necessary permission from the office of **Director General of Mine Safety, Chennai** region by submitting relevant documents, appropriate safety plans and its Mitigation measures:



Mining Plan and PQCP

Morattupalayam Rough stone and Gravel Quarry

One lorry load	=	6m <sup>3</sup> (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed in this five years plan period	=	48,125m <sup>3</sup>
Hence total lorry loads per day	=	48,125m <sup>3</sup> /6m <sup>3</sup>
	=	8021 lorry loads
	=	8021/5 years
	=	1604/300 Days
Rough stone	=	5 lorry loads per day
Working hours = 8.30 am to 5.30 pm (with 12.30-1.30 pm lunch break)		

**5.5 Machineries to be used:**

**For Mining:**

The following machineries are utilized on rental basis for the development and production work at this quarry.

TABLE-7

**I. DRILLING MACHINE:**

S. No.	Type	Nos	Dia Hole mm	Size Capacity	Motive power
1	Jack hammer	2	30-35	1.2m to 2.0m	Compressed air
2	Compressor	1	-	400 psi	Diesel Drive

**II. EXCAVATION & LOADING EQUIPMENT:**

S. No.	Type	Nos	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	1	300	Diesel Drive

**III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:**

S. No.	Type	Nos	Capacity	Motive Power
1	Tipper	1	20 tonnes	Diesel Drive

**5.6 Disposal of Overburden/Waste:**

The overburden in the form of Gravel formation, the Gravel formation was removed in previous quarrying operation earlier. The excavated Rough stone (100%) will be directly loaded into tipper to the needy customers. There is no Waste anticipated during this plan period hence, disposal of waste does not arise.

**5.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and Environment considerations:**

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.,

As the applicant has applied quarry lease for five years, the ultimate pit limit (dimension) at the end of this mining plan period is given below:

TABLE-8

Length (m) (max)	Width (m) (max)	Depth (m) (max)
94	42	36m below ground level

Greenbelt has proposed on the safety zone by planting Neem, Pongamia Pinnata, Casuarina, etc., trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF&CC Norms. Please refer Plate Nos. III & IV.

It is propose to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

There is no waste anticipated during the entire life of quarry. Hence, backfilling is not possible in this quarry. After completion of quarry operation, the quarry pit will be allowed to collect the seepage and rainwater, the water storage will be kept as temporary reservoir for charging the nearby wells and the storage water will be used for afforestation purpose. The quarry pit will be fenced with barbed wire fencing to prevent inadvertent entry of public and cattle (Refer Plate No. IV).



**6.0 BLASTING**

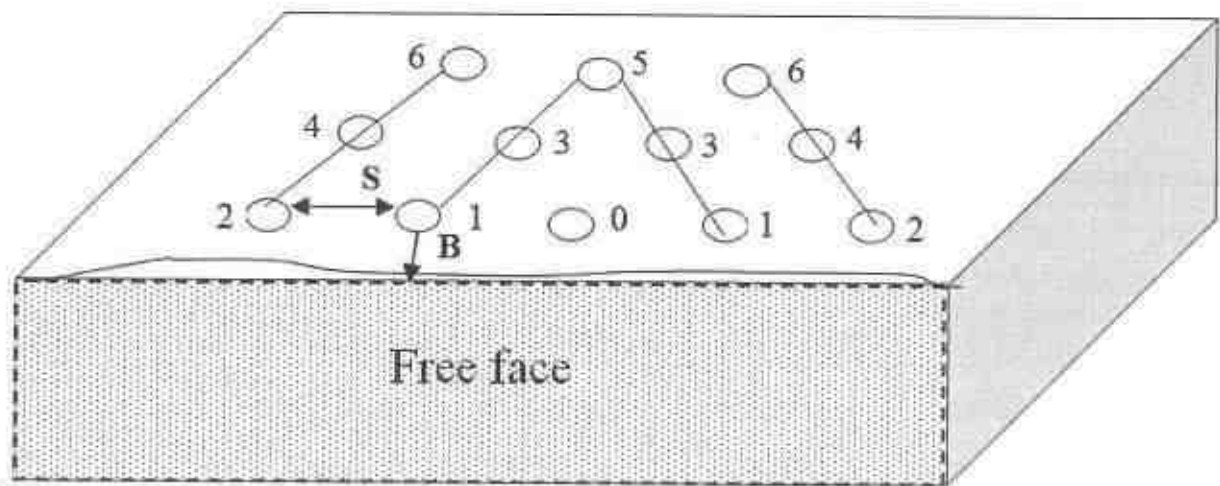
**6.1 Blasting pattern:**

The quarrying operation is proposed to be carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and slurry blasting of shattering effect for loosening the Rough stone.

Drilling and blasting parameters are as follows:

Depth of Each hole	:	1.5m
Diameter of hole	:	30-32mm
Spacing between holes	:	1.2m
Burden for hole	:	1.0m
Pattern of hole	:	Zigzag – Multi-rows
Inclination of holes	:	80° from horizontal
Use of delay detonators	:	25millisecond relays
Detonating fuse	:	“Detonating” Cord

**BLASTING PATTERN DRAWING**



**Staggered “V” Pattern of Blasting Design**

Spacing	=	1.2m
Burden	=	1.0m
Depth of the hole	=	1.5m
No of holes proposed per day	=	28 Holes

**6.2 Type of explosives to be used:**

Small Dia. 25mm slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough stone. No deep hole drilling or primary blasting is proposed.

**6.3 Measures proposed to minimize ground vibration due to blasting:**

The quarry is situated more than 300m from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give hearing effect in Rough stone for easy excavation and to control fly rock.

**Delay detonators:**

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.

The major advantages of delay blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

**Blasting program for the production per day:**

No of Holes	= 28 Holes
Yield	= 83 Tons
Powder factor	= 6 Tons/Kg of explosives
Total explosive required	= 14 Kg-Slurry explosives
Charge/ hole	= 0.5 Kg
Blasting at day time only	= 12.00 – 12.30p.m (whenever required)



#### 6.4 Storage and safety measures to be taken while blasting:

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should have the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the Explosives Agencies will take it out back the remaining quantity of Explosives. The magazine is available at the quarry site to temporarily store the explosives.

### 7.0 MINE DRAINAGE

#### 7.1 Depth of water table (based on nearby wells and water bodies):

The Water Table in the area is 78m in summer season and 73m in rainy season which is observed from the nearby bore wells and the data obtained from existing private boreholes. The lease area is fully covered by Massive Charnockite formation. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt.

TABLE-9

Type	Distance & Direction	Location
Bore Well	370m Southern side	11°07'48.08"N 77°25'23.30"E

#### 7.2 Arrangements and places where the mine water is finally proposed to be discharged:

Quarry operations are confined well above the water table during the entire lease period. If water is encountered due to rain water and seepage, the same will be pumped out by 5HP water pumps to the Greenbelt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.





**8.0 OTHER PERMANENT STRUCTURES (also shown in the map)**

**8.1 Habitations/ Villages natham:**

There is no approved habitation within 300m radius from the lease applied area.

**8.2 Power Lines (HT/LT):**

There is an LT line is situated about 45m away in North-South direction of Eastern side of the lease applied area hence 50m safety distance has been maintained. There is no other Housing area, EB line (HT & LT Line) within the radius of 50m from the lease applied area.

**8.3 Water bodies (river, ponds, lake, odai, canal, etc.):**

There is no River, Pond, Lake, Odai, Canal located within 50m radius of the lease applied area.

**8.4 Archaeological / historical monuments:**

There is no Archaeological / historical monuments within 300m radius from the lease applied area.

**8.5 Road (NH, SH, others):**

The Nearest National Highway (NH-47) Salem – Coimbatore is situated about 7km on the Northern side of the lease applied area.

The State Highway (SH-19A) Tiruppur – Vijayamangalam is situated about 900m on the Northwestern side of the lease applied area.

The District Major Road (MD-1102) Vavipalayam – Uthukuli Road is situated about 3km on the Northeastern side of the lease applied area.

**8.6 Places of worships:**

There is no place of worships within the radius of 300m from the lease applied area.

**8.7 Reserved forest / forest / social forest / wild life sanctuary etc.,:**

There is no reserved forest / forest / social forest / wild life sanctuary etc., within radius of 500m of the lease applied area.





## SALIENT FEATURES

S. No.	Salient Features Present around site	Prescribed safety distance	If any present within Prescribed distance it's actual distance and direction from the area																	
1.	Railways, Highways, Reservoirs or Canal	50m	None of the above situated within 50m radius.																	
2.	Village Road	10m	Geographical Cart Track is passing in Southwestern side within 10m radius of the lease applied area.																	
3.	Habitation / Village	300m	There is no approved habitation within 300m radius from the lease applied area (Refer Plate No I-B).																	
4.	Adjacent Patta land / Govt. Land	7.5m/10m	<table border="1"> <thead> <tr> <th>Direction</th> <th>Classification</th> <th>Safety Distance</th> </tr> </thead> <tbody> <tr> <td>North</td> <td>Patta land</td> <td>7.5m</td> </tr> <tr> <td>East</td> <td>Patta land</td> <td>7.5m</td> </tr> <tr> <td>South</td> <td>Govt. land</td> <td>7.5m</td> </tr> <tr> <td rowspan="2">West</td> <td>Patta land</td> <td>7.5m</td> </tr> <tr> <td>Govt. land / Geographical Cart Track</td> <td>10m</td> </tr> </tbody> </table> <p>(Refer Plate No. II).</p>	Direction	Classification	Safety Distance	North	Patta land	7.5m	East	Patta land	7.5m	South	Govt. land	7.5m	West	Patta land	7.5m	Govt. land / Geographical Cart Track	10m
Direction	Classification	Safety Distance																		
North	Patta land	7.5m																		
East	Patta land	7.5m																		
South	Govt. land	7.5m																		
West	Patta land	7.5m																		
	Govt. land / Geographical Cart Track	10m																		
5.	Housing area, EB line (HT & LT Line)	50m	There is an LT line is situated about 45m away in North-South direction of Eastern side of the lease applied area hence 50m safety distance has been maintained. There is no other Housing area, EB line (HT & LT Line) within the radius of 50m from the lease applied area.																	
6.	Boundaries of the permitted area	7.5m/10m	The boundaries of the permitted areas is as follows: North – S.F.No.389/1C1 East – S.F.No.400 South – S.F.No.388 West – S.F.Nos.389/1B2 & 389/2C (Refer Plate No. II).																	
7.	Reserve forest	60m	There is no reserved forest located within the radius of 60m from the lease applied area. (Refer Plate No. IA and IB).																	
8.	Protected area / ECO sensitive area/Wild Life Sanctuary	10km	There is no ECO sensitive Zone/ Wild Life Sanctuary/ Critically Polluted Area/ HACA/ CRZ located within 10km radius of the area. (Refer Plate No. IA).																	

**9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES****9.1 Employment potential (skilled, semi skilled, un skilled):**

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous Mines Regulations, 1961.

**a. Skilled labour:**

Mine Foreman	:	1
Blaster/mate	:	1
Excavator – Operator & Driver	:	2
Jack hammer operator	:	4

**b. Semi-skilled:**

Security	:	1
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**c. Unskilled:**

Labour & Helper	:	2
Co-operator and Cleaner	:	3
<b>Total</b>	:	<b>14</b>

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

**9.2 Welfare Measures:****a. Drinking Water:**

Packaged drinking water is available from the nearby approved water vendors in Morattupalayam which is about 1km on the Northeastern side of the lease applied area.

**b. Sanitary Facilities:**

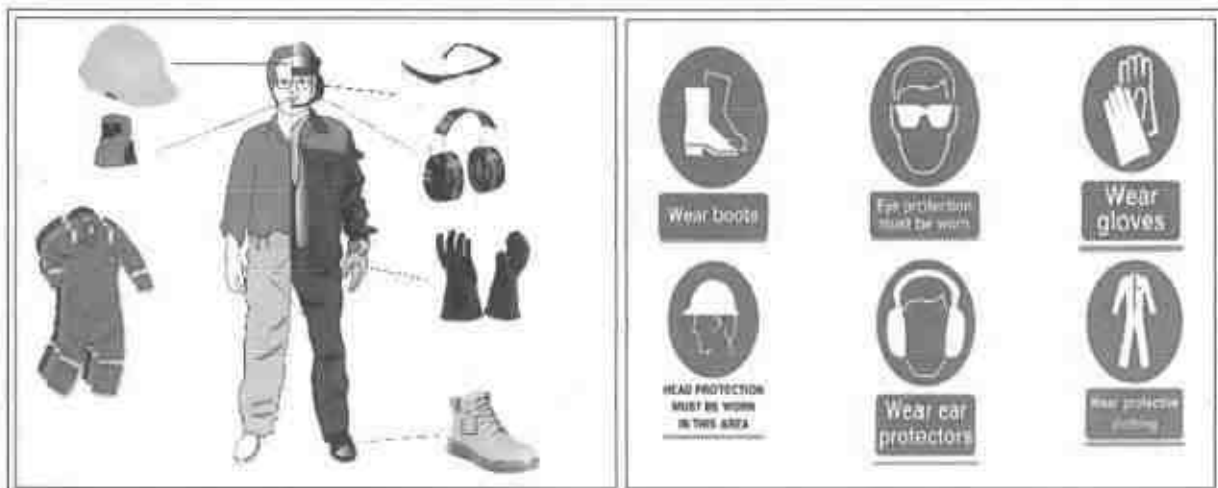
Hygienic modern Sanitary Facilities will be constructed as semi permanent structure and it will be maintained periodically as hygienic.

**c. First aid facility:**

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mafe will be in charge of first aid and injured person will be taken to the hospital by the applicant vehicle. Hospital is available in Uthukuli located at a distance of 5km on the Northeastern side.

**d. Labour Health:**

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

**e. Precautionary safety measures to the labourers:**

- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets,
- Safety Shoes

All personnel protective devices will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe guard the men and machinery and to create awareness about conventional opencast quarrying operations.

**PART – B****10.0 ENVIRONMENT MANAGEMENT PLAN****10.1 Existing Land use pattern:**

The quarry lease applied area exhibits plain topography. The area is a dry barren land devoid of Agriculture and Habitations. The lease applied area has utilized only for quarry operation in earlier.

**LAND USE TABLE-10**

<b>Description</b>	<b>Present area in (ha)</b>	<b>Area at the end of this quarrying period (ha)</b>
Quarrying Pit	0.40.0	0.40.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized Area	0.26.8	0.17.8
<b>Grand Total</b>	<b>0.68.8</b>	<b>0.68.8</b>

**10.2 Water Regime:**






It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid surface run-off rain water entering into the pit.

The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climate change.









## 10.3 Flora and Fauna:

TABLE-11

S.No.	Name of the plant (Scientific)	Family Name	Common Name	Habit	Picture
1.	<i>Thespesia populnea</i>	Indian Tulip Tree	Poovarasu	Tree	
2.	<i>Tamarindus indica</i>	Caesalpiniaceae	Puli	Tree	
3.	<i>Pongamia pinnata</i>	Fabaceae	Pungai	Tree	
4.	<i>Cassia auriculata</i>	Fabaceae	Aavarampoo	Shurb	
5.	<i>Ziziphus oenoplia</i>	Rhamnaceae	Suraimullu, Surai ilantai	Shurb	

List of Fauna

S.No.	Scientific Name	Common Name	Picture
1.	<i>Capra hircus</i>	Goat	
2.	<i>Boigaspp</i>	Cat snake	
3.	<i>Athene brama</i>	Spotted owl	
4.	<i>Passer domesticus</i>	House sparrow	
5.	<i>Precis hierta</i>	Yellow pansy	
6.	<i>Funambulus palmarum</i>	Indian palm squirrel	

**10.4 Climatic Conditions:**

The area receives rainfall of about 618mm/annum and the rainy season is mainly from Oct - Dec during monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 20°C.

**10.5 Human settlement:**

There are few villages located in this area within 5km radius; the approximate distance and population are given below:

TABLE-12

S. No	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Morattupalayam	1km – Northeast	5,900
2.	Sarkar Periyapalayam	2km – Southwest	6,100
3.	Agrahara Periyapalayam	2km – Northwest	3,000

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Uthukuli located at a distance of 5km on the Northeastern side of the area.

**10.6 Plan for air, dust suppression:**

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the slurry blasting, Jack hammer drilling, loading and unloading during the Rough stone quarry operation. The following Mitigations measures will be carried out:

- Mist Water spraying will be carried out by means of water sprinklers to suppress the dust emission in the Haul roads.
- Vegetations will be formed on the non quarrying area.
- Avoiding spillages during the transportation.

Air quality will be monitored periodically as per Norms and Mitigative measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around **Rs.52,000/year**.

**10.7 Plan for Noise level control:**

The noise level increased due to the Drilling, Blasting, Excavation and Transportation.

**Engineering Noise control:**

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Selection of new low – noise equipment's is proposed to be deployed for the Rough stone quarry operation.
- Modifications of older equipments.
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- The drivers will be strictly instructed to move the vehicle during the transportation not exceed 40km per hour.
- Sentries with flags & whistle will posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as slurry explosives, ordinary safety fuse will be used for Rough stone. Hence, ground vibration and noise pollution i.e., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs.2,000/Year**.

**10.8 Environment impact assessment statement describing impact of mining on the five years:**

In the mining plan proposed for a production of Rough stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the Environment impact studies will be conducted as per EIA notification issued by MoEF&CC. It is B2 Category mine. The estimated budget would be around **Rs.3,80,000/-**.

**10.9 Proposal for waste management:**

There is no waste anticipated in this Rough stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%).



**10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):**

In the mining plan proposed only to a maximum depth of 36m below ground level has been envisaged as workable depth for safe & economic mining during entire lease-applied area. There is no waste generated hence, backfilling is not possible. Hence, the quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. The barbed wire fencing cost would be around **Rs.96,000/-**.

**10.11 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):**

The safety zone all along the boundary barrier has been identified to be utilized for Greenbelt development. Appropriate native species of Neem, Pongamia Pinnata, Casuarina, etc., trees will be planted in a phased manner as described below.

**TABLE-13**

Years	No. of trees proposed to be planted	Survival %	Area to be covered sq.m	Name of the species	No. of trees expected to be grown
I	20	80	160	Neem, Pongamia Pinnata, Casuarina, etc.,	16
II	20	80	160		16
III	20	80	160		16
IV	20	80	160		16
V	20	80	160		16

Nearly 800sq.m area is proposed to use under Greenbelt by planting 20 Number of tree saplings during every year with an anticipated survival rate of 80% (Please refer Plate No. III). The estimated budget for plantation and maintenance of Greenbelt development would be around **Rs.10,000/-** for the period of five years.

The Greenbelt Development will be formed in around in the approach road and nearby village road of the lease applied area. The cost would be around **Rs.10,000/-**.



**10.12 Proposed financial estimate / budget for (EMP) environment management:**

Budget Provision for the entire quarrying period:

TABLE-14

S. No	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Charges/ year
1	Ambient air quality monitoring	6500	4	26000	52000
2	Noise level monitoring	250	4	1000	2000
3	Ground vibration monitoring	1000	2	2000	4000
4	Water sampling and analysis	9000	1	9000	18000
<b>Total EMP Cost/ year</b>					<b>76,000</b>

The EMP cost would be around **Rs.3,80,000/-** for the period of five years.**A. Project / investment / Operational cost:**

i)	Land cost	The Land value as per the Government Guideline land cost is about, Rs.7,45,500/ha, hence the total land cost is calculated about 0.68.8ha X Rs.7,45,500/- = Rs.5,12,904/- i.e., Rs.5,13,000/- (source: <a href="https://tnreginet.gov.in/portal/">https://tnreginet.gov.in/portal/</a> )	= Rs.5,13,000/-
ii)	Machinery to be used	The following machineries are proposed to meet out the productions. Excavator attached with rock breaker, Tippers, Tractor mounted compressor with Jack hammer and loose tools (Rental Basis)	= Rs.10,00,000/-
iii)	Refilling/ Fencing	Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around	= Rs.96,000/-
iv)	Labourers shed	Labour sheds will be constructed as semi permanent structure. The cost would be around	= Rs.60,000/-
v)	Sanitary facility	Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around	= Rs.50,000/-
vi)	Others items	First aid room & accessories	= Rs.45,000/-



Mining Plan and PQCP

Morattupalayam Rough stone and Gravel Quarry

vii) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around	= Rs.62,000/-
viii) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around	= Rs.50,000/-
ix) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around	= Rs.50,000/-
x) Water sprinkling	Water will be sprinkled in the haul roads by water sprinklers the cost would be around	= Rs.80,000/-
xi) Garland drains Construction	Construction of garland drains to divert surface runoff from virgin area away from mining area	= Rs.75,000/-
xii) Greenbelt etc.	Greenbelt program will be carried out in the boundary barriers the cost would be around	= Rs.10,000/-
	Greenbelt program will be carried out in the approach road and nearby village road	= Rs.10,000/-
	<b>Total Operational Cost</b>	<b>= Rs.21,01,000/-</b>



<b>B. EMP Cost:- (Per year)</b>	
Air Quality monitoring	Rs.52,000/-
Water Quality Sampling	Rs.18,000/-
Noise Monitoring	Rs. 2,000/-
Ground Vibration test	Rs. 4,000/-
<b>Total Cost</b>	<b>Rs.76,000/-</b>
Total EMP Cost for the five years period is <b>Rs.3,80,000/-</b>	
<b>Description</b>	<b>Amount (Rs.)</b>
<b>A. Operational Cost</b>	<b>21,01,000</b>
<b>B. EMP Cost</b>	<b>3,80,000</b>
<b>Total Project Cost (A+ B)</b>	<b>24,81,000</b>
The applicant indents to involve corporate environment responsibilities (CER) activity like Water Purifier and Medicine Storage rack facilities to the nearby Dispensary at 2.0% from the total project cost. The Cost would be around <b>Rs.50,000/-</b> .	<b>50,000</b>
<b>Total Cost</b>	<b>25,31,000</b>
The Total cost would be around one crore twenty five lakhs and thirty one thousands only.	



## 11.0 PROGRESSIVE QUARRY CLOSURE PLAN

### 11.1 Introduction:

The Progressive Quarry Closure Plan for Rough stone and Gravel quarry over an extent of 0.68.8ha of Patta land in S.F.No.389/1C2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for **Thiru.U.Prabhakaran**, S/o. Udhayakumar, residing at No.6/67, Sappattanaickenpalayam, Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 752.

### 11.2 Present Land use pattern:

**LAND USE TABLE-15**

Description	Present area in (ha)
Quarrying Pit	0.40.0
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.26.8
<b>Grand Total</b>	<b>0.68.8</b>

### 11.3 Method of Mining:

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height for Rough stone.

However, as far as the quarrying of Rough stone is concerned, observance of the provisions of Regulation 106 (2) (b) as above is seldom possible due to various inherent petro genetic factors coupled with mining difficulties. Hence it is proposed to obtain relaxation to the provisions of the above regulation from the Director of Mines Safety for which necessary provision is available with the Regulation 106 (2) (b) of MMR-1961, under Mine Act – 1952.

### 11.4 Mineral Processing Operations:

The quarried out Rough stone will be transported by the 20tons capacity Tipper to the needy crushers. Splitting of rock mass of considerable volume from the parent rock mass by Jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough stone from pithead to the needy crushers.

**11.5 Reasons for closure:**

As the mineral is not going to be exhausted during the proposed plan period no immediate closure is planned and sufficient reserves are available to carry on the activities. The reason for closure will be discussed in the ensuing mining plan.

**11.6 Statutory obligations:**

The applicant ensures to comply all the conditions were imposed while granting the precise area communication letter before the execution of lease deed and during the course of quarry operations.

**11.7 Progressive quarry closure plan preparation:**

Name and address of the Qualified Person who prepared the progressive closure plan and name and address of the executing agency who is involved in the preparation of progressive quarry closure plan.

Name	:	<b>Dr. P. Thangaraju, M.Sc., Ph.D.,</b> Qualified Person
Address	:	Reg. No.17, Advaita Ashram Road, Alagapuram, Salem District – 636 004.
Telephone	:	0427- 2431989 (Office)
Cell No	:	+91 94422 78601 & 94433 56539

Applicant will himself implement the closure plan; no outside agency will be involved.

**11.8 Review of Implementation of Mining Plan including Progressive Closure Plan upto the Final Closure Plan:**

There is no waste generated during entire life of quarry, hence backfilling is not possible in the quarried out pit. The entire quarry area is an active also no proposal given for Progressive quarry closure plan in the previous mining plan hence, the applicant has not taken any action for progressive quarry closure. Hence, review of implementation of progressive quarry closure does not arise at present. However, if any work done for progressive quarry closure plan during this plan period, it will be discuss in the ensuing Mining Plan.

**11.9 Closure Plan:****(i) Mined Out Land:**

At the end of mining plan period, about 0.40.0ha of area will be mined out. Land use at various stages is given in the table below.

**LAND USE TABLE-16**

Description	Present area in (ha)	Area at the end of this quarrying period (ha)
Quarrying Pit	0.40.0	0.40.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.08.0
Unutilized Area	0.26.8	0.17.8
<b>Grand Total</b>	<b>0.68.8</b>	<b>0.68.8</b>

The Greenbelt Development will be formed in around in the approach road and nearby village road of the lease applied area.

**(ii) Water quality management:**

Following control measures will be adopted for controlling water pollution:

- Construction of garland drains to divert surface run-off from virgin area away from mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture land.
- Domestic sewage from site office & urinals/latrines provided in QL is discharged in septic tank followed by soak pits.

**(iii) Air Quality Management:**

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

For air pollution management at the progressive quarry closure plan, greenbelt will be developed to prevent and control air pollution.

**(iv) Top Soil and Waste Management:**

There is no topsoil or waste generated during the proposed plan period. The entire quarried out Rough stone and Gravel is utilized (100%). Hence, waste management does not arise.

**(v) Disposal of mining machinery:**

All the machineries will be engage on rental basis. Hence, disposal or decommissioning of mining machinery does not arise.

**(vi) Safety & Security:**

Safety measures will be implemented to prevent access in the excavation area an un-authorized persons as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0m for ease of operations and provide sufficient room for the movement of equipments.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be provide before blasting time to prevent any accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.



**(vii) Disaster Management and Risk Assessment:**

This should deal with action plan for high risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete quarrying operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The Greenbelt Development will be formed in around in the approach road and nearby village road of the lease applied area.

**(viii) Care and Maintenance during Temporary Discontinuance:**

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.
- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.





- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:
  - Quarry roads and approach roads,
  - Fencing on approach roads,
  - Checking and maintenance of machines and equipment,
  - Drinking water arrangements,
  - Quarry office, first aid stations etc.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, quarrying operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

**(ix) Economic Repercussion of Closure of Quarry and manpower Retrenchments:**

The Quarry Lease is granted for a period of maximum five years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

**(x) Time Scheduling For Abandonment:**

The lease applied area has enormous potential for continuance of operations even after the expiry of the lease period. The details of time schedule of all abandonment will be given at the time of final closure plan.



**(xi) Abandonment Cost:**

As at present mining is not going to be closed so abandonment cost could not be assessed. However based on the progressive quarry closure activities during the plan period, cost is assessed as given below:

**LAND USE TABLE-17**

ACTIVITY		YEAR					RATE	COST (Rs.)
		I	II	III	IV	V		
Plantation under safety zone	Nos.	20	20	20	20	20	@100 Rs Per sapling	10,000/-
	Cost	2000	2000	2000	2000	2000		
Plantation in the approach road and nearby village road	Nos.	20	20	20	20	20	@300 Rs Per Meter	10,000/-
	Cost	2000	2000	2000	2000	2000		
Wire Fencing (In Mtrs) 320 Mtrs		96000	-	-	-	-	@300 Rs Per Meter	96,000/-
Garland drain (In Mtrs) 250 Mtrs		75000	-	-	-	-	@300 Rs Per Meter	75,000/-
<b>TOTAL</b>								<b>1,91,000/-</b>

**12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT**

This Mining Plan for Rough stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified as per the guidelines of the Concerned Department.

Prepared by

Dr. P. Thangaraju, M.Sc., Ph.D.,  
Qualified person

Place: Salem

Date: 14.06.2021



This Mining Plan is approved subject to the Conditions indicated in the Mining Plan approved Letter No. 465/2021/Mines.  
Dated 17.06.2021.

This Mining Plan is approved as per the Powers conferred under rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959

17.06.21  
DEPUTY DIRECTOR  
Geology and Mining  
Tiruppur

17/6/21

ந.க.எண். 465/கனிமம்/ 2021

புவியியல் மற்றும் சுரங்கத்துறை  
 மாவட்ட ஆட்சியர் அலுவலகம்,  
 திருப்பூர்.

நாள்: 10.06.2021.

குறிப்பாணை

**பொருள் :** கனிமங்களும் சுரங்கங்களும் - சிறு கனிமம் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண்குவாரி குத்தகை உரிமம் கோரி திரு. உ. பிரபாகரன், த/பெ. உதயகுமார் என்பவர் விண்ணப்பம் அளித்தது - புலத்தணிக்கை அறிக்கை சமர்ப்பிக்கப்பட்டது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

- பார்வை :**
1. திரு. உ. பிரபாகரன், த/பெ. உதயகுமார், 6/67, சப்பட்டநாயக்கன்பாளையம், மொரட்டுப்பாளையம் கிராமம், ஊத்துக்குளி வட்டம் என்பவரின் விண்ணப்பம் நாள்: 31.03.2021
  2. இவ்வலுவலக ந.க.எண். 465/2021/கனிமம் நாள்: 07.04.2021
  3. இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை ந.க. 1870/எம்.எம்.1/2020 நாள்: 10.08.2020 கடிதத்துடன் அரசாணை (பல்வகை) எண். 169, தொழில் (எம்.எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது. (குமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண். 315 நாள்: 04.08.2020).
  4. வட்டார வளர்ச்சி அலுவலர் (வ.ஊ), ஊத்துக்குளி கடிதம் ந.க. 992/2021/அ2 நாள்: 22.04.2021 (இவ்வலுவலகத்தில் பெறப்பட்ட நாள்: 03.05.2021).
  5. வட்டாட்சியர், ஊத்துக்குளி கடிதம் ந.க. 703/2021/அ2 நாள்: 29.04.2021
  6. வருவாய் கோட்டாட்சியர், திருப்பூர் கடிதம் ந.க. 924/2021/ஈ1 நாள்: 30.04.2021.
  7. உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் புலத்தணிக்கை அறிக்கை நாள்: 05.05.2021.
  8. மற்றும் உரிய ஆவணங்கள்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் குவாரிக் குத்தகை உரிமம் வழங்க கோரி திரு. உ. பிரபாகரன், த/பெ. உதயகுமார் என்பவர் பார்வை 1-ல் கண்டுள்ளபடி உரிய ஆவணங்களுடன் விண்ணப்பம் அளித்துள்ளார்.

2. மேற்படி விண்ணப்பங்கள் தொடர்பாக, வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, வருவாய் கோட்டாட்சியர், திருப்பூர், மற்றும்



உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் திரு. உ. பிரபாகரன், த/பெ உதயகுமார் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி உரிமம் வழங்க கீழ்க்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

#### நிபந்தனைகள்:

- a. 1959ம் வருடத்திய தமிழ்நாடு சிறு கனிம சலுகை விதிகள், அட்டவணை IIல் கண்டுள்ளபடி குவாரி செய்யப்படும் கனிமங்களுக்குரிய சீனியரேஜ் தொகை அவ்வப்போது செலுத்தி கனிமம் கொண்டு செல்லப்பட வேண்டும்.
- b. அருகிலுள்ள பட்டா நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி மேற்கொள்ள வேண்டும்.
- c. விண்ணப்பப் புலத்தின் தென்மேற்குப் பகுதியில் புல எண். 389/2சி-ல் கிழக்கு மேற்காக செல்லும் நிலவியல் வண்டிப்பாதைக்கு 10மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- d. விண்ணப்பப் புலத்தின் தெற்கே உள்ள அரசு புறம்போக்கு புல எண். 388-ற்கு 10மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- e. குவாரியின் கிழக்குப் பகுதியில் 45மீட்டர் தொலைவில் வடக்கு தெற்காக செல்லும் தாழ்வழுத்த மின்கம்பிப் பாதைக்கு 50மீட்டர் பாதுகாப்பு இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
- f. அனுபவம் வாய்ந்த வெடிபொருள் பயன்படுத்துவோர் மூலம் குறைந்த அளவு சக்தி கொண்ட வெடிபொருட்களை பயன்படுத்தி அருகிலுள்ள பட்டாதாரர்களுக்கு எவ்வித இடையூறுமின்றி / அருகிலுள்ள பட்டா மற்றும் அரசு புலங்களில் எவ்வித ஆக்கிரமிப்பும் இன்றி குவாரிப்பணி மேற்கொள்ள வேண்டும்.
- g. விதிகளின் படி ஏற்பளிக்கப்பட்ட கரங்கத்திட்டத்தினை உரிய காலத்திற்குள் சமர்ப்பிக்க வேண்டும்.
- h. குவாரி உரிமம் வழங்க உள்ள பகுதிக்கு சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் முன் அனுமதி பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும்.

3. எனவே, வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, வருவாய் கோட்டாட்சியர், திருப்பூர், மற்றும் உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோரின் பரிந்துரை மற்றும் நிபந்தனைகளின் அடிப்படையில், திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 389/1சி2-ல் 0.68.8 ஹெக்டர் பரப்பில் மட்டும் 1959ம் வருட தமிழ்நாடு சிறுகனிம விதிகள், விதி எண்.19-ன் படி மேற்கண்ட நிபந்தனைகளுக்குட்பட்டு 5 (ஐந்து) வருட காலத்திற்கு



திரு. உ. பிரபாகரன், த/பெ. உதயகுமார் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக கருதப்படுகிறது.

4. மேலும், தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண். 41-ன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு கரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்குமாறு மனுதாரரைக் கேட்டுக்கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட கரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-ன் படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

திரு. உ. பிரபாகரன்  
10.06.21  
துணை இயக்குநர்,  
புவியியல் மற்றும் கரங்கத்துறை,  
திருப்பூர்.

பெறுநர்:

திரு. உ. பிரபாகரன், த/பெ. உதயகுமார்,  
6/67, சப்பட்டநாயக்கன்பாளையம்,  
மொரட்டுப்பாளையம் கிராமம், ஊத்துக்குளி வட்டம்

திரு. உ. பிரபாகரன்  
10.06.21



District : Tiruppur

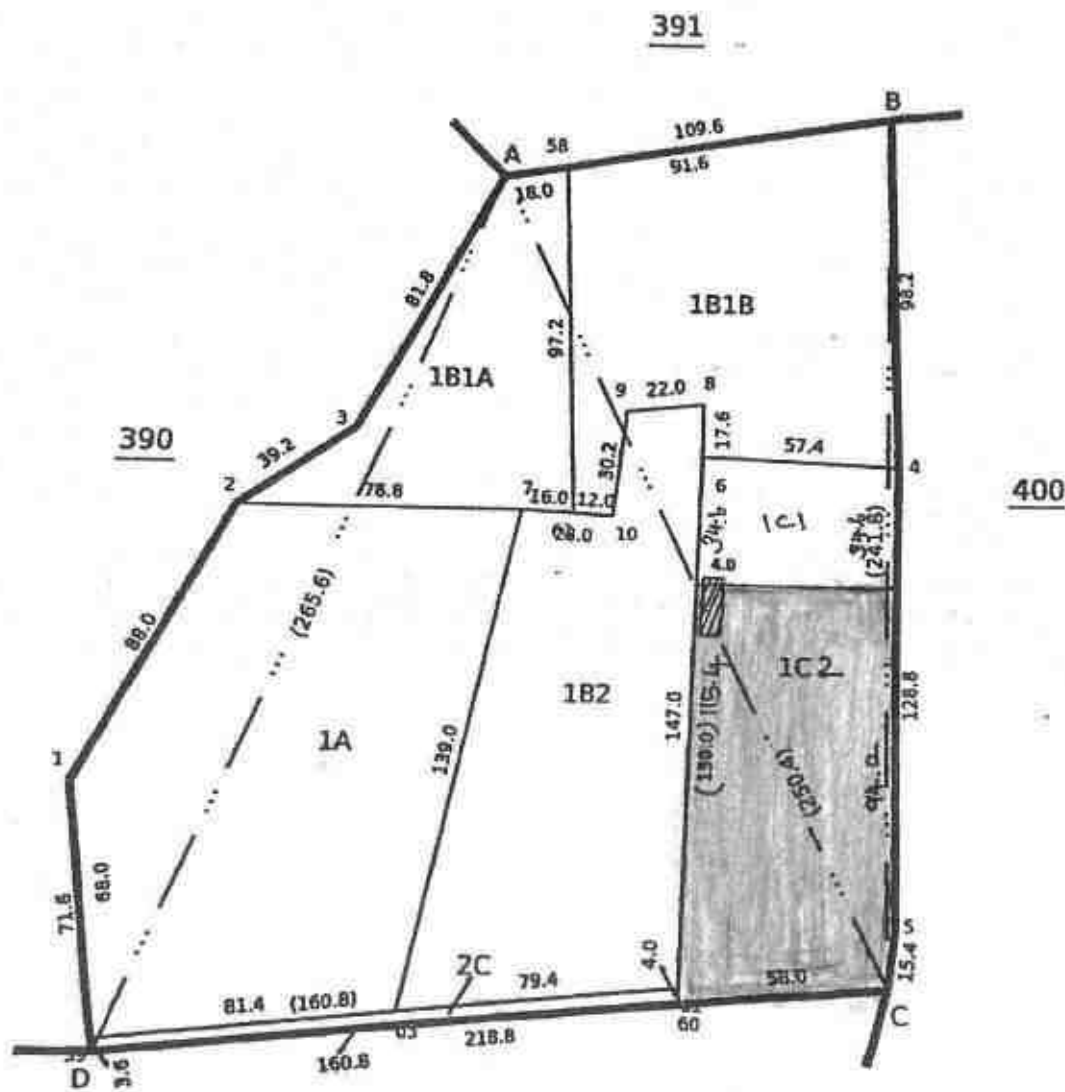
Survey No : 389

Taluk : UTHUKKULI

Area : Hect 04 Ares 43.50

Village : MORATTUPPALAYAM [81]

Scale : 1 : 2000



388

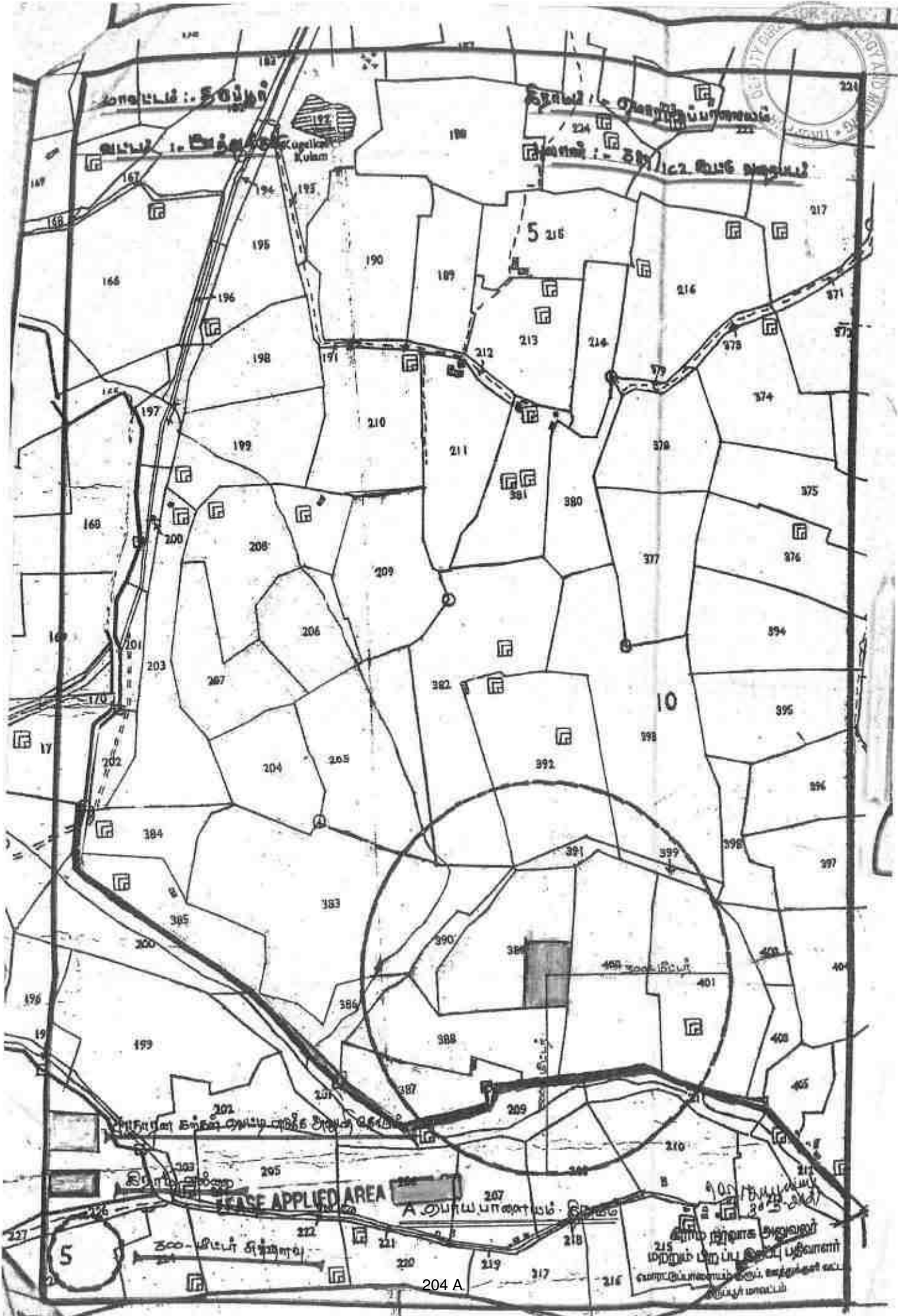
சீராதார கழிநர் வடிபு ருடுகிச அலுவல் கவரம் படு

மாணியுய்யு  
30.3.2021

EASE APPLIED AREA

சீராம நாவாக அலுவலர்  
மற்றும் பிறுப்பு இறப்பு பதிவாளர்  
மொரட்டுப்பாளையம் குரூப், ஊத்துக்குளி வட்டம்  
தீருப்பூர் மாவட்டம்









தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 1088

உரிமையாளர்கள் பெயர்

1. உதயகுமார்

மகன்

பிரபாகரன்

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
389	1C2	0 - 68.80	1.38	--	--	--	--	2021/0105/32/176853- 2021/32/09/00010150 -- 17-03-2021
		0 - 68.80	1.38					

குறிப்பு 2 :



1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை நாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 32/09/081/01088/60177 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 17-03-2021 அன்று 06:05:16 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின் 2D barcode டயூப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்





## அ-பதிவேடு விவரங்கள்

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

சிராமம் : மொரட்டுப்பாளையம்

1. புல எண்	389	9. மண் வயலுமய ரகமும்	B - 3
2. உட்பிரிவு எண்	1C2	10. மண் தரம்	B
3. பழைய புல உட்பிரிவு எண்	389-1C	11. தீர்வை (ஸ - ஹெ)	2.00
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஏர்)	0 - 65.80
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ஸ - ஹெ)	1.38
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	1088
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இறு போகமா	-	16. பெயர்	1.பிரபாகரன்

## குறிப்பு 1:



1.

மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 50177 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.



இந்திய அரசாங்கம்  
Unique Identification Authority of India  
Government of India

உறுதி அட்டை எண் / Enrollment No. : 1111/98981/07691

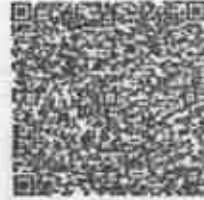
31/01/2014

To  
Prabhakaran Udhayakumar  
பிரபாகரன் உதயகுமார்  
S/O: Udhayakumar  
6/67  
S N PALAYAM  
Morattupalayam  
Morattupalayam Bo, Tiruppur  
Tamil Nadu - 638752  
9363039619



KL790241695FT

79024169



உங்கள் ஆதார் எண் / Your Aadhaar No. :

**5073 2763 0533**

ஆதார் - சாதாரண மனிதனின் அதிகாரம்



இந்திய அரசாங்கம்

Government of India



பிரபாகரன் உதயகுமார்  
Prabhakaran Udhayakumar

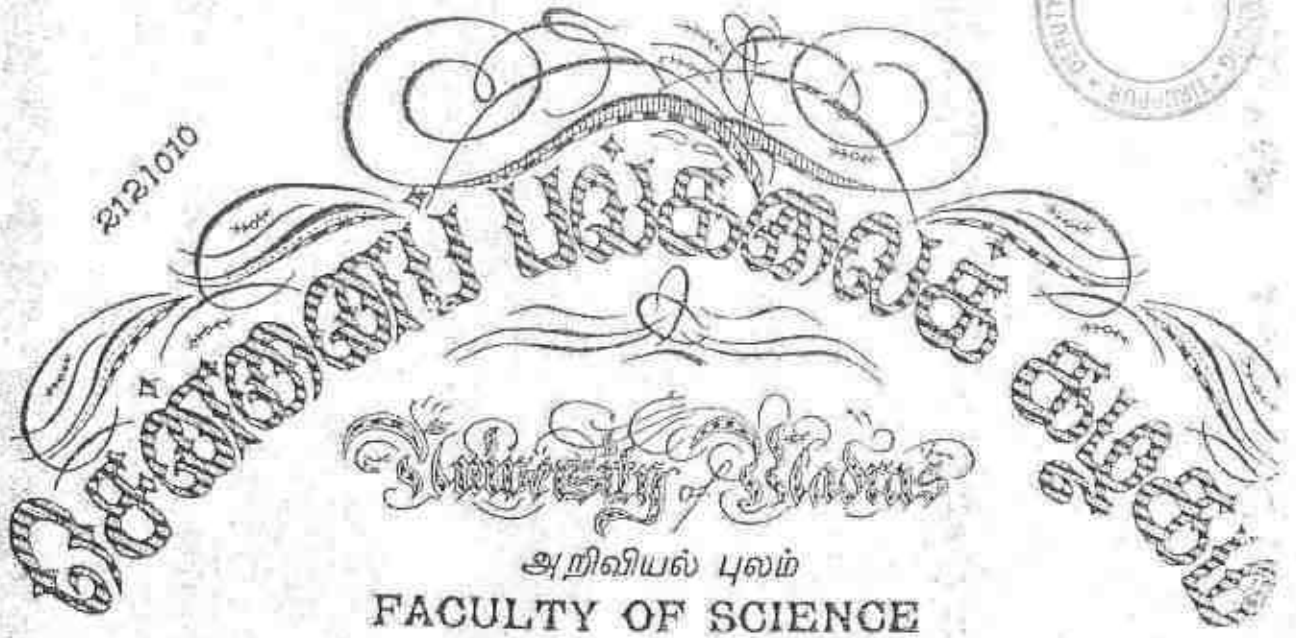
பிறந்த நாள் / DOB: 03/09/1992

ஆண் / Male

**5073 2763 0533**



ஆதார் - சாதாரண மனிதனின் அதிகாரம்



சென்னைப் பல்கலைக் கழகப் பேரவை 1994 ஆம் ஆண்டு ஏப்ரல் மாதம் நடந்த கனிமவியல் தேர்வில் பி.பி.சுந்தரன் என்பவர் முதல் வகுப்பில் தேர்ச்சி பெற்றார் என்று தக்க தேர்வாளர்கள் சான்றளித்தபடி அறிவியல் நிறைஞர் எனும் பட்டத்தை அவருக்குப் பல்கலைக் கழக இலாசீசனைஸ் ஸ்ரீ லக்ஷ்மிநாதன் வழங்குகிறது.

The Senate of the UNIVERSITY OF MADRAS hereby makes known that *P. P. S. Sundararajan* has been admitted to the Degree of Master of Science, he/she having been certified by duly appointed Examiners to be qualified to receive the same in *Geology* and was placed in the *First* Class, at the Examination held in April 1994.



Given under the seal of the University

செயலகம், Chopaluk  
சென்னை, Madras  
திகதி: Dated: 25-01-1999

பதிவாளர்  
Registrar

P.T. Jeyaraj  
குணை வேலு  
Vice-Chancellor



GOVERNMENT OF INDIA  
MINISTRY OF LABOUR AND REHABILITATION  
OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY

Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

I T.VENKATARAJAGOPALAN being the Mines Agent of M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine) do hereby certify that Thiru. P.THANGARAJU, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for Certificate of Competency.

THEMMLAI LIME STONE MINES  
*[Signature]* 10/6/06  
Agent (Mines)  
(Signature with date and official Seal)  
[T.VENKATARAJAGOPALAN]

Mines Agent:  
P.O. : ARUKANGULAM  
District : TIRUNELVELI  
State : TAMIL NADU

*[Signature]*  
(Signature of Candidate)

(State name of Mineral) : LIMESTONE





S.No	Particulars of practical Experience (a)	Place of Experience (b)	Period of practical experience(c)		Total Experience (c)		
			From	To	Yr.	Month	Day
01.	As a Trainee in Drilling Operation	Semi Mechanised Opencast working	02.05.1994	15.07.1995	01	02	14
02.	As a Trainee in Blasting Operation		16.07.1995	10.12.1996	01	04	25
03.	Exploration		11.12.1996	31.01.1998	01	01	20
04.	Surveying		01.02.1998	25.06.1998	00	04	25
05.	Sampling, Quality control and		26.06.1998	20.07.1999	01	00	24
06.	Supervision in HEMM Operation		21.07.1999	30.12.1999	00	05	10
<b>GRAND TOTAL</b>					<b>05</b>	<b>07</b>	<b>28</b>
(Five Years Seven Months Twenty Eight Days Only)							

AVERAGE MONTHLY OUTPUT (D) / AVERAGE DAILY EMPLOYMENT (e) DURING THE ABOVE PERIOD IS GIVEN BELOW :

In below ground working	In open - cast working	In all
Nil	35	35
Nil		

of THEMALAI LIME STONE MINES

*[Signature]*

Signature of Candidate

*[Signature]*

Signature of Manager with (Age & Sex)  
[VENKATARAJAGOPALAN]

Name of the Mine :

**Instructions :-**

01. State clearly the nature of duties.
02. State whether on surface, in open cast workings or below ground.
03. State specifically the period spent by the applicant in different mining operations, or surveying operations, as the case may be. If the employment has not been such as to involve continuous attendance of the applicant at the mine, it must be stated how many days a week he was employed at the mine, whether underground or above ground and in what capacity.
04. Delete if the mine is a Metalliferous mine.
05. Delete if the mine is a Coal mine.



No. 155  
CHENGAPPALI

No. 157  
KAVARIDATTA

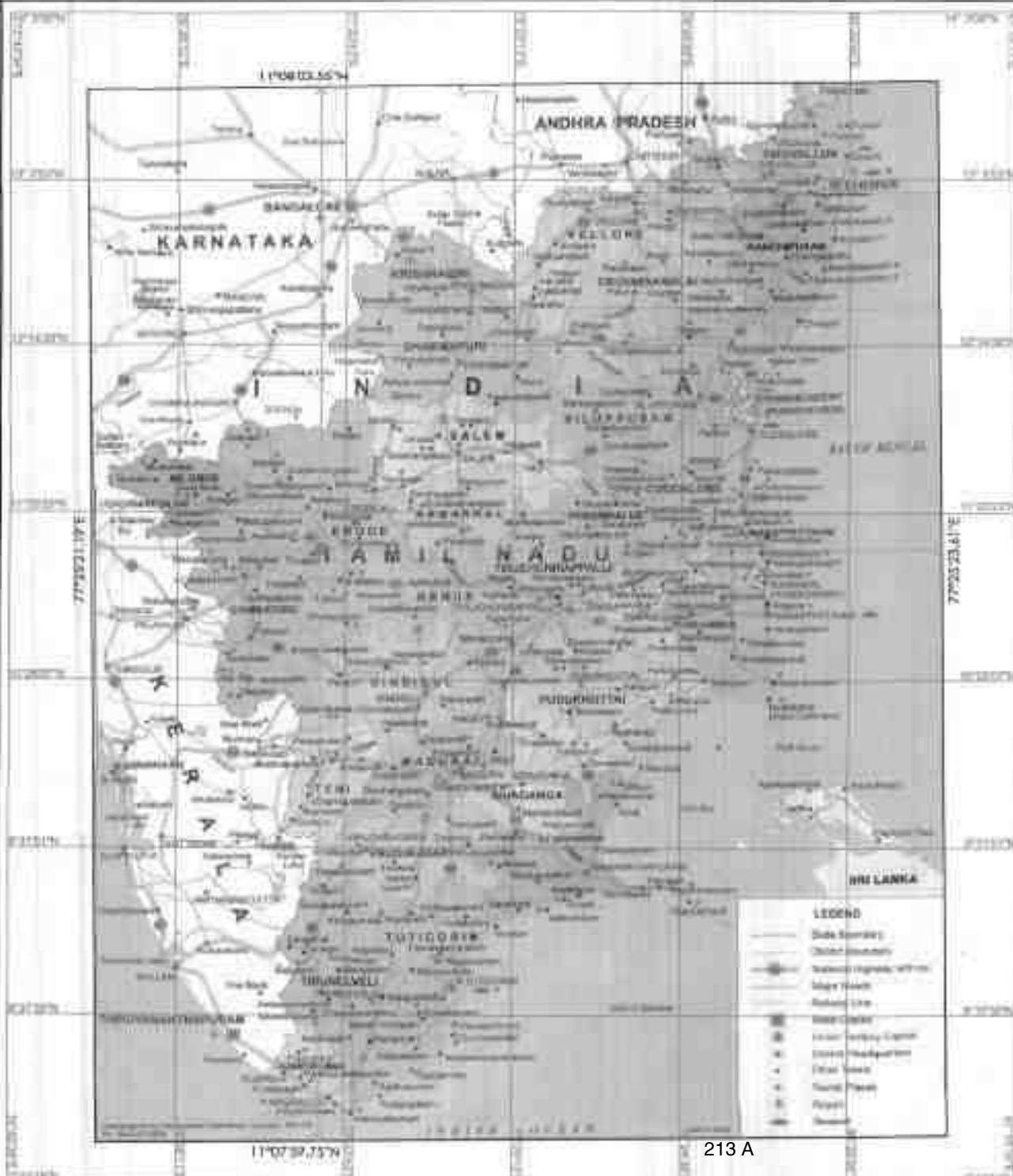
No. 158  
PERINJALATHI

No. 159  
ANAPPA

PALLADAI TALUK

Surveyed by  
Major J. H. ...  
1880





**INDEX**

Q.L APPLIED AREA: ●  
 TOPO SHEET NO.: 58 E/08

LATITUDE : 11°07'59.75"N to 11°08'03.55"N  
 LONGITUDE : 77°25'21.19"E to 77°25'25.61"E

**APPLICANT :**  
 THIRU. PRABHAKARAN,  
 S/O. UDHAYAKUMAR,  
 NO.457, SAPPATANICKENPALAYAM,  
 MORATTUPALAYAM VELAGE,  
 UTHUKULLI TALUK,  
 TRIPPLUR. 636 752.

**LOCATION OF Q.L.A. AREA:**  
 S.F. NO : 389 / 1C2  
 EXTENT : 0.688 Hq.  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULLI  
 DISTRICT : TRIPPLUR.  
 STATE : TAMIL NADU.

**PLATE NO - I**  
 DATE OF SURVEY / 12.06.2021

**LOCATION PLAN**  
 SCALE : 1:24,00,000

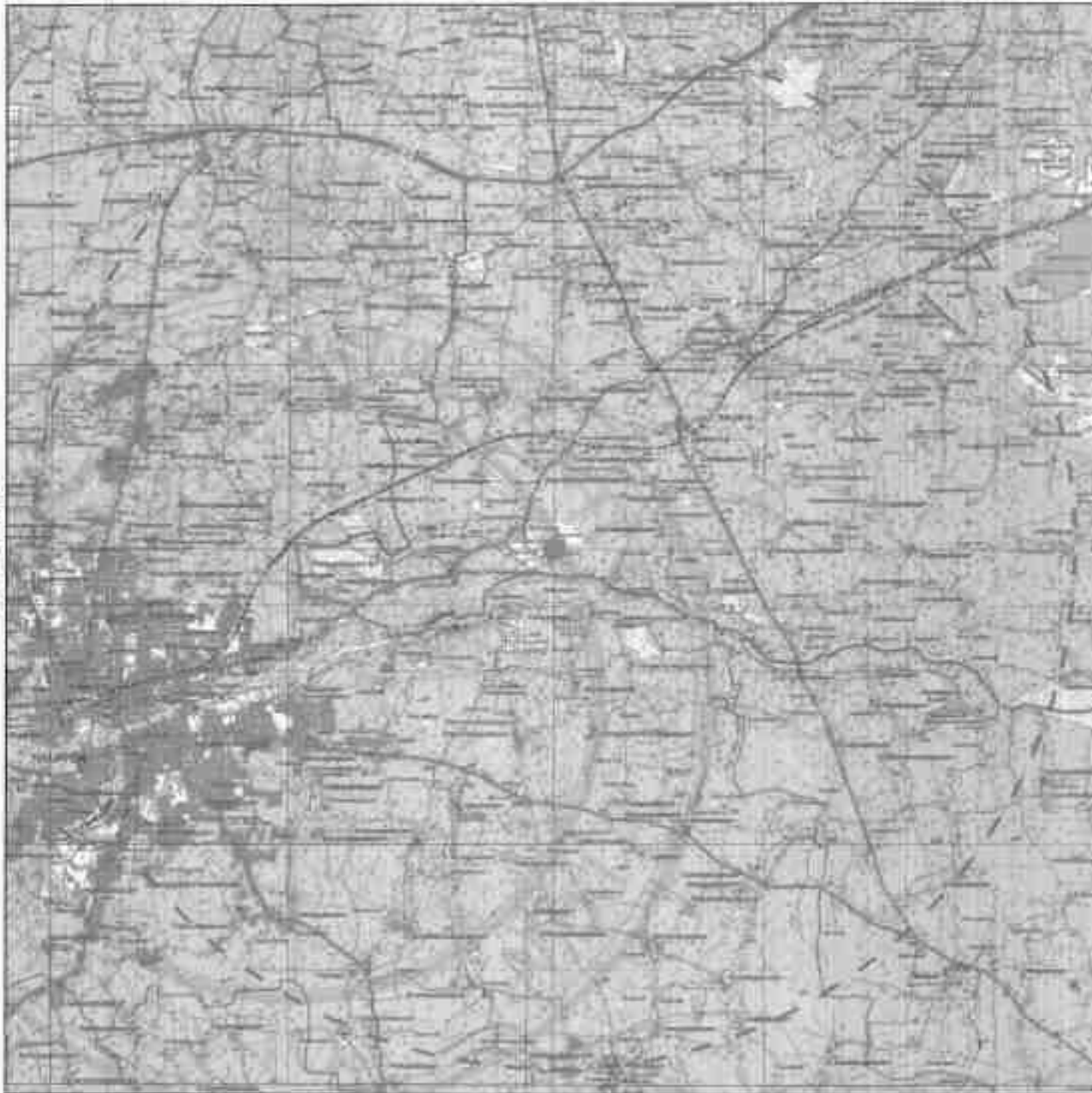
**PREPARED BY :**  
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# INDEX



Express highway: with toll; with bridge; with distance stone.	
Roads: metalled; according to importance.	
Roads, double cartilageway: according to importance.	
Unmetalled road, Cart-track, Pack-track with pass, Foot-path.	
Stream: with track in bed; undefined. Canal.	
Dam: masonry or rock filled; earthen. Weir.	
River: dry with water channel; with island & rocks. Tidal river.	
Submerged rocks. Shoal. Swamp. Bank.	
Well: hand, unlined. Tubewell. Spring. Tanks: permanent.	
Embankment: mud or soil, rock. Broken ground.	
Railways, broad gauge: double; single with station.	
Railways, other gauges: double; single with distance stone; do.	
Mineral line or roadway. Kith. Cutting with tunnel.	
Cuttings with sub-basins. Rocky slopes. Cliffs.	
Island features: (T)Is. (Z)and-hill(permanent).	
Towns or Villages: inhabited; deserted. Fort.	
Habit permanent; temporary. Town: Antiquities.	
Temple. Chhatra. Church. Mosque. Aksh. Tirth. Graves.	
Lighthouse. Lightship. Buoy: lighted; unlighted. Anchorages.	
Mine. Vm on millie. Grass. Scrub.	
Palms: palmyra; other. Plantain. Casuar. Bamboo. Other trees.	
Arms: cultivated; Wooded; surveyed trees.	
Boundary, international.	
Boundary, state: demarcated; undemarcated.	
Boundary, district; subdivision; tribal or sub-tribe; forest.	
Boundary pillars: surveyed; unlocated.	
Height, triangulated: station; point: approximate.	
Bench-mark: geodetic; tertiary; canal.	
Post office. Telegraph office. Overhead tank.	
Rail house or inspection bungalow. Canal house.	
Camping Ground. Forest: reserved; protected.	
Space name: administrative, locality or tribal.	
Hospital. Dispensary. Veterinary. Hospital/Dispensary.	
Air-station. Helipad. Tourist site.	
Powerline: with pylons surveyed; with poles unsurveyed.	

11° 13' 28.84" N



77° 19' 51.82" E

77° 30' 52.98" E

11° 02' 34.46" N

TOPO SHEET NO. : SB E/08

LATITUDE : 11°07'59.75"N to 11°08'03.55"N  
LONGITUDE : 77°25'21.19"E to 77°25'23.61"E

10km RADIUS :

214 A

Q.L. APPLIED AREA :

## APPLICANT :

Thiru.U. PRASHAKARAN,  
S/o. UDHAYAKUMAR,  
No.6/67, SAPPATTANAICKENPALAYAM,  
MORATTUPALAYAM VILLAGE,  
UTHUKULI TALUK,  
TIRUPPUR- 638 752.

## LOCATION OF Q.L.A AREA:

S.F.No : 389/ 1C2  
EXTENT : 0.68.8 Ha.  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULLI  
DISTRICT : TIRUPPUR,  
STATE : TAMIL NADU.

## PLATE NO - I-A

DATE OF SURVEY : 12.06.2021

## TOPO SKETCH OF QUARRY LEASE APPLIED AREA FOR 10km RADIUS

SCALE: 1:1,00,000

## PREPARED BY :

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Dr. P. THANGARAJ, M.Sc., Ph.D.,  
QUALIFIED PERSON

OCTOBER TO DECEMBER



**INDEX**

-  Q.L. APPLIED AREA
-  1 Km RADIUS
-  500m RADIUS
-  SEASONAL AGRICULTURE LAND
-  TREES & COCONUT FARM
-  HABITATION
-  QUARRY PIT & CRUSHER UNIT
-  WIND DIRECTION
-  PANCHAYAT ROAD
-  APPROACH ROAD
-  BARREN LAND
-  RIVER
-  LT. LINE



**APPLICANT :**

Thiru.U. PRABHAKARAN,  
S/o, UDHAYAKUMAR,  
No.6/67, SAPPATTANAICKENPALAYAM,  
MORATTUPALAYAM VILLAGE,  
UTHUKULI TALUK, TIRUPPUR - 638 752.

**LOCATION OF Q.L.A AREA:**

S.F.No : 389/ 1C2  
EXTENT : 0.68.8 Ha.  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMIL NADU.

**PLATE NO - I-B**

DATE OF SURVEY : 12.06.2021

**ENVIRONMENTAL & LAND USE PLAN**






SCALE: 1:10,000

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*(Signature)*  
S.P. JANGANNAN, P.L.D.,  
QUALIFIED PERSON

**LAND USE PATTERN**

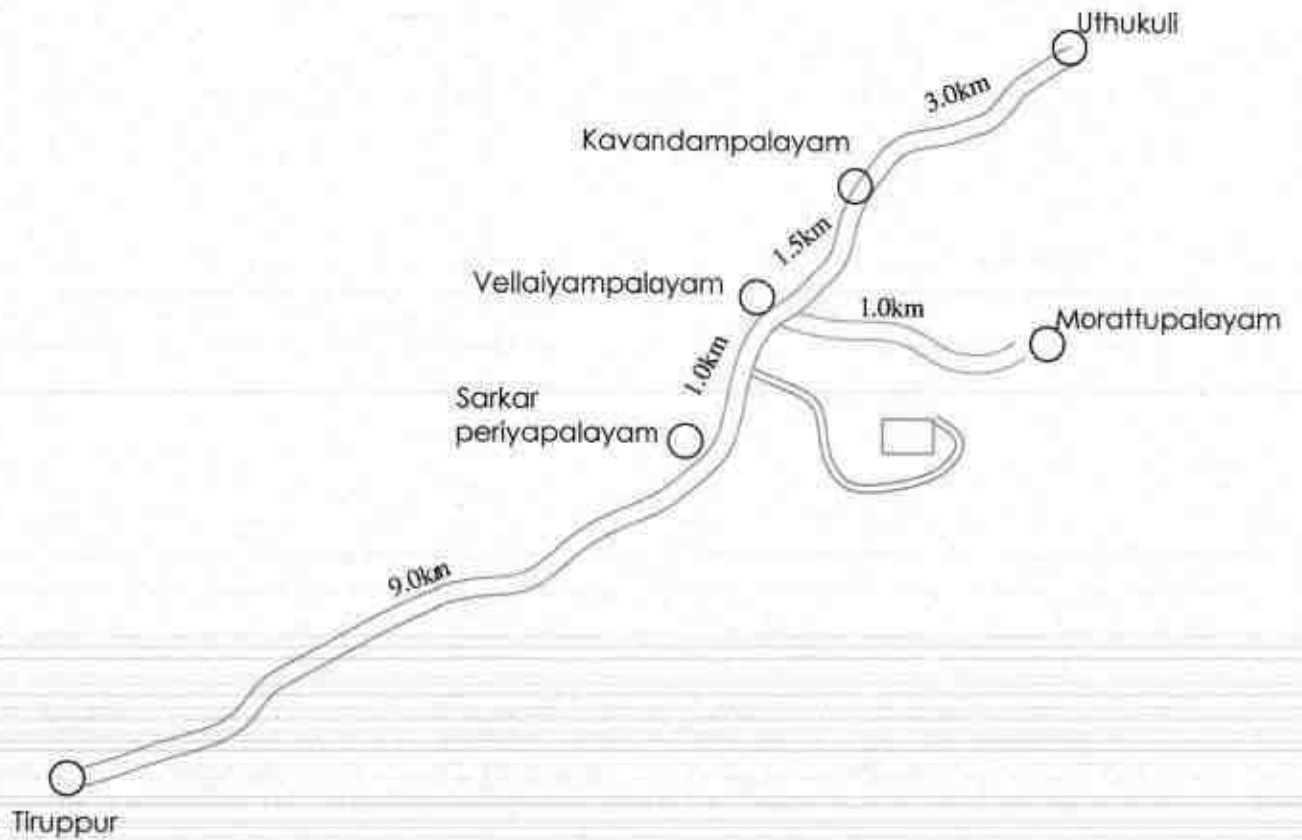
DESCRIPTION	PERCENTAGE	INDEX
QUARRY PITS&CRUSHER	(12%)	
TREES&COCO. FARM	(08%)	
SEASONAL AGRI LAND	(36%)	
ROADS/RIVER	(06%)	
HABITATION	(08%)	
BARREN LAND	(30%)	V V
TOTAL	100%	

JULY TO SEPTEMBER





TOPO SHEET NO. : 58 E/08  
LATITUDE : 11°07'37.22"N to 11°05'35.05"N  
LONGITUDE : 77°25'45.07"E to 77°24'30.33"E

PLATE NO : I-C

ROUTE MAP



INDEX

- Q.L.APPLIED AREA 
- STATE HIGHWAY 
- PANCHAYAT ROAD 
- APPROACH ROAD 

APPLICANT :

Thiru.U. PRABHAKARAN,  
S/o. UDHAYAKUMAR,  
No.6/67, SAPPATTANAICKENPALAYAM,  
MORATTUPALAYAM VILLAGE,  
UTHUKULI TALUK, TIRUPPUR- 638 752.

LOCATION OF Q.L.A AREA:

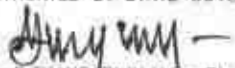
S.F.No : 389/ 1C2  
EXTENT : 0.68.8 Ha.  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMIL NADU.

SCALE :

NOT TO SCALE

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Dr.P.THANGARAJU, M.Sc., Ph.D.,  
QUALIFIED PERSON

BOUNDARY COORDINATES

S.N.	LATITUDE	LONGITUDE
1	11° 07' 29.60"N	77° 25' 21.19"E
2	11° 08' 25.50"N	77° 25' 21.81"E
3	11° 08' 03.38"N	77° 25' 23.61"E
4	11° 08' 03.24"N	77° 25' 23.38"E
5	11° 07' 39.75"N	77° 25' 23.10"E

DATUM : UTM-WGS84



INDEX

- Q.L. APPLIED AREA BOUNDARY
- 10m & 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGHSTONE
- QUARRY PIT
- CONTOUR
- SHRUBS
- QUARRY HAUL ROAD
- APPROACH ROAD
- CART TRACK
- L.T. LINE



APPLICANT :

THIRU. J. PRABHAKARAN,  
S/o. UDHAYAKUMAR,  
No.6/67, SAPPATTANAICKENPALAYAM,  
MORATTUPALAYAM VILLAGE,  
UTHUKULITALUK,  
TIRUPPUR- 638 752.

LOCATION OF Q.L.A. AREA:

S.F.No. : 389/ 1C2  
EXTENT : 0.688 Ha.  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMIL NADU.

PLATE NO - II

DATE OF SURVEY : 12.06.2021

QUARRY LEASE PLAN &  
SURFACE PLAN

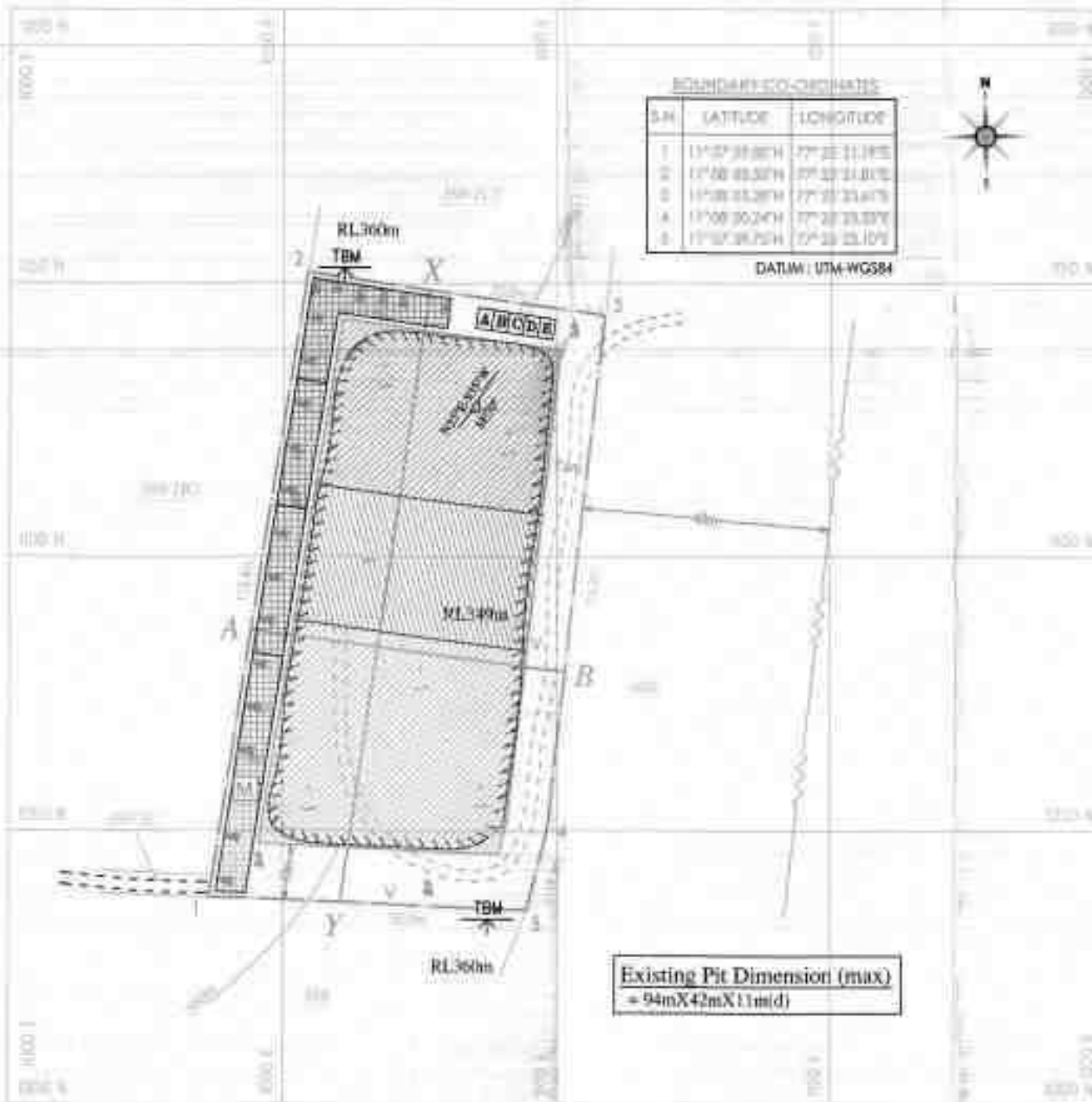
SCALE: 1:1000

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*Amy My*  
D. P. THANGARAJAN, S.O., P.O.,  
QUALIFIED PERSON





INDEX	
	Q.L. APPLIED AREA BOUNDARY
	10m & 7.5m SAFETY DISTANCE
	TEMPORARY BENCH MARK
	GRAVEL
	ROUGHSTONE
	QUARRY PIT
	STRIKE & DIP
	CONTOUR
	SHRUBS
	QUARRY HAUL ROAD
	APPROACH ROAD
	CART TRACK
	L.T. LINE
	DEPTH OF ESTIMATION

**APPLICANT :**

Thiru. U. FRABHAKARAN,  
S/o. UDHAYAKUMAR,  
No.6/67, SAPPATTANAICKENPALAYAM,  
MORATTUPALAYAM VILLAGE,  
UTHUKULI TALUK,  
TIRUPPUR- 638 752.



**LOCATION OF Q.L.A AREA:**

S.F.No : 389/1C2  
EXTENT : 0.688 Ha.  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMIL NADU.

**PLATE NO - III**

DATE OF SURVEY : 12.06.2021

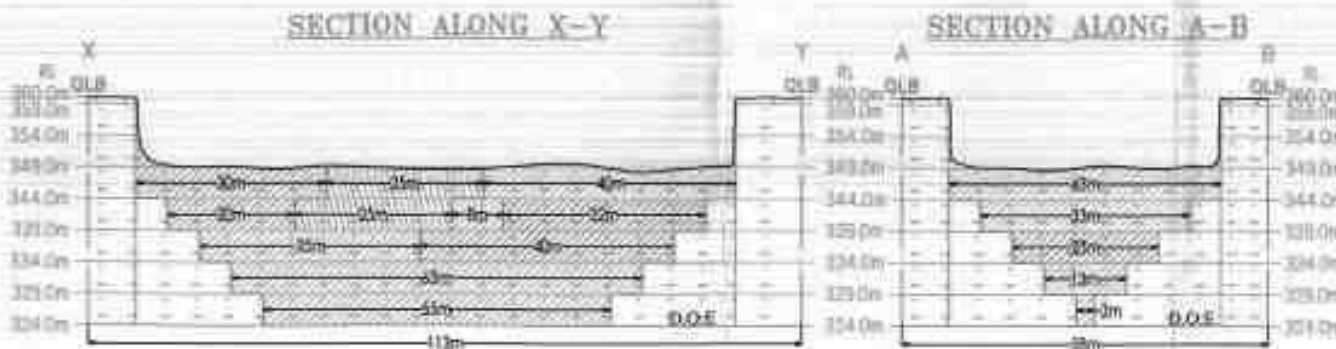
**TOPOGRAPHY, GEOLOGICAL PLAN,  
YEARWISE DEVELOPMENT &  
PRODUCTION PLAN & SECTIONS**

SCALE : 1:1000

**PREPARED BY :**

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D.P. TRAKARAJUN, B.E., Ph.D.,  
QUALIFIED PERSON



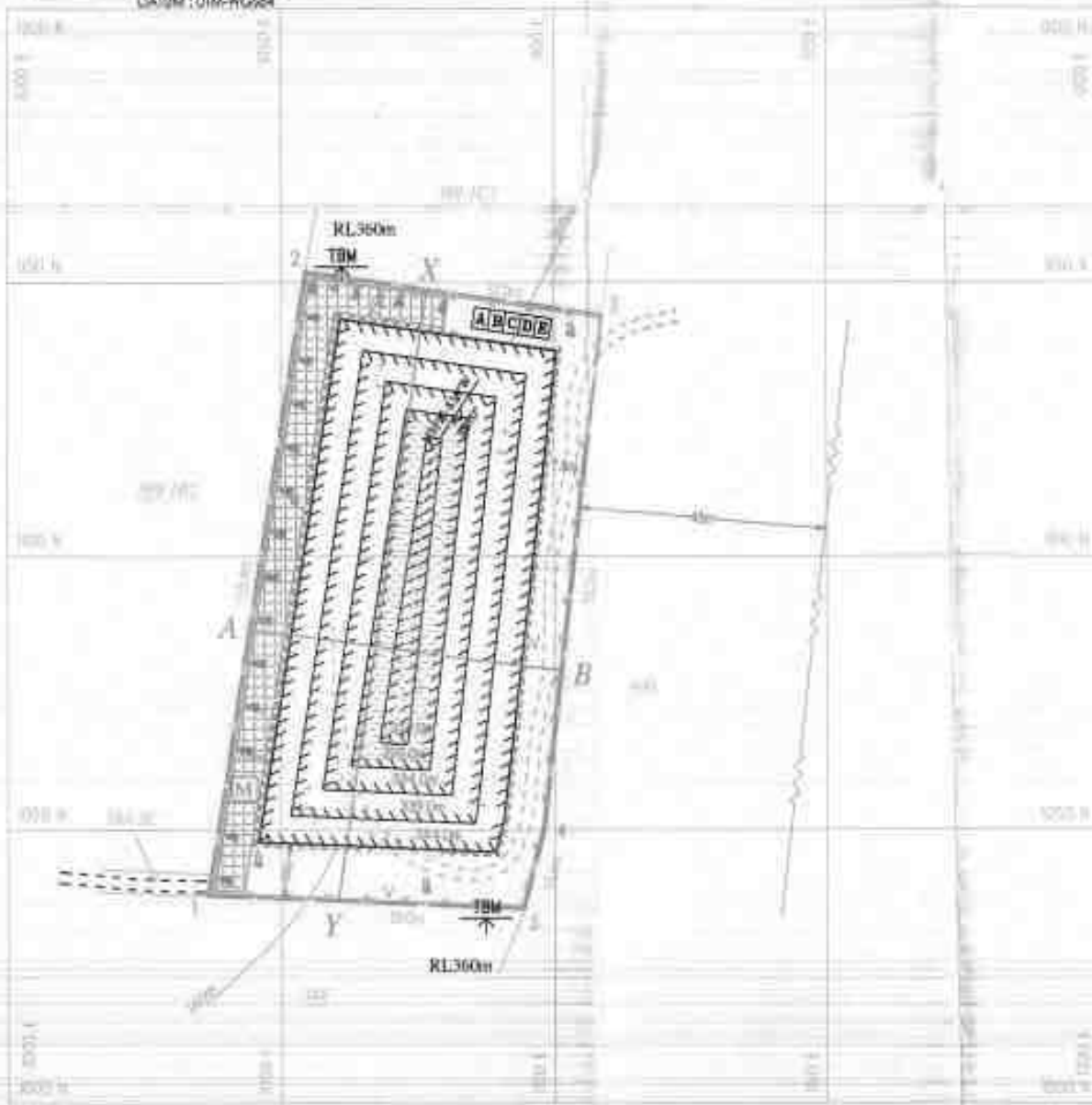
I - yr Proposed area to be Quarried	II - yr Proposed area to be Quarried	III - yr Proposed area to be Quarried	IV - yr Proposed area to be Quarried	V - yr Proposed area to be Quarried
I - yr Proposed area to be Planted	II - yr Proposed area to be Planted	III - yr Proposed area to be Planted	IV - yr Proposed area to be Planted	V - yr Proposed area to be Planted

SITE SERVICES (Proposed)
A - OFFICE
B - STORE ROOM
C - FIRST AID ROOM
D - REST ROOMS/TEA
E - TOILET
F - MACHINERY

**BOUNDARY COORDINATES**

S.N.	LATITUDE	LONGITUDE
1	12°07' 34.87"N	77° 28' 21.19"E
2	12°08' 03.57"N	77° 28' 21.81"E
3	12°08' 32.28"N	77° 28' 22.43"E
4	12°08' 38.24"N	77° 28' 23.05"E
5	12°07' 59.25"N	77° 28' 22.17"E

DATUM : UTM-WGS84



**INDEX**

	Q.L. APPLIED AREA BOUNDARY
	10m & 7.5m SAFETY DISTANCE
	TEMPORARY BENCH MARK
	GRAVEL
	ROUGHSTONE
	QUARRY PIT
	STRIKE & DIP
	CONTOUR
	SHRUBS
	QUARRY HAUL ROAD
	APPROACH ROAD
	CART TRACK
	L.T. LINE
	IV Y PLANTATION
	BARBED WIRE FENCING
	EXISTING LAND FORM
	PROPOSED GARLAND DRAIN
	OLD SURFACE LEVEL
	FINISHED SURFACE LEVEL
	RAIN WATER STORAGE

**APPLICANT :**  
 Thiru. U. PRASHAKARAN,  
 S/o. UDHAYAKUMAR,  
 No. 6767, SAPPATTANAICKENPALAYAM,  
 MORATTUPALAYAM VILLAGE,  
 UTHUKULI TALUK,  
 TIRUPPUR - 638 752.

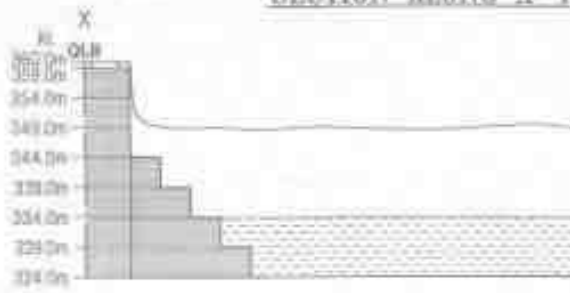
**LOCATION OF Q.L.A AREA:**  
 S.F.No : 389/ 1C2  
 EXTENT : 0.688 Ha.  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULI,  
 DISTRICT : TIRUPPUR,  
 STATE : TAMIL NADU.

**PLATE NO - IV**  
 DATE OF SURVEY : 12.06.2021

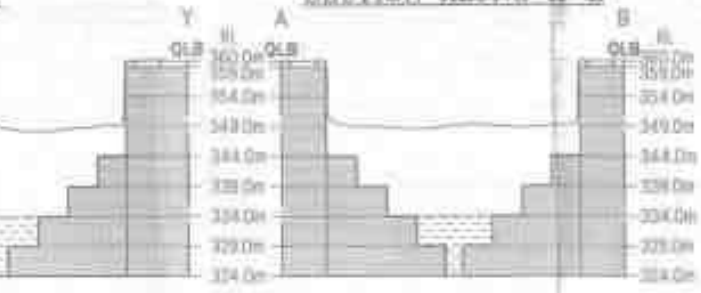
**PROGRESSIVE QUARRY CLOSURE  
 PLAN & SECTIONS**  
 SCALE. 1:1000

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 AUTHENTICATED BY STATE GOVERNMENT  
  
 S.P. THARASAGAN, M.Sc., Ph.D.,  
 QUALIFIED PERSON

**SECTION ALONG X-Y**



**SECTION ALONG A-B**

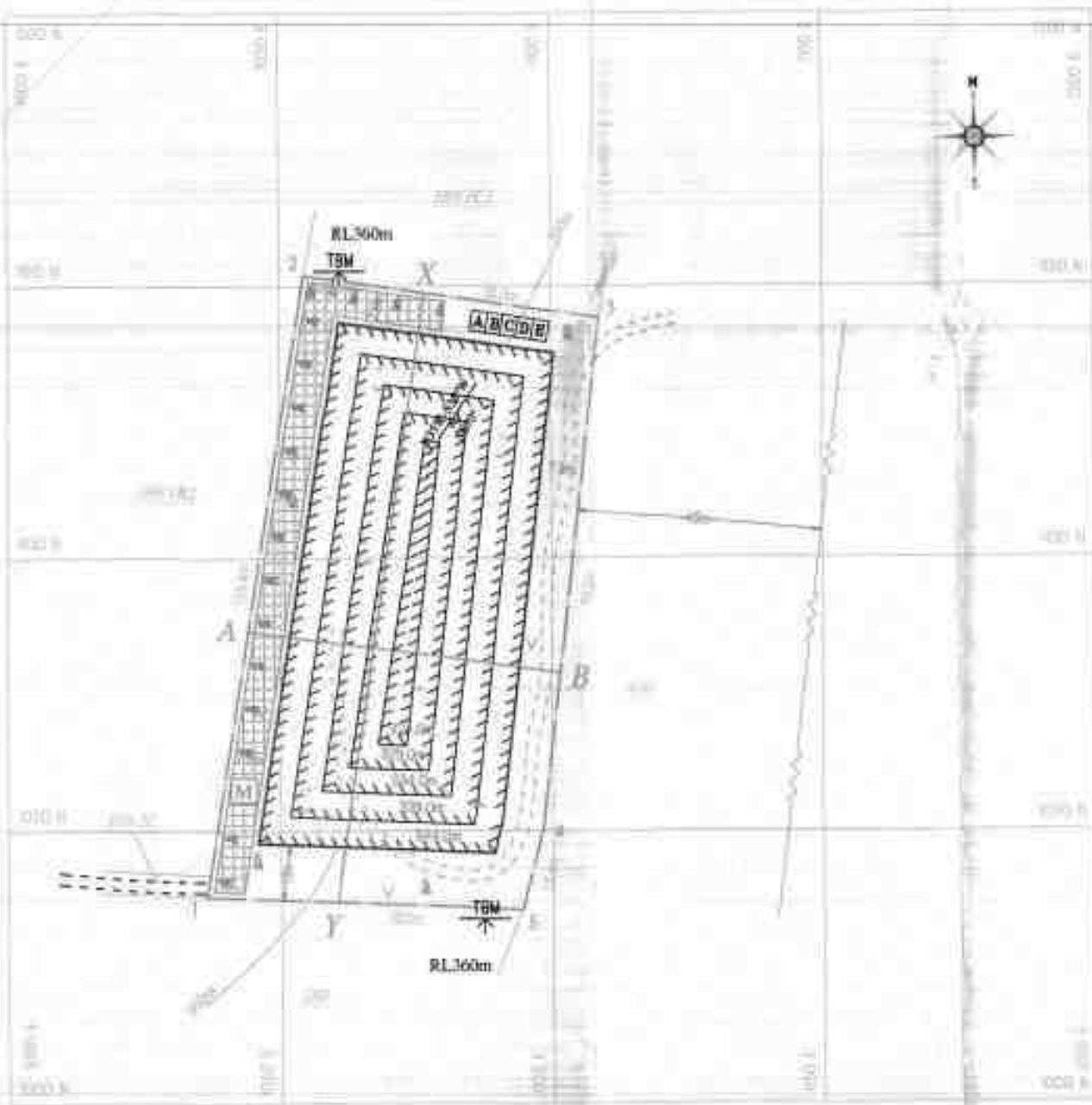


**LAND USE PATTERN**

DESCRIPTION	PRESENT AREA IN (Ha)	AREA AT THE END OF THIS QUARRYING PERIOD (Ha)
QUARRYING PIT	0.400	0.400
INFRASTRUCTURE	Nil	0.010
ROADS	0.020	0.020
GREEN BELT	Nil	0.060
UNUTILIZED AREA	0.268	0.178
	0.688	0.668

- SITE SERVICES**
- A - OFFICE
  - B - STORE ROOM
  - C - FIRST AID ROOM
  - D - REST SHELTER
  - E - WELLET
  - M - MAGAZINE

**Proposed Pit Dimension (max)**  
 = 94mX42mX36m(d)



**INDEX**

	Q.L. APPLIED AREA BOUNDARY
	10m & 7.5m SAFETY DISTANCE
	TEMPORARY BENCH MARK
	GRAVEL
	ROUGHSTONE
	QUARRY PIT
	STRIKE & DIP
	CONTOUR
	SHRUBS
	QUARRY HAUL ROAD
	APPROACH ROAD
	CART TRACK
	LT-LINE
	1-V Yr PLANTATION

**APPLICANT :**  
 THIRU. U. PRABHAKARAN,  
 S/o. UDHAYAKUMAR,  
 No.6/67, SAPPATTANAICKENPALAYAM,  
 MORATTUPALAYAM VILLAGE,  
 UTHUKULI TALUK,  
 TIRUPPUR- 638 752.



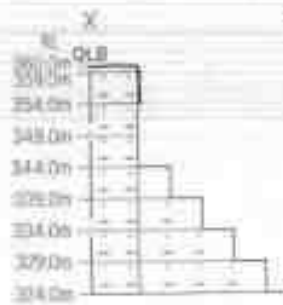
**LOCATION OF Q.L.A AREA:**  
 S.F.No : 389/ 1C2  
 EXTENT : 0.68.8 Ha.  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULI,  
 DISTRICT : TIRUPPUR,  
 STATE : TAMIL NADU.

**PLATE NO - V**  
 DATE OF SURVEY : 12.06.2021

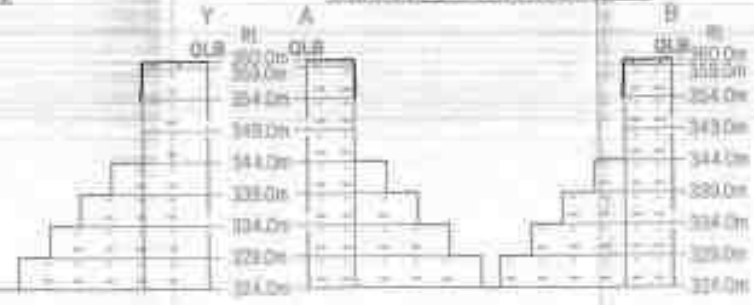
**CONCEPTUAL PLAN & SECTIONS**  
 SCALE: 1:1000

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 S.P. THANGARAJULU, M.Sc., P.E.,  
 QUALIFIED PERSON

**SECTION ALONG X-Y**



**SECTION ALONG A-B**



**BOUNDARY CO-ORDINATE**

SL. NO.	LATITUDE	LONGITUDE
1	11° 07' 38.87"N	77° 28' 21.31"E
2	11° 08' 55.51"N	77° 28' 21.81"E
3	11° 08' 03.29"N	77° 28' 23.61"E
4	11° 08' 00.34"N	77° 28' 23.32"E
5	11° 07' 53.73"N	77° 28' 23.07"E

DATUM : UTM-WGS84

**Ultimate Pit Dimension (max)**  
 = 94m X 42m X 36m(d)

- SITE SERVICES**
- A - OFFICE
  - B - STORE ROOM
  - C - FIRST AID ROOM
  - D - REST ROOM
  - E - YAKET
  - W1 - MACHINERY



**HYDROGEOLOGICAL REPORT FOR MORATTUPALAYAM**  
**ROUGH STONE AND GRAVEL QUARRY**

**1. INTRODUCTION**

**NAME OF THE APPLICANT WITH ADDRESS-**

**Name of the applicant** : **Thiru.U.Prabhakaran**  
**Address** : S/o. Udhayakumar,  
No.6/67, Sappattanaickenpalayam,  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District – 638 752.  
**State** : Tamil Nadu.  
**Mobile** : 98422 12353

**DETAILS OF THE AREA-**

**Land classification** : Patta Land  
**Survey No** : 389/1C2  
**Extent** : 0.68.8ha.  
**Village** : Morattupalayam,  
**Taluk** : Uthukuli,  
**District** : Tiruppur.

The Client requires detailed information on Ground Water Occurrences at Proposed Project Site of rough stone and gravel quarry. The objective of the present study is to assess the availability of groundwater and comment on aspects of depth to potential aquifers, aquifer availability and type, possible yields and water quality. For this purpose all available hydrogeological information of the areas has been analyzed, and a geophysical survey was done.

The investigations involved hydrogeological, geophysical field investigations and a detailed study in which the available relevant geological and hydrogeological data were collected, analyzed, collated and evaluated within the context of the Client's requirements.

The data sources consulted were mainly:

- a) Central Ground Water Board (CGWB) Data
- b) State & District Geological and Hydrogeological Reports and Maps.
- c) Technical reports of the area by various organizations.

## **2. SCOPE OF THE WORKS –**

The scope of works includes:

- Site visits to familiarize with the project areas. Identify any issues that might impact the Ground Water Scenario due to proposed mining activities.
- To obtain, study and synthesize background information including the geology, hydrogeology and existing borehole data, for the purpose of improving the quality of assessment and preparing comprehensive hydrogeological reports,
- To carry out hydrogeological evaluation and geophysical investigations in the selected sites in order to determine potential for groundwater at project site.
- To prepare hydrogeological survey reports in conformity with the provisions of the rules and procedure outlined by the Central Ground Water Board (CGWB), by Assessment of water quality and potential infringement of National standards, Assessment of availability of groundwater and Impact of proposed activity on aquifer, water quality and other abstractors.

## **3. BACKGROUND INFORMATION**

### **Geographical information of the study area-**

The investigated site falls in the Toposheet No: 58 - E/08 Latitude between 11°07'59.75"N to 11°08'03.55"N and Longitude between 77°25'21.19"E to 77°25'23.61"E on WGS datum-1984.

### **REGIONAL GEOLOGY OF TIRUPPUR DISTRICT-**

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely i) Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite, ii) Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss, iii) Basic intrusive include Pyroxinite/Dunite iv) Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and v) Quaternary sediments of Kankar and soil.

### **STRATIGRAPHY OF THE AREA**

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey in color and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey colored and

greasy and exposed as boulder outcrops and small knolls. It is well exposed in Central, Western and Southern parts of the Tiruppur District. The general strike of foliation varies from ENE-WSW, E-W with dipping towards NW and N respectively.

Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinashi area.

Age	Group	Lithology
Holocene		Block Cotton Soil/Clay±Gypsum
Cenozoic		Kankar/calc-tufa
Neoproterozoic	Acid intrusive	Quartz veins Pegmatite Pink Granite
	Sivamalaisyenite Complex	Nepheline-syenite
	Chalk Hills (Basic Intrusive)	Pyroxenite/Dunite
Archaean-Palaeoproterozoic	Peninsular Gneissic Complex (II) PGC (II)	Pink Granite Gneiss  Hornblende Biotite gneiss
Archaean	Charnockite Group	Charnockite (Unclassified) Pyroxene Granulite Banded Magnetite Quartzite

Basic intrusives such as pyroxenite/dunite occurs as bouldery outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusives are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Nephelinesyenite is a leucocratic, coarse grained rock and composed mainly of Feldspar with Nepheline and shows pitted appearance due to removal of Nepheline. This alkaline rock is available in and around Sivanmalai area only.

Acid intrusives are overlain by sediments of Quaternary age, represented by Kankar and black cotton soil with Gypsum. Most of the area is covered by brown and red brown soil. Some part of the area covered with black cotton soil contains Gypsum as lumps. Black cotton soil covers south-western part of the district.

#### **4. GEOPHYSICAL INVESTIGATION METHODS**

A variety of methods are available to assist in the assessment of geological sub-surface conditions. The main emphasis of the fieldwork undertaken was to determine the thickness and composition of the sub-surface formations and to identify water-bearing zones. This information was principally obtained in the field using, and vertical electrical soundings (VES). The VES probes the resistivity layering below the site of measurement. This method is described below.

##### **Resistivity Method**

Vertical electrical soundings (VES) were carried out to probe the condition of the sub-surface and to confirm the existence of deep groundwater. The VES investigates the resistivity layering below the site of measurement.

##### **Basic Principles**

The electrical properties of rocks in the upper part of the earth's crust are dependent upon the lithology, porosity, and the degree of pore space saturation and the salinity of the pore water. Saturated rocks have lower resistivity than unsaturated and dry rocks. The higher the porosity of the saturated rock, or the higher the salinity of the saturating fluids, the lower is the resistivity. The presence of clays and conductive minerals also reduces the resistivity of the rock.

The resistivity of earth materials can be studied by measuring the electrical potential distribution produced at the earth's surface by an electric current that is passed through the earth. Current is moved through the subsurface from one current electrode to the other and the potential difference is recorded as the current passes. From this information, resistivity values of various layers are acquired and layer thickness can be identified.

The apparent resistivity values determined are plotted as a log function versus the log of the spacing between the electrodes. These plotted curves identify thickness of layers. If there are multiple layers (more than 2), the acquired data is compared to a master curve to determine layer thickness.

This method is least influenced by lateral in-homogeneities and capable of providing higher depth of investigation.

The resistance  $R$  of a certain material is directly proportional to its length  $L$  and cross-sectional area  $A$ , expressed as:

$$R = R_s * L/A \text{ (in Ohm)}$$

Where  $R_s$  is known as the specific resistivity (characteristic of the material and independent of its shape or size)

With Ohm's Law,

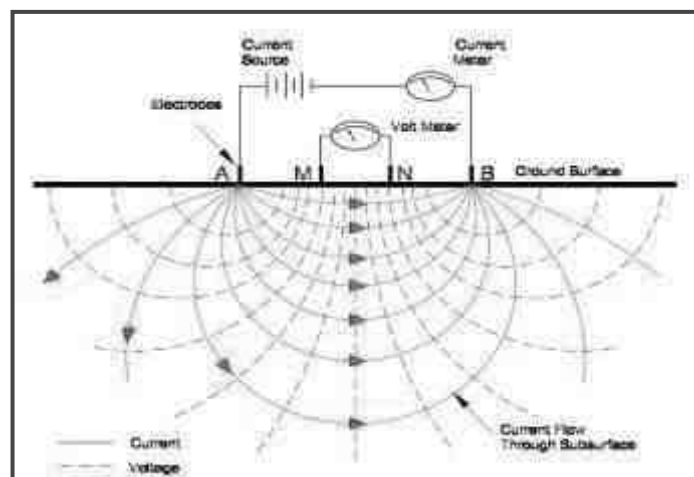
$$R = dV/I \text{ (Ohm)}$$

Where  $dV$  is the potential difference across the resistor and  $I$  is the electric current through the resistor. The specific resistivity may be determined by:

$$R_s = (A/L) * (dV/I) \text{ (in Ohm m)}$$

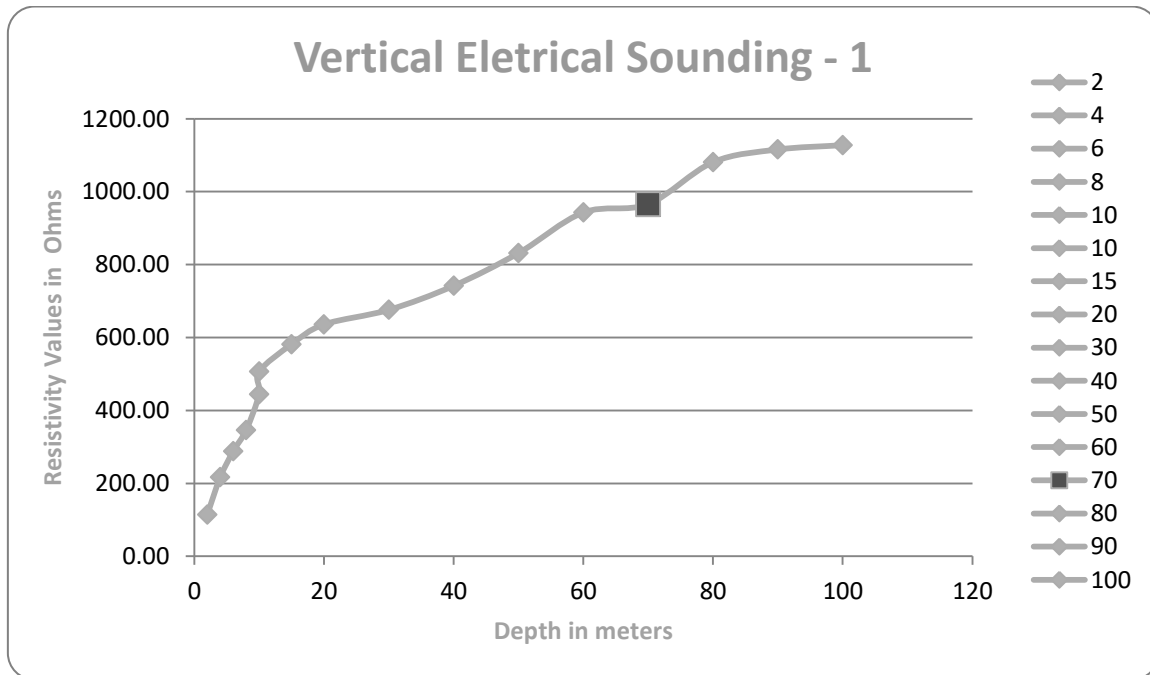
### Vertical Electrical Sounding (VES)

When carrying out a resistivity sounding, current is led into the ground by means of two electrodes. With two other electrodes, situated near the center of the array, the potential field generated by the current is measured. From the observations of the current strength and the potential difference, and taking into account the electrode separations, the ground resistivity can be determined. During a resistivity sounding, the separation between the electrodes is step-wise increased (known as a Schlumberger Array), thus causing the flow of current to penetrate greater depths. When plotting the observed resistivity values against depth on double logarithmic paper, a resistivity graph is formed, which depicts the variation of resistivity with depth. This graph can be interpreted with the aid of a computer, and the actual resistivity layering of the subsoil is obtained. The depths and resistivity values provide the hydro geologist with information on the geological layering and thus the occurrence of groundwater.



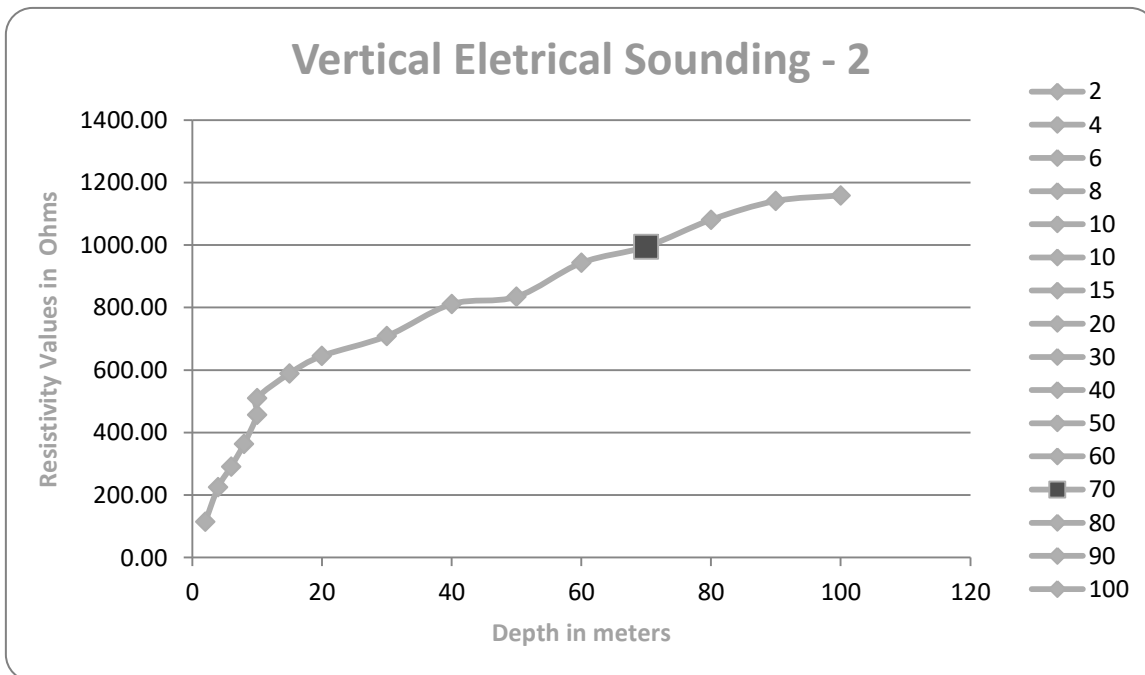
## Graphs

STATION-1					
GPS Coordinates - 11° 8'2.83"N 77°25'22.38"E					
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	24.24	114.26
2	4	1	23.55	9.19	216.66
3	6	1	54.95	5.22	287.94
4	8	1	98.91	3.48	346.19
5	10	1	155.45	2.85	444.59
6	10	5	23.55	21.45	506.33
7	15	5	62.80	9.25	581.53
8	20	5	117.75	5.39	635.85
9	30	5	274.75	2.45	675.89
10	40	5	494.55	1.47	741.83
11	50	5	777.15	1.06	831.55
12	60	5	1122.55	0.82	942.94
13	70	5	1530.75	0.62	965.90
14	80	5	2001.75	0.53	1080.95
15	90	5	2535.55	0.46	1115.64
16	100	5	3132.15	0.33	1127.57



◆ This vertical electrical sounding graphs purple color level is fracture zone.

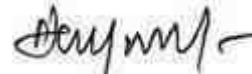
STATION-2					
GPS Coordinates - 11° 8'0.38"N 77°25'22.21"E					
S.No	Ab/2(m)	Mn/2(m)	Geometrical factor (G)	Resistance Value in Ohms	Apparent Resistance in Ohms
1	2	1	4.71	24.24	114.26
2	4	1	23.55	9.55	225.14
3	6	1	54.95	5.28	291.24
4	8	1	98.91	3.67	363.99
5	10	1	155.45	2.93	457.02
6	10	5	23.55	21.65	510.09
7	15	5	62.80	9.37	589.06
8	20	5	117.75	5.47	645.27
9	30	5	274.75	2.56	708.86
10	40	5	494.55	1.63	811.06
11	50	5	777.15	1.06	834.66
12	60	5	1122.55	0.85	942.94
13	70	5	1530.75	0.66	994.99
14	80	5	2001.75	0.55	1080.95
15	90	5	2535.55	0.42	1141.00
16	100	5	3132.15	0.36	1158.90



● This vertical electrical sounding graphs purple color level is fracture zone.

## 5. Conclusion –

Based on the available information and the geophysical investigations it is concluded that the project area is considered to have medium groundwater potential. Productive aquifers are expected at depth of 80m to 85m where minor fractures are observed and shallow aquifers are expected above 65m-70m BGL. The ultimate pit limit as per the approved mining plan depth is 36m (1m Gravel + 35m Rough stone) below ground level which will have no impact on the Ground Water.



**Dr. P. Thangaraju, M.Sc., Ph.D.,**

Govt. Approved Hydro Geologist

M/s. Geo Exploration and Mining Solutions,

Regd. Office: No. 17, Advaita Ashram Road,

Alagapuram, Salem – 636 004, Tamil Nadu

Mobile: +91 - 94433 56539

E-Mail: [infogeoexploration@gmail.com](mailto:infogeoexploration@gmail.com)



## அ 1 விளம்பரம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமத்தில் புலணன் 389/1சி2-ல் 0.68.8 ஹெக்டேர் பரப்பில் ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், சப்பட்டநாயக்கன்பாளையம், க.எண். 6/67 என்ற முகவரியில் வசித்து வரும் உதயகுமார் மகன் ப.பிரபாகரன் என்பவருக்கு சாதாரணகல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் புதுப்பிக்கக்கோரி விண்ணப்பம் செய்ததைத் தொடர்ந்து, மேற்படி மனுதாரருக்கு கல்குவாரி உரிமம் வழங்குவது குறித்து ஆட்சேபனை தெரிவிக்க விரும்பினால் நேரிலோ கடிதம் வாயிலாகவோ திருப்பூர் கோட்டாட்சியரிடமோ, ஊத்துக்குளி வட்டாட்சியரிடமோ தெரிவிக்கலாம். இவ்விளம்பரம் செய்த 15 தினங்களுக்குள் ஆட்சேபனை ஏது வரப்பெறாவிடில் கல்குவாரி உரிமம் வழங்குவது தொடர்பாக மேல் நடவடிக்கை தொடரப்படும் என இதன் மூலம் அறிவிக்கப்படுகிறது.

  
ப. சீனிவாசன்  
நில வருவாய் ஆய்வாளர்  
ஊத்துக்குளி உள் வட்டம்,  
ஊத்துக்குளி வட்டம்.

மேற்படி இவ்விளம்பரத்தினை கிராம பொதுமக்களிடையே பரப்புரை செய்து மீள அனுப்ப மொரட்டுப்பாளையம் (குளூப்) கிராம நிர்வாக அலுவலர் கேட்டுக் கொள்ளப்படுகிறார்.

  
ப. சீனிவாசன்  
நில வருவாய் ஆய்வாளர்  
ஊத்துக்குளி உள் வட்டம்,  
ஊத்துக்குளி வட்டம்.

6 R. Srinivasan

2 A. Srinivasan





தொடர்புப்பாணாயம், சீபீ

நாள் : 27.04.2021

பணித்தலுப்பப்படுகிறது.

தெய்வீர் மாவட்டம் ஊத்தங்குடி

உட்பட ஊத்தங்குடி உள்வட்டம், தொடர்புப்பாணாயம்

கிராமம் மதுரா சப்பட்டநாயக்கன் பாணாயம்

கதவு எண் 6/67-ல் உட்கும், தி. TS. உதயகுமார்

சீவர்தரின் மகன் தி. U. பிரபாகரன் என்பவர்

தொடர்புப்பாணாயம் கிராமம் 400 எண் 389/1c2-ல்

4.29 0.68.8 பரப்பில் சாதாரண கீழ்க் குவியல்

கல்குவாசி உரிமம் இடையில் மூலத்தான விசாரணை

மீதும் 400த்தலுக்காக கீழ்க்கண்டவாறு சீமர்சீகப்படுகிறது

செய்யப் படுகிறது. உட்கும் தி. TS. உதயகுமார்

மகன். U. பிரபாகரன் என்பவருக்கு தொடர்புப்பாணாயம்

கிராமம் 400 எண் 389/1c-ல் 4.29 0.68.83 பரப்பில்

ஊத்தங்குடி சீமர்சீகவாரி ஆணை எண் 687/2021-ல்

நாள் 10-02-2021-ல் 59 பரத்தியப்பட்டதாகும் செய்யப்

படுகிறது தற்கால உட்கரிவன் 59 389/1c2-ல்

4.29 0.68.80 என் உட்கரிவன் குவியல்பட்டவாறு

(PTO)

இலாபம் 400 ரூபாய் 389/1C2, சீர்திருத்தம் 300  
 ரூபாய் மீட்பு சீர்திருத்தம் மூலமாகப் பராமரிக்கப்பட்ட  
 கிராமத்தில் உள்ளதும், அங்கிதானிகம்பட்ட DTC  
 விடுதலைப் பிரிவுகள், உயர் சிபிசி அளிப்பதும்,  
 கனாயில், மது, தேயிலை, ஆய்வு அலுவலகத்தினால்  
 தராதல் அளிப்பதும், மயானம், தேயிலை மரத்தினால்  
 உபயோகப்படுத்த, அதுவும் அங்கு இலாபம் கண்டிப்பாக  
 மலத்தின் மூலம் 49 சதவீதம் அளவிற்கு கட்டி  
 பட்டினிமான், அந்தத் தரத்திற்கு அளிக்கின்றார்.

இலாபம் 400 ரூபாய் 389/1C2, 4.24 - 0.89.0  
 உற்பத்தியில் திரு. சீர்திருத்தம் கயல்பி மான் திரு.  
 S. சீர்திருத்தம் அளிப்பதும், திருப்பூர் மாவட்ட  
 சீர்திருத்தம் அளிப்பதும் அளவிற்கு அளிக்கின்றார். 49  
 5.5.195/கனாயில்/2014. மான் 23.05.2015. கட்டி  
 28.05.2015. தேயிலை 27.05.2020. உயர் அளவிற்கு  
 தராதல் அளிக்கின்றார். இலாபம் அளவிற்கு அளிக்கின்றார்.  
 இலாபம் அளவிற்கு அளிக்கின்றார்.

இது குறித்து மூலமாகப் பராமரிக்கப்பட்ட கிராமத்தில்  
 A1' இலாபம் அளவிற்கு அளிக்கின்றார். அளவிற்கு அளிக்கின்றார்  
 தராதல் உயர் அளவிற்கு அளிக்கின்றார். இலாபம் அளவிற்கு அளிக்கின்றார்.  
 இலாபம் அளவிற்கு அளிக்கின்றார். இலாபம் அளவிற்கு அளிக்கின்றார்.  
 இலாபம் அளவிற்கு அளிக்கின்றார்.

அளவிற்கு அளிக்கின்றார்.  
 27.4.2021.

கிராம நாவாக அளவிற்கு அளிக்கின்றார்  
 மற்றும் பிறப்பு இறப்பு பதிவாளர்  
 மூலமாகப் பராமரிக்கப்பட்ட தராதல் அளவிற்கு அளிக்கின்றார்.  
 இலாபம் அளவிற்கு அளிக்கின்றார்.



அனுப்புநர்

திருமதி.டி.சாந்திலட்சுமி  
வட்டார வளர்ச்சி அலுவலர்(வ.ஊ),  
ஊத்துக்குளி வட்டாரம்.

பெறுநர்

துணை இயக்குநர்,  
புவியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.

ந.க.எண் :992/2021/அ2

நாள்: 22.04.2021

ஐயா,

பொருள் : விசாரணை அறிக்கை கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரணகற்கள் மற்றும் கிராவல் மண் - - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம்- பட்டாபுல எண்கள் 389/1சி2-ல் (0.68.0) ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.யு.பிரபாகரன் த/பெ உதயகுமார் என்பவர் மனுசெய்துள்ளது - குவாரி உரிமம் கோரியது - விசாரணை அறிக்கைகோரியது - விசாரணை அறிக்கை அனுப்பிவைத்தல் - தொடர்பாக.

பார்வை : துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் அவர்களின் ந.க.எண்: 465/2021/கனிமம், நாள்: 07.4.2021

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திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமத்தில் பட்டாபுல எண்கள் 389/1சி2-ல் (0.68.0) ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள் மற்றும் கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.யு.பிரபாகரன் த/பெ உதயகுமார் என்பவர் விண்ணப்பித்ததையடுத்து, பார்வையில் காணும் துணை இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் கடிதத்தில் மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்புமனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் உள்ளதா என அறிக்கை கோரப்பட்டுள்ளது.

மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் இல்லை என்ற விவரமும், புலத் தணிக்கை மற்றும் விசாரணையின் மூலமாக தெரியவருகிறது என்பதை பணிபுடன் தெரிவித்துக் கொள்கிறேன்.

வட்டார வளர்ச்சி அலுவலர்(வ.ஊ),  
ஊத்துக்குளி.

22/4/2021

புலத்தணிக்கைக் குறிப்பு

நாள்:28.04.2021

கிராமம்: மொரட்டுப்பாளையம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், சட்டப்பட்டநாயக்கன் பாளையம், க.ச.எண்.6/67 என்ற முகவரியில் வசித்து வரும் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவர் குவாரி குத்தகை உரிமம் கோரிய மனுவின்பேரில் இன்று (28.04.2021)ல் புலத்தணிக்கை செய்யப்பட்டது.

திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம், ரீ.ச.எண்.389/1சி2 நெ.காலையில் 0.68.8 பு.ஹெக்டேர் பூமியானது திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவருக்கு ஊத்துக்குளி சார் பதிவாளர் அலுவலக எண்.687/2001,நாள்:10.02.2001-ன் படியும் பட்டா எண் 1088-ன் படியும் பாத்தியப்பட்டுள்ளது. . ரீ.ச.எண்.389/1சி2 நெ.காலையில் 0.68.8 பு.ஹெக்டேர் பரப்பு பூமியில் சாதாரணக்கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குத்தகை உரிமத்தினை புதுப்பித்து வழங்க கோரியுள்ளார்.

புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளது. இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டதில், உரிமம் கோரும் பூமியைச் சுற்றி 300மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், இடுகாடு, மின்மாற்றி, நத்தம் குடியிருப்புகள், மசூதி, தேவாலயம் உள்ளிட்ட புராதன சின்னங்கள் உள்ளிட்டவைகள் ஏதுமில்லை. பாறை வசதி உள்ளது. எனவே, மேற்படி பூமியில் கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க அனுமதி வழங்கலாம் வருவாய் கோட்டாட்சியருக்கு கடிதம் வைக்கவும்.

*Amma*  
வட்டாட்சியர்,  
ஊத்துக்குளி.  
28/4/2021

*க*  
28.4.2021



அனுப்புநர்  
திருமதி.கா.கலாவதி,  
வட்டாட்சியர்,  
ஊத்துக்குளி.

பெறுநர்  
வருவாய் கோட்டாட்சியர்,  
திருப்பூர்.

ந.க.எண்.703/2021/அ2

நாள் :29.04.2021

ஆய்வா,

பொருள் : கனிமங்களும் சுரங்கங்களும் - திருப்பூர் மாவட்டம்- ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - ரீ.ச.எண்.389/1C2 -ல் 0.68.80 பு.ஹெக்டேர் நிலப்பரப்பில் சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க - 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவரது மனு - அறிக்கை சமர்ப்பித்தல் -தொடர்பாக.

பார்வை : 1. திருப்பூர் வருவாய் கோட்டாட்சியர் கடித எண். ந.க. 924 /2021 / அ5 நாள்: 09.04.2021.  
2. ஊத்துக்குளி நில வருவாய் ஆய்வாளர் அறிக்கை நாள் : 27.04.2021.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், சப்பட்டநாயக்கன் பாளையம், க.ச.எண்.6/67 என்ற முகவரியில் வசித்து வரும் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவர் குவாரி குத்தகை உரிமம் கோரி திருப்பூர் மாவட்ட ஆட்சியர் அவர்களிடம் அளித்த மனுவின்பேரில், புலத்தணிக்கையும், விசாரணையும் மேற்கொண்டு எனதறிக்கையை கீழ்க்காணுமாறு சமர்ப்பித்துக் கொள்கிறேன்.

மனுதாரர் மேற்கண்ட முகவரியில் நிரந்தரமாக வசித்து வருகிறார். மனுதாரர் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம், ரீ.ச.எண்.389/1C2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பூமியானது திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவருக்கு ஊத்துக்குளி சார் பதிவாளர் அலுவலக எண்.687/2001,நாள்:10.02.2001-ன் படியும் பட்டா எண் 1088-ன் படியும் பாத்தியப்பட்டதாகும்.

மனுதாரர் திரு.உதயகுமார் என்பவருக்கு திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணைகள் ந.க.எண் ந.க.1959/கனிமம்/2014 நாள்: 23.05.2015-ன்படி மேற்படி ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண்.389/1சி காலையில் 0.89.0 ஹெக்டர் பட்டா நிலப்பரப்பில் மட்டும் சாதாரணக் கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க 23.05.2015 முதல் 22.05.2020 வரை 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் வழங்கப்பட்டுள்ளது. தற்போது, திரு.பிரபாகரன் என்பவர், 5 வருடங்களுக்கு ரீ.ச.எண்.389/1சி2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பட்டா நிலத்தில் சாதாரணக் கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி குத்தகை உரிமம் கோரி விண்ணப்பித்துள்ளார்.



மனுதாரர் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவர், மேற்படி ரீ.ச.எண்.389/1C2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பட்டா நிலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளது.
2. இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டதில், பொது மக்களிடமிருந்து எவ்வித ஆட்சேபணையும் வரவில்லை
3. உரிமம் கோரும் பூமியைச் சுற்றி 300 மீட்டர் சுற்றளவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், இடுகாடு, மின்மாற்றி, நத்தம் குடியிருப்புகள், மசூதி, தேவாலயம் உள்ளிட்ட புராதன சின்னங்கள் மற்றும் தேசிய நெடுஞ்சாலை உள்ளிட்டவைகள் ஏதும் இல்லை.
4. உயர் மின்னழுத்த கம்பி தடம் இல்லை.
5. குவாரிக்கு சென்று வர பாதை வசதி உள்ளது.

எனவே மனுதாரர் திரு.பிரபாகரன் த/பெ. உதயகுமார் என்பவர் கோரியுள்ள, திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், ரீ.ச.எண்.389/1C2 நெ.காலையில் 0.68.80 பு.ஹெக்டேர் பரப்புள்ள பட்டா நிலத்தில் சாதாரணக்கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க 5 ஆண்டுகளுக்கு குத்தகை உரிமம் வழங்க பரிந்துரை செய்கிறேன் என்பதைப் பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்

தங்கள் உண்மையுள்ள,

வட்டாட்சியர்,  
ஊத்துக்குளி

28/9/2021

28-9-2021

அனுப்பநர்

திரு.எம்.ஜெகநாதன், M.Sc.,  
வருவாய் கோட்டாட்சியர்,  
திருப்பூர்.

ந.க.924/2021/ஈ1

அய்யா,

பெறுநர்

மாவட்ட ஆட்சியர்  
திருப்பூர்

நாள்: .04.2021.

பொருள்: கனிமங்களும் சுரங்கங்களும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண்.389/1C2 நெ.காலையில் மொத்தம் 0.68.80 ஹெக்டர் பரப்பளவில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் குவாரி குத்தகை உரிமம் கோரியது - அறிக்கை அனுப்புதல் - தொடர்பாக.

பார்வை: ஊத்துக்குளி வட்டாட்சியர் அறிக்கை ந.க.703/2021/அ2, நாள்:29.04.2021.

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திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், சப்பட்டநாயக்கன்பாளையம், க.ச. எண்:6/67 என்ற முகவரியில் வசிக்கும் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூமியில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி மனு அளித்தது தொடர்பாக, பார்வையில் காணும் கடிதத்தில் ஊத்துக்குளி வட்டாட்சியர் அறிக்கை சமர்ப்பித்துள்ளதை தொடர்ந்து, மேற்படி புலத்தினை 30.04.2021 அன்று புலத்தணிக்கை மேற்கொண்டு எனத்தறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பித்து கொள்கிறேன்.

மனுதாரர் குவாரி குத்தகை உரிமம் வழங்கக் கோரிய பிரஸ்தாப புலமான ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூமியானது ஊத்துக்குளி சார்பதிவாளர் அலுவலக தானசெட்டில்மெண்ட் பத்திர எண்:687/2021, நாள்:10.02.2021 -ன் படியும், மொரட்டுப்பாளையம் கிராம பட்டா எண்:1088-ன் படியும் மனுதாரர் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவருக்கு பாத்தியப்பட்டு அனுபவத்தில் உள்ளது.

மனுதாரருக்கு குத்தகை உரிமம் கோரியது தொடர்பாக மொரட்டுப்பாளையம் கிராமத்தில் 12.04.2021 அன்று "அ1" விளம்பரம் செய்யப்பட்டதில் நாளது வரை எவ்வித ஆட்சேபனையும் பொதுமக்களிடம் இருந்து வரப்பெறவில்லை. இந்நேரவில் மனுதாரர் அரசுக்கு செலுத்த வேண்டிய கனிம வரி நிலுவை இல்லை எனவும், வருமான வரி நிலுவை இல்லை எனவும், அதற்கான உறுதிமொழி மற்றும் குத்தகை உரிமம் வழங்குவது தொடர்பாக மனுதாரர் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் உறுதிமொழி ஆவணங்கள் ஆகியவற்றை சமர்ப்பித்துள்ளார்.



புலத்தணிக்கை குறிப்பு

வட்டம்: ஊத்துக்குளி  
கிராமம்: மொரட்டுப்பாளையம்  
புல எண்: புல எண். 389/1C2 நெ.காலையில்  
பு.ஹெக்.0.68.80  
தணிக்கை நாள்: 30.04.2021.  
நோக்கம் : குவாரி குத்தகை உரிமம் வழங்கக்  
கோரியது தொடர்பாக.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், சப்பட்டநாயக்கன்பாளையம், க.ச. எண்:6/67 என்ற முகவரியில் வசிக்கும் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவர் ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூமியில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி மனு அளித்தது தொடர்பாக, மேற்படி புலமானது 30.04.2021 அன்று தணிக்கை செய்யப்பட்டது.

மனுதாரர் குவாரி குத்தகை உரிமம் வழங்கக் கோரிய பிரஸ்தாப புலமான ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள பூமியானது ஊத்துக்குளி சார்பதிவாளர் அலுவலக தானசெட்டில்மெண்ட் பத்திர எண்:687/2021, நாள்:10.02.2021 -ன் படியும், மொரட்டுப்பாளையம் கிராம பட்டா எண்:1088-ன் படியும் மனுதாரர் திரு.பிரபாகரன், த/பெ.உதயகுமார் என்பவருக்கு பாத்தியப்பட்டு அனுபவத்தில் உள்ளது.

மேலும் குவாரி குத்தகை உரிமம் கோரும் பூமி தொடர்பாக புலத்தணிக்கையின் போது பின்வரும் விபரங்கள் தெரியவருகிறது. குவாரி குத்தகை கோரும் புலங்களின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக்கற்கள் நடப்பட்டுள்ளன. குவாரி உரிமம் வழங்க கோரும் பூமியில் விலையுயர்ந்த மரங்கள் ஏதும் இல்லை. குத்தகை கோரும் புலங்களைச் சுற்றி 300மீ சுற்றளவில் ஊர் நத்தம், குடியிருப்பு பகுதிகள், தேசிய நெடுஞ்சாலைகள் மற்றும் வழிபாட்டு தலங்கள் ஏதுமில்லை. குவாரி குத்தகை கோரும் புலங்களைச் சுற்றி 300மீ சுற்றளவில் தொல்பொருள் துறையின் கட்டுப்பாட்டில் உள்ள புராதனச்சின்னங்களோ

ஏதுமில்லை. குவாரி குத்தகை உரிமம் கோரும் புலத்தில் உயர் மின்னழுத்த கம்பிகள் ஏதுமே  
செல்லவில்லை.

எனவே திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம்  
கிராமம், புல எண். 389/1C2 நெ.காலையில் பு.ஹெக்.0.68.80 விஸ்தீரணமுள்ள  
பூமியிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க திரு.பிரபாகரன்,  
த/பெ.உதயகுமார் என்பவருக்கு, 1959 - ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதி -  
19(1) மற்றும் 33 ன் படி குத்தகை குறித்த நிபந்தனைகளின் பேரில் குவாரி குத்தகை உரிமம்  
வழங்க பரிந்துரை செய்து, மாவட்ட ஆட்சியருக்கு கடித வரைவு வைக்கவும்.

  
வருவாய் கோட்டாட்சியர்  
திருப்பூர்.

## SRI SELVANAYAGIAMMAN EXPLOSIVES

**P.Thirunavukarasu**  
(Explosive Blasting Contractor)

94451-30006  
NO.52, Kaveri Street  
Bhavani Tk, Erode Dt.

Magazine at: 97/2, Thalavaipalayam Village, Uthukuli (Tk), Tirupur(Dt)

Date: 18.06.2021

To:

U. Prabhakaran,  
S/O Udhayakumar,  
6/67, SN Palayam,  
Morattupalayam,  
Uthukuli Taluk,  
Tirupur District.

Ref: Your Letter dated

Sub: Regarding blasting work using explosives in your proposed quarry.

We are having explosives license in Form 22 holding No: E/SC/TN/22/339 (E10241) situate in Survey S.F.No.97/2 Thalavaipalayam Village, Uthukuli Taluk, Tirupur District. Our office functions at Address No.52, Kaveri Street, Bhavani (Tk), Erode (Dt).

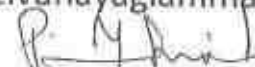
We are enacting 2 explosives vans for transporting detonators and class 2 separately for our Magazine to our site and well experienced and licensed blasters and shot firer for safe Blasting work since 5 years without untoward incident.

We are willing to undertake work on contract basis at your SF.No.389/1c2, over an extent of 0.68.8 hec. Moratupalayam post, Uthukuli Taluk, Tirupur District.

Thanking You,

Signature

For Sri Selvanayagamman Explosives

  
P. Thirunavukarasu  
Proprietor

Enclosure:

1. License Copy

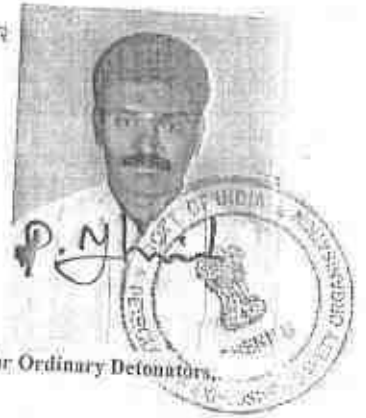


## अनुज्ञापि प्ररूप एल. ई.-3 | LICENCE FORM LE-3

(विस्फोटक नियम, 2008 को अनुसूची 4 के भाग 1 के अनुच्छेद 3(क) से (घ) दोखें।)  
(See article 3(a) to (d) of Part 1 of Schedule IV of Explosives Rules, 2008)(ग) उपयोग के लिए एक समय पर वर्ग 1, 2, 3, 4, 5 या वर्ग 7 के विस्फोटक या किसी मैगजीन में वर्ग 6 के विस्फोटक  
Licence to possess: (a) for use, explosives of class 1, 2, 3, 4, 5, 6 or 7 in a magazine

अनुज्ञापि सं. (Licence No.): E/SC/TN/22/339(E10241)

वार्षिक फीस रुपये (Annual Fee Rs): 3000/-



1. Licence is hereby granted to

SRI SELVANAYAGI AMMAN EXPLOSIVES (अधिभागी / Occupier: P. THIRUNAVUKARASU), 52,  
Cauvery Street, Bhavani, Town/Village - Bhavani, District-ERODE, State-Tamil Nadu, Pincode - 638301

को अनुज्ञापि अनुदत्त की जाती है।

2. अनुज्ञापिधारी की प्रास्थिति | Status of licensee: Partnership Firm

3. अनुज्ञापि निम्नलिखित प्रयोजनों के लिए विधिमाम्य है।  
Licence is valid only for the following purpose.possess for use of Safety Fuse, Electric and/or Ordinary Detonators,  
Nitrate Mixture, - के उपयोग के लिए4. अनुज्ञापि विस्फोटकों के निम्नलिखित किस्मों, प्रकार और मात्रा के लिए विधिमाम्य है।  
Licence is valid for the following kinds and quantity of explosives: - (क) (a)

Sr. No.	नाम और विवरण Name and Description	वर्ग और प्रभाग Class & Division	उप-प्रभाग Sub-division	मात्रा किसी एक समय में Quantity at any one time
1	Nitrate Mixture	2, 0	0	700 Kg
2	Safety Fuse	6, 1	0	5000 Mtrs
3	Electric and/or Ordinary Detonators	6, 3	0	20000 Nos.

(ख) किसी एक कैलेंडर मास में खरीदे जाने वाले विस्फोटक की मात्रा [अनुच्छेद 3(ख) और (ग) के अधीन अनुज्ञापि के लिए]  
(b) Quantity of explosives to be purchased in a calendar month [applicable for licence under article 3(b) and (c)]9 times  
as above.5. निम्नलिखित रेखाचित्र (रेखाचित्रों) से अनुज्ञापि परिसर की पुष्टि होती है।  
The licensed premises shall conform to the following drawing(s).रेखाचित्र नं. (Drawing No.) E/SC/TN/22/339(E10241)  
दिनांक (Dated) 06/09/20046. अनुज्ञापि परिसर निम्नलिखित पते पर स्थित है। The licensed premises are situated at following address:  
Survey No(s), S.F. 97/2, ग्राम (Town/Village): Thalavoyalayam, Uthukuli talukaजिला (District)  
दूरभाष (Phone)TIRUPUR  
7502930006राज्य (State)  
ई-मेल (E-Mail)

Tamil Nadu

पुलिस थाना (Police Station): Uthukuli  
पिनकोड (Pincode)  
फिसस (Fax)7. अनुज्ञापि परिसर में निम्नलिखित सुविधाएं अंतर्विष्ट हैं।  
The licensed premises consist of following facilities.

Main room, lobby and detonator room

8. अनुज्ञापि समय-समय पर यथासंशोधित विस्फोटक अधिनियम, 1884 और उनके अधीन विरचित विस्फोटक नियम, 2004 के उपबंधों, शर्तों और अतिरिक्त शर्तों और निम्नलिखित उपबंधों के अधीन रहते हुए अनुदत्त की जाती है।  
The licence is granted subject to the provision of Explosives Act 1884 as amended from time to time and the Explosives Rules, 2004 framed there under and the conditions, additional conditions and the following Annexures.

- उपरोक्त क्रम सं. 5 में यथा कथित रेखाचित्र (स्थान, सन्निर्माण संबंधी और अन्य विवरण दर्शित करते हुए)  
Drawings (showing site, constructional and other details) as stated in serial No. 5 above
- अनुज्ञापि प्राधिकारी द्वारा हस्ताक्षरित इस अनुज्ञापि की शर्तों और अतिरिक्त शर्तों।  
Conditions and Additional Conditions of this licence signed by the licensing authority.
- दूरी प्ररूप DE-2 | Distance Form DE-2

9. यह अनुज्ञापि तारीख 31 मार्च 2008 तक विधिमाम्य रहेगी। This licence shall remain valid till 31st day of March 2008.

यह अनुज्ञापि, अधिनियम या उसके अधीन विरचित नियमों या अनुसूची V के भाग 4 के प्रति निर्दिष्ट सेट-VII के अधीन तथा उपबर्णित इस अनुज्ञापि की शर्तों का अधिक्रमण करने या यदि अनुज्ञापि परिसर योजना या उससे संलग्न उपबंध में दर्शित विवरण के अनुरूप नहीं पाए जाने पर निलंबित या प्रतिसंहरा जा सकती है, जहां वह लागू हो।  
This licence is liable to be suspended or revoked for any violation of the Act or Rules framed there under or the conditions of this licence as set forth under Set VIII, wherever applicable, referred to in Part 4 of Schedule V or if the licensed premises are not found conforming to the description shown in the plans and Annexure attached hereto.

तारीख | The Date - 06/09/2004

संयुक्त मुख्य विस्फोटक नियंत्रक | Joint Chief Controller of Explosives  
South Circle, Chennai

## Amendments:

- Amendment of Quantity of Explosives/Monthly Purchase Limit dated: 17/08/2011

## Transfers:

- Change in Licensee Name/Address/Status dated: 26/03/2018

नवीनीकरण के पृष्ठांकन के लिए स्थान  
Space for Endorsement of Renewalनवीनीकरण की तारीख  
Date of Renewalसमाप्ति की तारीख  
Date of Expiryअनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प  
Signature of licensing authority and stamp

05/03/2020

31/03/2025

Jt. Chief Controller of Explosives, South Circle, Chennai

कानूनी चेतावनी: विस्फोटकों को गलत ढंग से चलाने या उनका दुरुपयोग विधि के अधीन गंभीर दंडित अपराध होगा।  
Statutory Warning: Mishandling and misuse of explosives shall constitute serious criminal offence under the law.

சான்று

திருப்பூர் மாவட்டம் ஊத்துக்குறி வட்டம்  
 ஊத்துக்குறி மேல்வட்டம், மொரட்டுப்பாளையம்  
 கிராமம் மதரா சிப்பலநாயக்கிளிமாணையம் கிராம  
 எண் 6/67ல் உதிசீதில் திரு. T.S. சூயாபொர்  
 அங்கணினி மனை திரு. ப. பிரபாகரன் என்பவரிடமிருந்து  
 மொரட்டுப்பாளையம் கிராமம் 401 எண் 389/12ல்  
 4.ஆய 0.68.83 பூமியானது ஊத்துக்குறி சார்புமாமர்  
 சூயா எண் 687/2021-ன் கீழ் 10-02-2021-ன்  
 படி பாதிக்கப்பட்டதாகும். மேற்படி பூமியானது தற்கால  
 உடலாளன் படி 389/122-ல் 4.ஆய 0.68.80 எண்  
 உடலாளிய அடையப்பட்டுள்ளது.

மேற்படி 401 எண் 389/122 சார்புமாமர் (300)  
 மனைக்கு கீழ்க் சார்புமாமரின் மொரட்டுப்பாளையம்  
 கிராமத்தின் ஊராட்சித் தலைமையகம், அங்கீகரிக்கப்பட்ட (DTCP)  
 வீட்டுமனைப் பின்புலம், உயர் அளவிற்கு பின்புலம், கோவில்  
 மதர் கிராமமே போன்ற வசதிகளே தரப்படும், புதிய  
 சிஸ்டம், பாய், தேசிய அளவிற்கு சாலைகள், போன்றவை  
 தரப்படும் எனத் தெரிவித்துக் கொள்கிறேன்

  
 கிராம நாவாக அலுவலர்  
 மற்றும் பிறப்பு இறப்பு பதிவாளர்  
 மொரட்டுப்பாளையம் சூப்ப. ஊத்துக்குளி வட்டம்  
 திருப்பூர் மாவட்டம்



**TOPOGRAPHICAL VIEW OF MORATTUPALAYAM**  
**ROUGH STONE AND GRAVEL QUARRY LEASE APPLIED AREA**



Name of the Applicant : **U.Prabhakaran,**  
S/o. Udhayakumar,  
Address : No.6/67, Sappattanaickenpalayam,  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District,  
Tamil Nadu State – 638 752.

**LOCATION DETAILS**

Extent : 0.68.8ha  
S.F.No. : 389/1C2  
Village : Morattupalayam  
Taluk : Uthukuli  
District : Tiruppur  
State : Tamil Nadu

Signature of the applicant

U.Prabhakaran

  
(Village Administrative Officer)  
கிராம நிர்வாக அலுவலர்  
Attestation  
மற்றும் பிறப்பு இறப்பு பதிவாளர்  
மொரட்டுப்பாளையம் கிராம, உதகூலி வட்டம்  
திரைப்பூர் மாவட்டம்



सत्यमेव जयते

**File No: 10781**  
**Government of India**  
**Ministry of Environment, Forest and Climate Change**  
**(Issued by the State Environment Impact Assessment**  
**Authority(SEIAA), TAMIL NADU)**

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Dated 03/06/2024



To,

SEMALAIGOUNDER RAJASEKAR  
SEMALAIGOUNDER RAJASEKAR  
6/41, Thimmanaickenpalayam, Morattupalayam, Tiruppur , TIRUPPUR, TAMIL NADU, 638752  
sivasakthiukl@gmail.com

**Subject:** Grant of Terms of Reference (ToR) along with Public Hearing under the provision of the EIA Notification 2006-regarding.

**Sir/Madam,**

This is in reference to your application for Grant of Terms of Reference (ToR) along with Public Hearing under the provision of the EIA Notification 2006-regarding in respect of project S. Rajasekar, Rough Stone and Gravel Quarry Extent: 2.48.5ha S.F.No. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District. submitted to Ministry vide proposal number SIA/TN/MIN/466801/2024 dated 02/05/2024.

**Ref:** 1. Online proposal No. SIA/TN/MIN/466801/2024, Dated:21.03.2024.  
2. Your application submitted for Terms of Reference dated:28.03.2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO24B0108TN5560449N
(ii) File No.	10781
(iii) Clearance Type	TOR
(iv) Category	B1
(v) Project/Activity Included Schedule No.	1(a) Mining of minerals S. Rajasekar, Rough Stone and Gravel Quarry Extent: 2.48.5ha S.F.No. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District.
(vii) Name of Project	SEMALAIGOUNDER RAJASEKAR
(viii) Name of Company/Organization	TIRUPPUR, TAMIL NADU
(ix) Location of Project (District, State)	SEIAA
(x) Issuing Authority	no
(xii) Applicability of General Conditions	

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the SEIAA for an appraisal by the State Environment Impact Assessment Authority(SEIAA) under the provision of EIA notification 2006 and its subsequent amendments.
4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) in the meeting held on 24/05/2024. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, )] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
5. The State Expert Appraisal Committee (SEAC), based on the information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of Terms of Reference (ToR) along with Public Hearing under the provision of EIA Notification, 2006 and as amended thereof subject to the stipulation of specific and general conditions as detailed in Annexure (2)
6. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the SEAC hereby decided to grant Terms of Reference for instant proposal of Thiru.S.Rajasekar under the provisions of EIA Notification, 2006 and as amended thereof.
7. The Ministry/SEIAA-TN reserves the right to stipulate additional conditions, if found necessary.
8. The Terms of Reference to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
9. This issues with the approval of the Competent Authority.
10. The TORs with public hearing prescribed shall be **valid for a period of three years** from the date of issue, for submission of the EIA/EMP report as per OMNo.J-11013/41/2006-IA-II(I)(part) dated 29<sup>th</sup> August, 2017

**Copy To**

1. The Additional Chief Secretary to Government, Environment & Forests Department, Govt. of Tamil Nadu, Fort St. George, Chennai - 9
2. The Chairman, Central Pollution Control Board, Parivesh Bhavan, CBD Cum-Office Complex, East Arjun Nagar, New Delhi 110032.
3. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-600 032.
4. The APCCF (C), Regional Office, MoEF& CC (SZ), 34, HEPC Building, 1<sup>st</sup>& 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai -34.
5. Monitoring Cell, IA Division, Ministry of Environment, Forests & CC, Paryavaran Bhavan, CGO Complex, New Delhi 110003
6. The District Collector, Tiruppur District.
7. Stock File

**Annexure 1**

**Specific Terms of Reference for (Mining Of Minerals)**

**1. Seiaa Specific Condititons:**

S. No	Terms of Reference
1.1	the Authority accepts the recommendation of SEAC and decided to grant Terms of Reference (ToR) along with Public Hearing under cluster for undertaking the combined Environment Impact Assessment Study and preparation of separate Environment Management Plan subject to the conditions as recommended by SEAC

## 2. Seac Conditions - Site Specific

S. No	Terms of Reference
2.1	<p>1. The project proponent shall submit a Certified Compliance Report obtained from the office of the concerned DEE/TNPCB (or) IRO, MoEF &amp; CC, Chennai as per the MoEF&amp;CC O.M dated.08.06.2022 for the previous EC and appropriate mitigating measures for the non-compliance items, if any.</p> <p>2. For the existing quarry, the PP shall obtain a letter from the concerned AD (Mines) which shall stipulate the following information:</p> <ol style="list-style-type: none"> <li>i. Original pit dimension of the existing quarry</li> <li>ii. Quantity achieved Vs EC Approved Quantity</li> <li>iii. Balance Quantity as per Mineable Reserve calculated.</li> <li>iv. Mined out Depth as on date Vs EC Permitted depth</li> <li>v. Details of illegal/illicit mining carried out, if any</li> <li>vi. Non-compliance/Violation in the quarry during the past working.</li> <li>vii. Quantity of material mined out outside the mine lease area (or) in the adjacent quarry/land.</li> <li>viii. Existing condition of Safety zone/benches</li> <li>ix. Details of any penalties levied on the PP for any violation in the quarry operation</li> </ol> <p>4. As it has been observed that no benches are formed in the existing quarry, for ensuring the safety of the persons employed in the quarry, <b>the PP shall carry out the scientific studies to assess the slope stability of the existing quarry walls by determining the angle of safety for the entire quarry but 'zone-wise' to decide whether the existing slope is safer to work or otherwise enumerate the achievable mitigation measures if any, which will also helpful in designing the proposed benches</b>, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining &amp; Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance without any deviation.</p> <p>5. The structures within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m &amp; upto 1km shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc.</p> <p>6. The Proponent shall develop greenbelt and garland drain around the boundary of the proposed quarry and the photographs indicating the same shall be shown during the EIA appraisal.</p> <p>7. The study on impact of the proposed quarrying operations on the surrounding environment which includes reserve forest, water bodies, etc.</p> <p>8. The Project Proponent shall furnish the revised EMP based on the study carried out on impact of the dust &amp; other environmental impacts due to proposed quarrying operations on the nearby agricultural lands for remaining life of the mine in the format prescribed by the SEAC considering the cluster situation.</p>

## 3. Seac Standard Conditions

S. No	Terms of Reference
3.1	<p>1. In the case of existing/operating mines, a letter obtained from the concerned AD (Mines) shall be submitted and it shall include the following:</p> <ul style="list-style-type: none"> <li>(i) Original pit dimension</li> <li>(ii) Quantity achieved Vs EC Approved Quantity</li> <li>(iii) Balance Quantity as per Mineable Reserve calculated.</li> <li>(iv) Mined out Depth as on date Vs EC Permitted depth</li> <li>(v) Details of illegal/illicit mining</li> <li>(vi) Violation in the quarry during the past working.</li> <li>(vii) Quantity of material mined out outside the mine lease area</li> <li>(viii) Condition of Safety zone/benches</li> <li>(ix) Revised/Modified Mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.</li> </ul> <p>2. Details of habitations around the proposed mining area and latest VAO certificate regarding the location of habitations within 300m radius from the periphery of the site.</p> <p>3. The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 50 m, (ii) 100 m, (iii) 200 m and (iv) 300 m (v) 500m shall be enumerated with details such as dwelling houses with number of occupants, whether it belongs to the owner (or) not, places of worship, industries, factories, sheds, etc with indicating the owner of the building, nature of construction, age of the building, number of residents, their profession and income, etc.</p> <p>4. The PP shall submit a detailed hydrological report indicating the impact of proposed quarrying operations on the waterbodies like lake, water tanks, etc are located within 1 km of the proposed quarry.</p> <p>5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.</p> <p>6. The DFO letter stating that the proximity distance of Reserve Forests, Protected Areas, Sanctuaries, Tiger reserve etc., up to a radius of 25 km from the proposed site.</p> <p>7. In the case of proposed lease in an existing (or old) quarry where the benches are not formed (or) partially formed as per the approved Mining Plan, the Project Proponent (PP) shall the PP shall carry out the scientific studies to assess the slope stability of the working benches to be constructed and existing quarry wall, by involving any one of the reputed Research and Academic Institutions - CSIR-Central Institute of Mining &amp; Fuel Research / Dhanbad, NIRM/Bangalore, Division of Geotechnical Engineering-IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus. The PP shall submit a copy of the aforesaid report indicating the stability status of the quarry wall and possible mitigation measures during the time of appraisal for obtaining the EC.</p> <p>8. However, in case of the fresh/virgin quarries, the Proponent shall submit a conceptual 'Slope Stability Plan' for the proposed quarry during the appraisal while obtaining the EC, when the depth of the working is extended beyond 30 m below ground level.</p> <p>9. The PP shall furnish the affidavit stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, II/I Class mines manager appointed by the proponent.</p> <p>10. The PP shall present a conceptual design for carrying out only controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled as well as no fly rock travel beyond 30 m from the blast site.</p> <p>11. The EIA Coordinators shall obtain and furnish the details of quarry/quarries operated by the proponent in the past, either in the same location or elsewhere in the State with video and photographic evidences.</p> <p>12. If the proponent has already carried out the mining activity in the proposed mining lease area after 15.01.2016, then the proponent shall furnish the following details from AD/DD, mines,</p> <p>13. What was the period of the operation and stoppage of the earlier mines with last work permit</p>

S. No	Terms of Reference
	<p>issued by the AD/DD mines?</p> <p>14. Quantity of minerals mined out.</p> <ul style="list-style-type: none"> <li>● Highest production achieved in any one year</li> <li>● Detail of approved depth of mining.</li> <li>● Actual depth of the mining achieved earlier.</li> <li>● Name of the person already mined in that leases area.</li> <li>● If EC and CTO already obtained, the copy of the same shall be submitted.</li> <li>● Whether the mining was carried out as per the approved mine plan (or EC if issued) with stipulated benches.</li> </ul> <p>15. All corner coordinates of the mine lease area, superimposed on a High-Resolution Imagery/Topo sheet, topographic sheet, geomorphology, lithology and geology of the mining lease area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).</p> <p>16. The PP shall carry out Drone video survey covering the cluster, green belt, fencing, etc.,</p> <p>17. The proponent shall furnish photographs of adequate fencing, green belt along the periphery including replantation of existing trees &amp; safety distance between the adjacent quarries &amp; water bodies nearby provided as per the approved mining plan.</p> <p>18. The Project Proponent shall provide the details of mineral reserves and mineable reserves, planned production capacity, proposed working methodology with justifications, the anticipated impacts of the mining operations on the surrounding environment, and the remedial measures for the same.</p> <p>19. The Project Proponent shall provide the Organization chart indicating the appointment of various statutory officials and other competent persons to be appointed as per the provisions of the Mines Act' 1952 and the MMR, 1961 for carrying out the quarrying operations scientifically and systematically in order to ensure safety and to protect the environment.</p> <p>20. The Project Proponent shall conduct the hydro-geological study considering the contour map of the water table detailing the number of groundwater pumping &amp; open wells, and surface water bodies such as rivers, tanks, canals, ponds, etc. within 1 km (radius) along with the collected water level data for both monsoon and non-monsoon seasons from the PWD / TWAD so as to assess the impacts on the wells due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided.</p> <p>21. The proponent shall furnish the baseline data for the environmental and ecological parameters with regard to surface water/ground water quality, air quality, soil quality &amp; flora/fauna including traffic/vehicular movement study.</p> <p>22. The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry specifically with reference to the specific environment in terms of soil health, biodiversity, air pollution, water pollution, climate change and flood control &amp; health impacts. Accordingly, the Environment Management plan should be prepared keeping the concerned quarry and the surrounding habitations in the mind.</p> <p>23. Rain water harvesting management with recharging details along with water balance (both monsoon &amp; non-monsoon) be submitted.</p> <p>24. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.</p> <p>25. Details of the land for storage of Overburden/Waste Dumps (or) Rejects outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&amp;R issues, if any, should be provided.</p> <p>26. Proximity to Areas declared as 'Critically Polluted' (or) the Project areas which attracts the</p>

S. No	Terms of Reference
	<p>court restrictions for mining operations, should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the TNPCB (or) Dept. of Geology and Mining should be secured and furnished to the effect that the proposed mining activities could be considered.</p> <p>27. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.</p> <p>28. Impact on local transport infrastructure due to the Project should be indicated.</p> <p>29. A tree survey study shall be carried out (nos., name of the species, age, diameter etc.,) both within the mining lease applied area &amp; 300m buffer zone and its management during mining activity.</p> <p>30. A detailed mine closure plan for the proposed project shall be included in EIA/EMP report which should be site-specific.</p> <p>31. As a part of the study of flora and fauna around the vicinity of the proposed site, the EIA coordinator shall strive to educate the local students on the importance of preserving local flora and fauna by involving them in the study, wherever possible.</p> <p>32. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix-I in consultation with the DFO, State Agriculture University. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.</p> <p>33. Taller/one year old Saplings raised in appropriate size of bags, preferably ecofriendly bags should be planted as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner</p> <p>34. A Disaster management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.</p> <p>35. A Risk Assessment and management Plan shall be prepared and included in the EIA/EMP Report for the complete life of the proposed quarry (or) till the end of the lease period.</p> <p>36. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.</p> <p>37. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.</p> <p>38. The Socio-economic studies should be carried out within a 5 km buffer zone from the mining activity. Measures of socio-economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.</p> <p>39. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.</p> <p>40. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.</p> <p>41. If any quarrying operations were carried out in the proposed quarrying site for which now the EC is sought, the Project Proponent shall furnish the detailed compliance to EC conditions given in the previous EC with the site photographs which shall duly be certified by MoEF&amp;CC, Regional Office, Chennai (or) the concerned DEE/TNPCB.</p> <p>42. The PP shall prepare the EMP for the entire life of mine and also furnish the sworn affidavit stating to abide the EMP for the entire life of mine</p>

S. No	Terms of Reference
	43. Concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this Terms of Conditions besides attracting penal provisions in the Environment (Protection) Act, 1986.

#### 4. Seiaa Standard Condititons:

S. No	Terms of Reference
4.1	<p>Cluster Management Committee</p> <ol style="list-style-type: none"> <li>1. Cluster Management Committee shall be framed which must include all the proponents in the cluster as members including the existing as well as proposed quarry.</li> <li>2. The members must coordinate among themselves for the effective implementation of EMP as committed including Green Belt Development, Water sprinkling, tree plantation, blasting etc.,</li> <li>3. The List of members of the committee formed shall be submitted to AD/Mines before the execution of mining lease and the same shall be updated every year to the AD/Mines.</li> <li>4. Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry situated in the cluster, the usage of haul roads by the individual quarry in the form of route map and network.</li> <li>5. The committee shall deliberate on risk management plan pertaining to the cluster in a holistic manner especially during natural calamities like intense rain and the mitigation measures considering the inundation of the cluster and evacuation plan.</li> <li>6. The Cluster Management Committee shall form Environmental Policy to practice sustainable mining in a scientific and systematic manner in accordance with the law. The role played by the committee in implementing the environmental policy devised shall be given in detail.</li> <li>7. The committee shall furnish action plan regarding the restoration strategy with respect to the individual quarry falling under the cluster in a holistic manner.</li> <li>8. The committee shall furnish the Emergency Management plan within the cluster.</li> <li>9. The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.</li> <li>10. The committee shall furnish an action plan to achieve sustainable development goals with reference to water, sanitation &amp; safety.</li> <li>11. The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.</li> </ol> <p>Impact study of mining</p> <ol style="list-style-type: none"> <li>12. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area covering the entire mine lease period as per precise area communication order issued from reputed research institutions on the following <ol style="list-style-type: none"> <li>a) Soil health &amp; soil biological, physical land chemical features .</li> <li>b) Climate change leading to Droughts, Floods etc.</li> <li>c) Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, &amp; Livelihood of the local people.</li> <li>d) Possibilities of water contamination and impact on aquatic ecosystem health.</li> <li>e) Agriculture, Forestry &amp; Traditional practices.</li> <li>f) Hydrothermal/Geothermal effect due to destruction in the Environment.</li> <li>g) Bio-geochemical processes and its foot prints including environmental stress.</li> <li>h) Sediment geochemistry in the surface streams.</li> </ol> </li> </ol> <p>Agriculture &amp; Agro-Biodiversity</p> <ol style="list-style-type: none"> <li>13. Impact on surrounding agricultural fields around the proposed mining Area.</li> <li>14. Impact on soil flora &amp; vegetation around the project site.</li> <li>15. Details of type of vegetations including no. of trees &amp; shrubs within the proposed mining area and. If so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.</li> </ol>



S. No	Terms of Reference
	<p>16. The Environmental Impact Assessment should study the biodiversity, the natural ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.</p> <p>17. Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.</p> <p>18. The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.</p> <p><b>Forests</b></p> <p>19. The project proponent shall detailed study on impact of mining on Reserve forests free ranging wildlife.</p> <p>20. The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.</p> <p>21. The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.</p> <p>22. The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National Parks, Corridors and Wildlife pathways, near project site.</p> <p><b>Water Environment</b></p> <p>23. Hydro-geological study considering the contour map of the water table detailing the number of ground water pumping &amp; open wells, and surface water bodies such as rivers, tanks, canals, ponds etc. within 1 km (radius) so as to assess the impacts on the nearby waterbodies due to mining activity. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided, covering the entire mine lease period.</p> <p>24. Erosion Control measures.</p> <p>25. Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby Villages, Water-bodies/ Rivers, &amp; any ecological fragile areas.</p> <p>26. The project proponent shall study impact on fish habitats and the food WEB/ food chain in the water body and Reservoir.</p> <p>27. The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.</p> <p>28. The project proponent shall study and furnish the impact on aquatic plants and animals in water bodies and possible scars on the landscape, damages to nearby caves, heritage site, and archaeological sites possible land form changes visual and aesthetic impacts.</p> <p>29. The Terms of Reference should specifically study impact on soil health, soil erosion, the soil physical, chemical components and microbial components.</p> <p>30. The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.</p> <p><b>Energy</b></p> <p>31. The measures taken to control Noise, Air, Water, Dust Control and steps adopted to efficiently utilise the Energy shall be furnished.</p> <p><b>Climate Change</b></p> <p>32. The Environmental Impact Assessment shall study in detail the carbon emission and also suggest the measures to mitigate carbon emission including development of carbon sinks and temperature reduction including control of other emission and climate mitigation activities.</p> <p>33. The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil &amp; below soil carbon stock.</p> <p><b>Mine Closure Plan</b></p> <p>34. Detailed Mine Closure Plan covering the entire mine lease period as per precise area communication order issued.</p> <p><b>EMP</b></p> <p>35. Detailed Environment Management Plan along with adaptation, mitigation &amp; remedial strategies covering the entire mine lease period as per precise area communication order issued.</p> <p>36. The Environmental Impact Assessment should hold detailed study on EMP with budget for</p>

S. No	Terms of Reference
	<p>Green belt development and mine closure plan including disaster management plan.</p> <p>Risk Assessment</p> <p>37. To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.</p> <p>Disaster Management Plan</p> <p>38. To furnish disaster management plan and disaster mitigation measures in regard to all aspects to avoid/reduce vulnerability to hazards &amp; to cope with disaster/untoward accidents in &amp; around the proposed mine lease area due to the proposed method of mining activity &amp; its related activities covering the entire mine lease period as per precise area communication order issued.</p> <p>Others</p> <p>39. The project proponent shall furnish VAO certificate with reference to 300m radius regard to approved habitations, schools, Archaeological sites, Structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, channel, river, lake pond, tank etc.</p> <p>40. As per the MoEF&amp; CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall address the concerns raised during the public consultation and all the activities proposed shall be part of the Environment Management Plan.</p> <p>41. The project proponent shall study and furnish the possible pollution due to plastic and microplastic on the environment. The ecological risks and impacts of plastic &amp; microplastics on aquatic environment and fresh water systems due to activities, contemplated during mining may be investigated and reported.</p>

**Standard Terms of Reference for (Mining of minerals)**

1.

S. No	Terms of Reference
1.1	An EIA-EMP Report shall be prepared for peak capacity (.....MTPA)operation in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
1.2	An EIA-EMP Report would be prepared for peak capacity operation to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for..... MTPA of mineral production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
1.3	Proper KML file with pin drop and coordinate of mine at 500-1000 m interval be provided
1.4	A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries, mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given. The above details to be furnished in tabular form also
1.5	Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical

S. No	Terms of Reference																								
	features such as water bodies, etc should be furnished.																								
1.6	A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.																								
1.7	Catchment area with its drainage map of 25 km area within and outside the mine shall be provided with names, details of rivers/ riverlet system and its respective order. The map should clearly indicate drainage pattern of the catchment area with basin of major rivers. Diversion of drains/ river need elaboration in form of length, quantity and quality of water to be diverted																								
1.8	(Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.																								
1.9	Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.																								
1.10	Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.																								
1.11	A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.																								
1.12	<p>Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified. Area under Surface Rights</p> <table border="1"> <thead> <tr> <th>S.N ML/Project Land use</th> <th>Area under Surface Rights(ha)</th> <th>Area Under Mining Rights(ha)</th> <th>Area under Both (ha)</th> </tr> </thead> <tbody> <tr> <td>1 Agricultural land</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2 Forest Land</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3 Grazing Land</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4 Settlements</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5 Others (specify)</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	S.N ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights(ha)	Area under Both (ha)	1 Agricultural land				2 Forest Land				3 Grazing Land				4 Settlements				5 Others (specify)			
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1.13	<p>Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.</p>																		
1.14	<p>One-season (other than monsoon) primary baseline data on environmental quality - air (PM10, PM2.5, SOx, NOx and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided. The detail of NABL/ MoEF&amp;CC certification of the respective laboratory and NABET accreditation of the consultant to be provided.</p>																		
1.15	<p>Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.</p>																		
1.16	<p>For proper baseline air quality assessment, Wind rose pattern in the area should be reviewed and accordingly location of AAMSQ shall be planned by the collection of air quality data by adequate monitoring stations in the downwind areas. Monitoring location for collecting baseline data should cover overall the 10 km buffer zone i.e. dispersed in 10 km buffer area. In case of expansion, the displayed data of CAAQMS and its comparison with the monitoring data to be provided</p>																		
1.17	<p>A detailed traffic study along with presence of habitation in 100 mts distance from both side of road, the impact on the air quality with its proper measures and plan of action with timeline for widening of road. The project will increase the no. of vehicle along the road which will indirectly contribute to carbon emission so what will be the compensatory action plan should be clearly spell out in EIA/ EMP report.</p>																		
1.18	<p>The socio-economic study to conducted with actual survey report and a comparative assessment to be provided from the census data should be provided in EIA/ EMP report also occupational status &amp; economic status of the study area and what economically project will contribute should be clearly</p>																		

S. No	Terms of Reference
	mention. The study should also include the status of infrastructural facilities and amenities present in the study area and a comparative assessment with census data to be provided and to link it with the initialization and quantification of need based survey for CSR activities to be followed.
1.19	The Ecology and biodiversity study should also indicate the likely impact of change in forest area for surface infrastructural development or mining activity in relation to the climate change of that area and what will be the compensatory measure to be adopted by PP to minimize the impact of forest diversion.
1.20	Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
1.21	Impact of proposed project/activity on hydrological regime of the area shall be assessed and report be submitted. Hydrological studies as per GEC 2015 guidelines to be prepared and submitted
1.22	Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
1.23	Study on land subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
1.24	Detailed water balance should be provided. The break up of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
1.25	PP shall submit design details of all Air Pollution control equipment (APCEs) to be implemented as part of Environment Management Plan vis-à-vis reduction in concentration of emission for each APCEs
1.26	PP shall propose to use LNG/CNG based mining machineries and trucks for mining operation and transportation of mineral. The measures adopted to conserve energy or use of renewable sources shall be explored
1.27	PP to evaluate the green house emission gases from the mine operation and corresponding carbon absorption plan.
1.28	Site specific Impact assessment with its mitigation measures, Risk Assessment and Disaster Preparedness and Management Plan should be provided.
1.29	Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
1.30	Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from

S. No	Terms of Reference
	workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
1.31	Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
1.32	The number and efficiency of mobile/static water jet, Fog cannon sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
1.33	Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
1.34	Adequate greenbelt nearby areas, mineral stock yard and transportation area of mineral shall be provided with details of species selected and survival rate Greenbelt development should be undertaken particularly around the transport route.
1.35	Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
1.36	Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
1.37	CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
1.38	Corporate Environment Responsibility:
1.39	a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
1.40	b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
1.41	c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
1.42	d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
1.43	e) Environment Management Cell and its responsibilities to be clearly spelled out in EIA/ EMP

S. No	Terms of Reference												
	report												
1.44	f) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.												
1.45	Status of any litigations/ court cases filed/pending on the project should be provided.												
1.46	PP shall submit clarification from DFO that mine does not falls under corridors of any National Park and Wildlife Sanctuary with certified map showing distance of nearest sanctuary.												
1.47	Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.												
1.48	<p>Details on the Forest Clearance should be given as per the format given:</p> <table border="1"> <thead> <tr> <th>Total Project Area (ha)</th> <th>ML Forest land (ha)</th> <th>Date of FC</th> <th>Extent of Forest Land</th> <th>Balance area for which FC is yet to be obtained</th> <th>Status of appl For diversion of forest land</th> </tr> </thead> <tbody> <tr> <td colspan="6">If more than one provide details of each FC</td> </tr> </tbody> </table>	Total Project Area (ha)	ML Forest land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl For diversion of forest land	If more than one provide details of each FC					
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1.49	In case of expansion of the proposal, the status of the work done as per mining plan and approved mine closure plan shall be detailed in EIA/ EMP report												
1.50	Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the time bound action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.												
1.51	PP shall carry out survey through drone highlighting the ground reality for atleast 10 minutes												
1.52	Detailed Chronology of the project starting from the first lease deed allotted/Block allotment/ Land acquired to its No. of renewals, CTO /CTE with details of no. renewals, previous EC(s) granted details and its compliance details, NOC details from various Govt bodies like Forest NOC(s), CGWA permissions, Power permissions, etc as per the requisites respectively to be furnished in tabular form.												
1.53	The first page of the EIA/ EMP report must mention the peak capacity production, area, detail of PP, Consultant (NABET accreditation) and Laboratory (NABL / MoEF & CC certification)												
1.54	The compliances of ToR must be properly cited with respective chapter section and page no in tabular form and also mention sequence of the respective ToR complied within the EIA-EMP report in all the chapter,s section.												

**Signature Not Verified**

Digitally Signed by : A R Rahul Nadh IAS  
Member Secretary, SEIAA

Date: 03/06/2024

From

Thiru.A.Perumal, M.Sc., M.Phil  
Deputy Director,  
Geology and Mining,  
Tiruppur

To

Thiru.S.Rajasekar,  
S/o.Semalai Gounder,  
No.71. Thimmanaickenpalayam,  
Morattupalayam Post,  
Uthukuli Taluk,  
Tiruppur District.

**R.c. No.761/ Mines / 2023 dated: 12.2023.**

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel- Tiruppur District - Uthukuli Taluk - Morattupalayam Village- S.F.Nos. 382/2A(P) - Over an Extent of 2.48.50 Hectares of patta land- Quarry lease for Rough Stone and Gravel - Application preferred by Thiru.S.Rajasekar - Precise area communicated for the proposed grant of quarry lease - Mining Plan Submitted for approval - Approved - further details requested - furnished regarding.

- Ref: 1. Application for grant of Rough Stone and Gravel quarry lease preferred by Thiru.S.Rajasekar dated: 07.12.2022.  
2. G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.  
3. The Assistant Director (i/c), Geology and Mining, Tiruppur letter R.C. No. 48/Mines/2023 dated 20.09.2023  
4. Thiru.S.Rajasekar letter dated:Nil received on 04.11.2023.  
5. This office letter even no. dated. 10.11.2023 (Mining Plan approved)

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In the reference 5<sup>th</sup> cited above, the applicant Thiru.S.Rajasekar has requested to furnish details of other quarry leases of expired, existing and proposed within 500mtr radius from the proposed rough stone and gravel lease over an extent of 2.48.50 Hect in S.F.No. 382/2A(P) Morattupalayam Village of Uthukuli Taluk, Tiruppur District.

As requested by the applicant, the details of existing, proposed and expired quarries situated within the radius of 500 meters from the subject area are furnished as follows:-



1. Existing quarries:


SNo	Name of the Applicant	S.F.Nos	Extent(Hect)	Lease Period
1.	N.Chithambaram	209/1A(P)	0.79.0	20.06.2022 to 19.06.2027
2.	K.Senthilkumar	383/1 (P), 383/2A2A1 (P)	0.71.5	13.04.2023 to 12.04.2028
3.	P.Thangamuthusamy	383/2A1 382/2B	2.63.0	12.04.2023 to 11.04.2028
4.	T.Thangaraj	383/2A2B, 383/2A2A2A22	1.88.72	09.11.2022 to 08.11.2027
5.	M.Thangaraj	389/1B1A, 389/1B1B, 389/1B2	2.19.50	09.11.2022 to 08.11.2027
6.	M.Devaraj	389/1A	1.29.0	25.08.2022 to 24.08.2027

2. Proposed quarries :

Sl.No	Name of the Applicant	S.F.Nos	Extent (Hect)	Remarks
1.	S.Rajasekar	382/2A(P)	2.48.50	Previously held under quarrying lease. Lastly held under quarrying lease for the period from 25.09.2018 to 24.09.2023 granted vide District Collector proceeding R.C.No.105 /Mines/2017 dated 25.09.2017 Again afresh application has been received on 07.12.2022 and the same is under process.
2.	V.Revathi	209/1A(P), 209/1B(P), 209/2C(P)	2.25.5	Applied for Quarry lease
3.	N.Ayyadurai	392 (Part)	0.99.50	Applied for Quarry lease

3. Lease expired and abandoned quarries:

SNo	Name of the Applicant	S.F.Nos	Extent(Hect)	Lease Period
1.	--	--	---	--

  
 Deputy Director  
 Geology and Mining,  
 Tiruppur

Copy to : State Level Environment Impact Assessment Authority-Tamil Nadu, 3<sup>rd</sup> Floor, Panagal Maaligai, No.1 Jeenis Road, Saidapet. Chennai-15

From

Thiru. A.Perumal, M.Sc., M.Phil.,  
Deputy Director,  
Geology and Mining,  
Tiruppur

To

Thiru.S.Rajasekar,  
S/o.Semalai Gounder,  
No.71. Thummanaickenpalayam,  
Morattupalayam Post,  
Uthukuli Taluk,  
Tiruppur District.

**R.c. No. 761/ Mines / 2022 dated: 12.12.2023.**

Sub: Mines and Minerals – Minor Mineral – Rough Stone and Gravel- Tiruppur District - Uthukuli Taluk - Morattupalayam Village- S.F.Nos. 382/2A(P) - Over an Extent of 2.48.50 Hectares of patta land- Quarry lease for Rough Stone and Gravel - Application preferred by Thiru.S.Rajasekar - Precise area communicated for the proposed grant of quarry lease - Mining Plan Submitted for approval - Approved - regarding.

- Ref: 1. Application for grant of Rough Stone and Gravel quarry lease preferred by Thiru.S.Rajasekar dated: 07.12.2022.  
2. G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.  
3. The Assistant Director (i/c), Geology and Mining, Tiruppur letter R.C. No. 48/Mines/2023 dated 20.09.2023.  
4. Thiru.S.Rajasekar letter dated:Nil received on 04.11.2023.

\*\*\*\*\*

Thiru.S.Rajasekar preferred an application for the grant of Rough Stone and Gravel quarry lease over an extent of 2.48.50 Hectare of Patta land in S.F.No.382/2A(P), Morattupalayam Village, Uthukuli Taluk, Tiruppur District vide the reference 1<sup>st</sup> cited and the precise area was communicated to the applicant vide the reference 3<sup>rd</sup> cited with a direction to submit the approved mining plan and Environmental Clearance.

As directed, the applicant submitted three copies of mining plan for approval vide the reference 4<sup>th</sup> cited. The Mining Plan has been verified in detail and found that it was 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.

Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, read with G.O. (Ms), No.79 / Industries (MMC-1) Department dated 06.04.2015, 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 and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (vi) If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
- (vii) A safety distance of 7.5 meters shall be provided for the patta lands situated adjacent to the applied area.

Encl.: Approved Mining Plan.

*Johny*  
12/12/15  
Deputy Director,  
Geology and Mining,  
Tiruppur

*12/12/15*

*12/12/15*



**MINING PLAN AND PROGRESSIVE QUARRY  
CLOSURE PLAN FOR MORATTUPALAYAM  
ROUGH STONE AND GRAVEL QUARRY**

(PREPARED UNDER RULES 41 & 42 AS AMENDED IN TAMILNADU MINOR MINERAL CONCESSION RULES, 1939)

*Patta Land / Lease Period = Five Years*

IN

LOCATION OF THE QUARRY LEASE APPLIED AREA

EXTENT : 2.48.5ha  
S.F.NO : 382/2A (P)  
VILLAGE : MORATTUPALAYAM  
TALUK : UTHUKULI  
DISTRICT : TIRUPPUR  
STATE : TAMIL NADU

FOR

APPLICANT

**Thiru. S. Rajasekar,**  
S/o. Semalai Gounder,  
No.71, Thimmanaickenpalayam,  
Morattupalayam Post, Uthukuli Taluk,  
Tiruppur District – 638 752,  
Tamil Nadu State.

PREPARED BY

**Dr. P. Thangaraju, M.Sc., Ph.D.,**  
Qualified Person  
(As per Rule 15(I)(a) and (I)(b) of MCR, 2016)  
No.17, Advaita Ashram Road,  
Alagapuram, Salem District – 636 004,  
Cell: +91 94422 78601 & 94433 56539  
E-mail: infogeoexploration@gmail.com



**S. Rajasekar,**  
S/o. Semalai Gounder,  
No.71, Thimmanaickenpalayam,  
Morattupalayam Post, Uthukuli Taluk,  
Tiruppur District – 638 752,  
Tamil Nadu State.

**CONSENT LETTER FROM APPLICANT**

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared by

**Dr. P. Thangaraju, M.Sc., Ph.D.,**  
Qualified Person

I request to the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District to make further correspondence regarding the modification of the Mining Plan with the said Qualified Person at his following address.

**Dr. P. Thangaraju, M.Sc., Ph.D.,**  
No. 17, Advaita Ashram Road,  
Alagapuram, Salem District – 636 004.  
Cell: +91 94422 78601 & 94433 56539

I hereby undertake that all the modifications, if any made in the Mining Plan by the Qualified Person may be deemed to have been made with my knowledge and consent and shall be acceptable to me and binding on me in all respects.

Signature of the Applicant

S. Rajasekar

Place: Tiruppur  
Date: 22.09.2023



**S. Rajasekar,**

S/o. Semalai Gounder,

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,

Tiruppur District – 638 752,

Tamil Nadu State.

**DECLARATION OF THE APPLICANT**

The Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.Sha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared in full consultation with me.

I have understood its contents and agree to implement the same in accordance with Laws, Rules and Act applicable to Quarry.

Signature of the Applicant

S. Rajasekar

Place: Tiruppur

Date: 22.09.2023



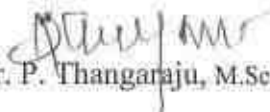
## CERTIFICATE

Certified that I am, **Dr. P. THANGARAJU**, M.Sc., Ph.D., having an office at No. 17, Advaita Ashram Road, Alagapuram, Salem – 636 004, holding a Post Graduate Degree in Geology (M.Sc. Geology) from Madras University, Chennai and I worked in the field of Geology in a role of Geologist.

Rule 15(I)(a) and (b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 stipulates the eligibility for preparing Revised Mining Plans as “(I)(a) a post graduate degree in Geology granted by a university established” and (I)(b) “Professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree”. Since my qualification and experience are satisfied the Rule (I)(a) and (I)(b) of 15 of the said Rules, I am eligible to prepare Revised Mining Plans for both Major and Minor Minerals.

Accordingly, I am preparing this Mining Plan and Progressive Quarry Closure Plan in Respect of Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State for **Thiru. S. Rajasekar** S/o. Semalai Gounder, No.71, Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State. Since the Mining Plan is prepared as per the provisions contained in Rule 15(I)(a) and (I)(b) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.

Signature of the Qualified Person

  
Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 26.09.2023

**Dr. P. Thangaraju, M.Sc., Ph.D.,**

No. 17, Advaita Ashram Road,

Alagapuram, Salem District – 636 004.

Cell: +91 94422 78601 & 94433 56539



**CERTIFICATE FROM THE QUALIFIED PERSON**

This is to certify that the Provisions of under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959 have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

**Thiru. S. Rajasekar,**

S/o. Semalai Gounder,

No.71, Thimmanaickenpalayam,

Morattupalayam Post, Uthukuli Taluk,


Tiruppur District – 638 752,

Tamil Nadu State.

Whenever specific permissions/ exemptions/ relaxations and approvals are required, the Applicant will approach the concerned authorities of the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District, Tamil Nadu State for such permissions/ exemptions/ relaxations and approvals.

It is also certified that information furnished in the above Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

  
Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 26.09.2023





**Dr. P. Thangaraju, M.Sc., Ph.D.,**  
No. 17, Advaita Ashram Road,  
Alagapuram, Salem District – 636 004.  
Cell: +91 94422 78601 & 94433 56539

**CERTIFICATE FROM THE QUALIFIED PERSON**

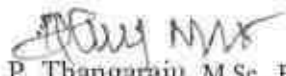
Certified that the Provisions of Mines Act, Rules and Regulations and Orders made there under have been observed in the preparation of Mining Plan and Progressive Quarry Closure Plan for Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for

**Thiru. S. Rajasekar,**  
S/o. Semalai Gounder,  
No.71, Thimmanaickenpalayam,  
Morattupalayam Post, Uthukuli Taluk,  
Tiruppur District – 638 752,  
Tamil Nadu State.

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

It is also certified that information furnished in the Mining Plan are true and correct to the best of my knowledge.

Signature of the Qualified Person

  
Dr. P. Thangaraju, M.Sc., Ph.D.,

Place: Salem

Date: 26.09.2023



## LIST OF CONTENTS

<b>S. No.</b>	<b>Description</b>	<b>Page No.</b>
1.0	Introduction and Executive Summary	1
2.0	General Information	5
3.0	Location	6
	<u>PART-A</u>	
4.0	Geology and Mineral Reserves	8
5.0	Mining	12
6.0	Blasting	15
7.0	Mine Drainage	17
8.0	Other Permanent Structures	18
9.0	Employment Potential & Welfare Measures	20
	<u>PART-B</u>	
10.0	Environment Management Plan	22
11.0	Progressive Quarry Closure Plan	30
12.0	Any Other Details Intend to Furnish by the Applicant	37



### LIST OF ANNEXURES

S. No.	Description	Annex. No.
1.	Copy of Precise Area Communication	I
2.	Copy of Previous Proceedings Letter	IA
3.	Copy of Previous Environmental Clearance Letter	IB
4.	Copy of FMB	II
5.	Copy of Combined Map	III
6.	Copy of Patta	IV
7.	Copy of Adangal	V
8.	Copy of A-Register	VI
9.	Copy of Consent Letter from the other Pattadars	VII
10.	Copy of ID Proof	VIII
11.	Copy of Educational Certificate of Qualified Person	IX
12.	Copy of Experience Certificate of Qualified Person	X

### LIST OF PLATES

S. No.	Description	Plate No.
1.	Location Plan	I
2.	Topo sketch of Quarry Lease Applied Area for 10km Radius	IA
3.	Environmental & Landuse Plan for (1km Radius)	IB
4.	Route Map	IC
5.	Quarry Lease & Surface Plan	II
6.	Topography, Geological, Yearwise Development & Production Plan & Sections	III
7.	Progressive Quarry Closure Plan & Sections	IV
8.	Conceptual Plan & Sections	V



**MINING PLAN AND PROGRESSIVE QUARRY CLOSURE PLAN FOR  
MORATTUPALAYAM ROUGH STONE AND GRAVEL QUARRY OVER AN  
EXTENT OF 2.48.5HA OF PATTALAND IN MORATTUPALAYAM  
VILLAGE, UTHUKULI TALUK, TIRUPPUR DISTRICT,  
TAMIL NADU STATE.**

(PREPARED UNDER RULES 41 & 42 AS PER THE AMENDED UNDER TAMIL NADU MINOR MINERAL  
CONCESSION RULES, 1959)

**1.0 INTRODUCTION AND EXECUTIVE SUMMARY**

This Mining Plan and Environment Management Plan are prepared for **Thiru. S. Rajasekar** S/o. Semalai Gounder, residing at No.71, Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State.

The applicant applied for Morattupalayam Rough stone and Gravel Quarry in S.F.No.382/2A (P) over an extent of 2.48.5ha of Patta land in Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State under Rule 19 as per the Tamil Nadu Minor Mineral Concession Rules, 1959.

The application was processed by the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District and passed a Precise Area Communication letter vide **Rc.No.761/Mines/2022, Dated: 20.09.2023** to submit Mining Plan for the approval in Department of Geology and Mining, Tiruppur District and obtain Environmental Clearance from the Competent Authority, Tamil Nadu State, with the conditions to provide (Please refer Annexure No. D):

1. As per Table II of the Tamil Nadu Minor Mineral Concession Rules, 1959, the seigniorage fees for mined minerals shall be paid from time to time and then the mineral must be transported.
2. Quarry operation should be carried out by leaving a safety distance of 7.5m to adjacent patta and quarry lands.
3. Explosives should be carried out by experienced explosive users using low power explosives without any disturbance to the adjacent pattadars / without any encroachment on the adjacent patta and government lands.
4. As per the rules, the approved mining plan should be submitted within the due time.

5. A quarrying license will be issued only after obtaining prior approval of the Environmental Impact Assessment Authority for the area for which the quarrying license is to be issued.
6. In the applied area, DGPS should be measured and the corresponding map should be submitted in original and on CD.
7. If any violations are found in the quarry, penal action will be taken as per provisions mentioned in the Tamil Nadu Minor Mineral Concession Rules, 1959.

In order to ensure compliance of the order of the Honourable Supreme Court Dated: 27.02.2012 in I.A.No.12.13.2011 in Special Leave Petition SLP (C) No 19628-19629/2009, it has been now decided that all mining projects of minor minerals including their renewal irrespective of sizes of the lease would hence forth require prior environmental clearance mining project within the lease applied area up to less than 100ha including projects or minor mineral with lease applied area less then 5ha would be treated as category B as defined in the EIA notification 2006 and will be considered by the state notified by MoEF as prescribed procedure under EIA notification 2006.

In the above circumstances the applicant through his consultant is hereby preparing the Mining Plan, Environmental Management Plan and Progressive Quarry Closure Plan for approval and subsequent submission of Form-I, Form-IM and Pre-feasibility report to obtain environmental clearance from the Competent Authority, Tamil Nadu State, Rough Stone and Gravel quarry. This mining plan is prepared by considering the Rules 41 & 42 as Amended in Tamil Nadu Minor Mineral Concession Rules, 1959 and as per the EIA Notification 2006 and its subsequent Amendment and judgments till 2023.

**Short Notes of Mining Plan:**

- a. Village Panchayat - Morattupalayam
- b. Panchayat Union - Uthukuli
- c. The Geological Resources are  $4,10,685\text{m}^3$  of Rough Stone and  $9,166\text{m}^3$  of Gravel formation in the entire area.
- d. The Total Mineable Reserves are  $1,63,614\text{m}^3$  of Rough Stone and  $6,052\text{m}^3$  of Gravel in the entire area.
- e. The proposed quantity of reserves/ (level of production) to be mined are  $1,63,614\text{m}^3$  of Rough Stone for five years and  $6,052\text{m}^3$  of Gravel for one year in the entire area.
- f. Total extent of the lease applied area = 2.48.5ha
- g. Topography of the area = The area exhibits plain topography



- h. Proposed Depth of mining = 37m (2m Gravel + 35m Rough Stone) below ground level
- i. This Mining Plan period = Five years
- j. It is a fresh lease application but, the applied area has been considered quarrying operation earlier. The quarry lease was previously granted with three spells, these spells are given table below:

TABLE-I

Spells	Name of the lease holder	S.F. No. & Extent	District Collector's Proceedings No. & Date	Lease Period
1.	Thiru. S. Rajasekar	382/2A (P) & 1.98.5ha	Rc.No.21516/2007/X-2, Dated: 09.07.2007	09.07.2007 to 08.07.2012
2.	Thiru. S. Rajasekar	382/2A (P) & 1.98.5ha	Rc.No.207/Mines/2012, Dated: 07.07.2012	07.07.2012 to 06.07.2017
3.	Thiru. S. Rajasekar	382/2A (P) & 1.98.5ha	Rc.No.105/Mines/2017, Dated: 25.09.2018 (Refer Annexure No. IA)	25.09.2018 to 24.09.2023

**Note:** Finally, the quarry operation was carried out by Thiru. S. Rajasekar. The applicant has obtained Environmental Clearance from the District Level Environmental Assessment Authority, Tiruppur District vide **Lr.No.DEIAA-TPR/F.No.358/1(VIII)/2018, Dated:14.08.2018** (Refer Annexure No. IB). At present there are two existing pits situated within the lease applied area, the maximum dimensions of existing quarry pits are given table below (Refer Plate No. II).

TABLE-1A

Pit ID	Length in m	Width in m	Depth in m
I	160	87	30m below from the existing ground profile
II	35	115	22m below from the existing ground profile

- k. Method of mining / level of mechanization.  
Opencast mechanized method, the quarry operation involves shallow Jack hammer drilling, slurry blasting.
- l. Type of machineries proposed in the quarrying operation is given below:  
Excavators attached with rock breaker (Rental Basis).  
Jack hammer, Compressor (Diesel drive) (4 Jack hammer capacity) (Rental Basis).
- m. No trees will be uprooted due to this quarrying operation.
- n. The existing road from the main road to quarry is in good condition. The same will be maintained and utilized for Transportation of quarry materials and machineries.
- o. There is No Export of this Rough Stone and Gravel.



- p. Topo sketch covering 10km and 11km radius around the proposed area with markings of habitations, water bodies including streams, rivers, roads, major structure like bridges, wells, archaeological importance, places of worships is marked and enclosed as Plate Nos. IA & IB.
- q. The lease applied area is about 2.48.5ha bounded by seven corners; the corners are designated as 1-7 Clockwise from the Northeastern corner the Co – ordinates for the all the corners are clearly marked in the Quarry Lease and Surface Plan enclosed as Plate No. II.
- r. The plans of proposed quarrying area showing the dimensions of the pit, their proposed depth and maximum area of proposed quarrying are enclosed as Plate Nos. III and IV.
- s. General conditions will not be applicable for the proposed area. The area applied for lease is 10Km away from the,
- Interstate Boundary,*
  - Protected area under wild life protection ACT, 1972,*
  - Critically polluted areas as identified by CPCB,*
  - Notified Eco sensitive areas.*
- t. There is no waste anticipated during this quarry operation, hence waste dump is not proposed in the lease applied area.
- u. Around 24 employees are deploying in the quarrying operation.
- v. Total Cost of the project is about **Rs.62,93,000/-**.
- w. Infrastructures around the lease applied area given below in the table:

TABLE-2

Particulars	Location	Approximate aerial distance and direction from lease applied area
Nearest Post Office	Uthukuli	3.3km – NE
Nearest School	Uthukuli	3.3km – NE
Nearest Dispensary	Uthukuli	3.3km – NE
Nearest Town	Uthukuli	3.3km – NE
Nearest Police Station	Uthukuli	3.3km – NE
Nearest Hospital	Tiruppur	9.4km – SW
Nearest D.S.P. Office	Tiruppur	9.4km – SW
Nearest Railway Station	Vanjipalayam	6.6km – NW
Nearest Airport	Coimbatore	35.4.0km – SW
Nearest Seaport	Kochi	167.0km – SW
District Head Quarters	Tiruppur	9.4km – SW

There is no National Monuments, Places of Worship, Places of Public Interest and Permanent structures situated around 300m radius from the lease applied area. The nearest Wildlife Sanctuary is Vellode Birds Sanctuary, which is located at 47.3km on the Northeastern side of the lease applied area.

**2.0 GENERAL INFORMATION**

**2.1 a) Name of the Applicant :** Thiru. S. Rajasekar,  
S/o. Semalai Gounder,

**b) Address of the Applicant (With Phone No and Aadhaar No)**

Address : No.71, Thimmanaickenpalayam,  
Morattupalayam Post, Uthukuli Taluk,  
Tiruppur District.

Pin Code : 638 752

Mobile No : +91 94432 43167

Aadhaar No : 6955 6747 4577 (Annexure No. VII)

Email ID : sivasakthiukl@gmail.com

**c) Status of the Applicant (Individual / Company / Firm):**

The applicant is an Individual.

**2.2 a) Mineral which the Applicant intends to mine:**

The Applicant intends to quarry Rough Stone and Gravel only.

**b) Precise area communication letter details received from the Competent Authority of the Government:**

The precise area communication letter was received from the Assistant Director (i/c) / Assistant Geologist, Department of Geology and Mining, Tiruppur District vide **Re.No.761/Mines/2022, Dated: 20.09.2023.**

**c) Period of permission / lease to be granted:**

Five Years.

**d) Name and address of the Qualified Person who preparing the Mining Plan:**

Name : **Dr. P. Thangaraju, M.Sc., Ph.D.,**  
Qualified Person  
(As per Rule 15(I)(a) and (I)(b) of MCR, 2016)

Address : Reg. No.17, Advaita Ashram Road,  
Alagapuram, Salem District – 636 004.

Telephone : 0427- 2431989 (Office)

Cell No : +91 94422 78601 & 94433 56539

Email : [infogeoexploration@gmail.com](mailto:infogeoexploration@gmail.com)

(Refer Annexure Nos. IX & X).

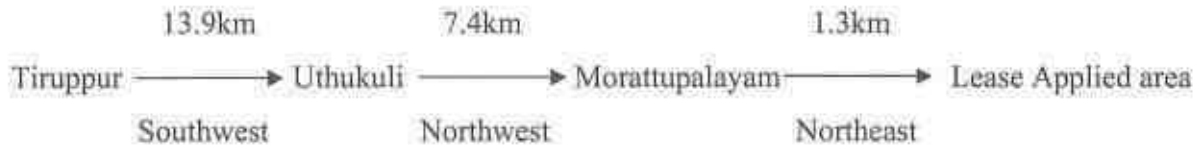




**3.0 LOCATION**

**a) Details of the area with location map:**

The lease applied area is about 9.4km Northeastern side of Tirupput town and 3.3km Southwestern side of Uthukuli Town, the lease applied area located along Morattupalayam Village at a distance of 1.3km (NE).



Location Map of the Lease Applied Area

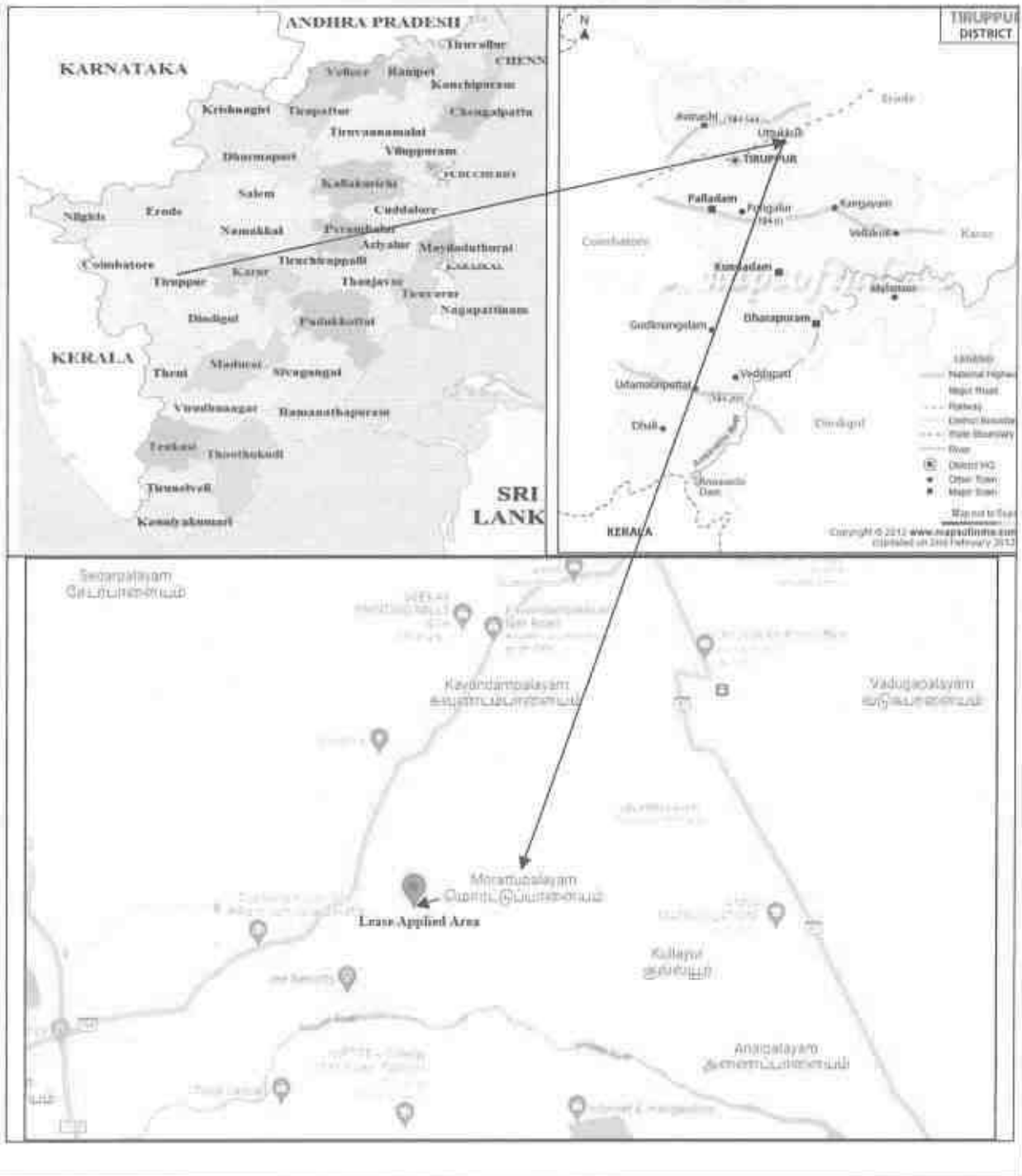


TABLE-3

District	Taluk	Village	S.F. No.	Lease Applied Area in ha	Patta Nos.
Tiruppur	Uthukuli	Morattupalayam	382/2A (P)	2.48.5	421
<b>Total Extent</b>				<b>2.48.5ha</b>	

**b) Classification of the area (Ryotwari/ Poramboke / others):**

It is a Patta land classified as Punjai (Barren land) which is not fit for vegetation/ Cultivation.

**c) Ownership / Occupancy of the applied area (surface right):**

It is a Patta land. Jointly Registered in the name of the applicant (Thiru. S. Rajasekar), Tmt.R.Palaniyammal, Thiru.R.Hariprasath, Thiru.R.Harisankar and Thiru.K.Thirumoorthi, vide Patta No. 421. The applicant has obtained consent from the other pattadars for the period of five years from the lease granted date. Refer Annexure Nos. IV & VII.

**d) Topo sheet No. with latitude and longitude:**

The lease applied area falls in the Topo sheet No: 58 – E/08 Latitude between: 11°08'12.23"N to 11°08'20.17"N and Longitude between: 77°25'14.88"E to 77°25'19.13"E on WGS datum-1984. Please refer the Plate Nos. I to II.

**e) Existence of public road / Railway line, if any nearby and approximate distance:**

The approach (metal) road is situated on the Western side which connects the Tiruppur to Vijayamangalam Road (SH-19A) at a distance of 470m from the lease applied area.

Multiple road access is available from the quarry to state highways and National Highway, no villages are enrooted hence the traffic density is not much more due to the transportation of Rough Stone.

The approach road from the quarry is already in existence, the same will be utilized for haulage and maintained during the entire lease period, tree sapling will be planted on the either side of the road to prevent dust and noise propagation to the nearby areas.

The Nearest Railway line is Coimbatore – Erode which is about 1.8km on the Northern side of the lease applied area.

**PART – A****4.0 GEOLOGY AND MINERAL RESERVES****4.1 Brief description of the Topography and general Geology of the area (with plans)**

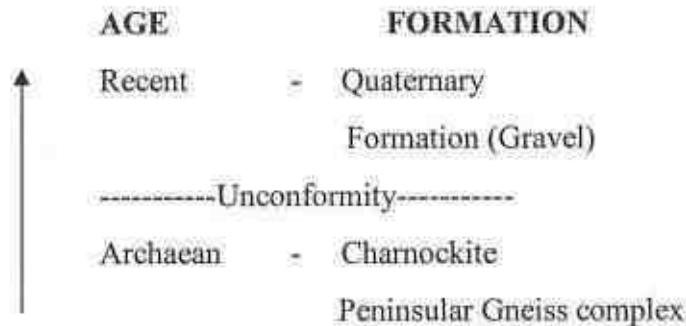
The lease area exhibits plain topography. The area has gentle slope towards Northeastern side and altitude of the area is 292m (max) above from Mean Sea Level. The area is covered by 2m thickness of Gravel formation. Massive Charnockite is found after 2m (Gravel) which is clearly inferred from the existing quarry pit.

The Water table is found at a depth of 68m. Average annual rainfall is about 607mm.

**Topographical View of lease applied area**

Peninsular gneiss forms the oldest rock formations, in which the massive formation of Charnockite lies over with rich accumulation of recent quaternary formation. On regional scale of the Charnockite body is N30°E – S30°W with dipping towards SE60°.

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



#### 4.2 Details of exploration already carried out if any:

State Geology and Mining Dept, Govt. of Tamil Nadu, has carried out the Regional prospecting and exploration in these areas during 1992 to 1993.

Geological Survey of India has carried out detailed mapping in Tiruppur District. Besides, the Qualified Person and his team members made a detailed geological study of the proposed area. The Rough Stone formation is clearly inferred from the existing quarry pit.

#### 4.3 Estimation of Reserves:

##### a) Geological reserves with geological sections on a scale of 1:1000 / 1:2000

As far as Rough Stone (Charnockite) is concerned, the only practical method is the systematic geological mapping and delineation of Rough Stone within the field and careful evaluation of body luster, physical properties, engineering properties and commercial aspects etc.,

Totally five sections have been drawn, two sections are drawn Length wise as (X-Y) & (X1-Y1) and other three sections are drawn Width wise as (A-B), (C-D) & (E-F) to cover the maximum area considered for lease.

The Topographical, Geological plan and sections demarcated the commercial marketable Rough Stone (Charnockite) deposit has been prepared in 1:1000 scale (please refer the Geological Plan and Sections Plate No. III). As the sale of Rough Stone is in terms of cubic meters (Volume) only and not in terms of tonnage.

#### Estimation of Geological Resources (Plate No. III):

The Geological Resources of Rough Stone and Gravel are calculated up to a maximum depth of 37m (2m Gravel + 35m Rough Stone) below ground level. **The total Geological resources are calculated by sectional method and the resources are estimated after depletion of existing quarry pit.** The total available geological resources are given table below:

TABLE-4

GEOLOGICAL RESOURCES						
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Rough stone (m <sup>3</sup> )	Gravel (m <sup>3</sup> )
XY-AB	VI	35	77	5	13475	-
	VII	35	77	3	8085	-
	VII	65	77	2	10010	-
	VIII	48	77	5	18480	-
	<b>Total</b>				<b>50050</b>	<b>-</b>
XY-CD	I	1	1	2	-	2
	II	1	1	5	5	-
	III	1	1	5	5	-
	IV	1	1	5	5	-
	V	1	8	5	40	-
	VI	1	8	5	40	-
	VII	1	8	3	24	-
	VII	100	89	2	17800	-
	VIII	100	89	5	44500	-
	<b>Total</b>				<b>62419</b>	<b>2</b>
XY-EF	I	43	106	2	-	9116
	II	43	106	5	22790	-
	III	43	106	3	13674	-
	III	71	106	2	15052	-
	IV	72	106	5	38160	-
	V	72	106	5	38160	-
	VI	72	106	5	38160	-
	VII	72	106	5	38160	-
	VIII	72	106	5	38160	-
<b>Total</b>				<b>242316</b>	<b>9116</b>	
XIYI-AB	I	2	12	2	-	48
	II	2	13	5	130	-
	III	2	13	5	130	-
	IV	2	13	5	130	-
	V	2	13	5	130	-
	VI	71	52	5	18460	-
	VII	71	52	5	18460	-
	VIII	71	52	5	18460	-
<b>Total</b>				<b>55900</b>	<b>48</b>	
<b>Grand Total</b>					<b>410685</b>	<b>9166</b>

Total Geological Resources of Gravel Formation

: 9,166m<sup>3</sup>

Total Geological Resources of Rough Stone

: 4,10,685m<sup>3</sup>

**Estimation of Available Mineable Reserves:**

The available Mineable reserves are calculated after leaving the safety distance and bench loss to a maximum depth of 37m below ground level.

**TABLE-5**

<b>MINEABLE RESERVES</b>						
<b>Section</b>	<b>Bench</b>	<b>Length in (m)</b>	<b>Width in (m)</b>	<b>Depth in (m)</b>	<b>Rough stone (m<sup>3</sup>)</b>	<b>Gravel (m<sup>3</sup>)</b>
XY-AB	VI	27	69	5	9315	-
	VII	23	64	3	4416	-
	VII	53	64	2	6784	-
	VIII	48	59	5	14160	-
	<b>Total</b>				<b>34675</b>	<b>-</b>
XY-CD	VII	100	63	2	12600	-
	VIII	100	53	5	26500	-
	<b>Total</b>				<b>39100</b>	<b>-</b>
XY-EF	I	34	89	2	-	6052
	II	31	83	5	12865	-
	III	26	73	3	5694	-
	III	55	73	2	8030	-
	IV	50	63	5	15750	-
	V	45	53	5	11925	-
	VI	40	43	5	8600	-
	VII	35	33	5	5775	-
	VIII	30	23	5	3450	-
<b>Total</b>				<b>72089</b>	<b>6052</b>	
X1Y1-AB	VI	56	30	5	8400	-
	VII	46	25	5	5750	-
	VIII	36	20	5	3600	-
	<b>Total</b>				<b>17750</b>	<b>-</b>
<b>Grand Total</b>					<b>163614</b>	<b>6052</b>

The mineable reserves have been computed as **1,63,614m<sup>3</sup>** of Rough Stone at the rate of 100% recovery and **6,052m<sup>3</sup>** of Gravel upto a maximum depth of 37m below ground level for a period of five years.





## **5.0 MINING**

### **5.1 Method of mining (opencast / underground):**

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) is available with Director General of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. The relaxation will be applied and obtained after the execution of lease deed / commencement of quarry operation.

### **5.2 Mode of working (mechanized, semi mechanized, manual):**

The Rough Stone is proposed to quarry at 5m bench height & width with conventional Opencast Mechanized Method.

The quarry operation involves shallow Jack hammer drilling, slurry explosives in blasting, excavation, loading and transportation of Rough Stone to the needy crusher.

The production of Rough Stone in this quarry involves the following method which is typical for Rough Stone quarrying in contrast to other major mineral mining.

Splitting of rock mass of considerable volume from the parent rock mass by jackhammer drilling and slurry explosives blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

Occasionally hydraulic excavators are attached with rock breakers for fragmentation to avoid secondary blasting. The primary boulders thus splitted are removed from the pits by excavators and further made to smaller sizes by rock breakers attached in excavators. It is a conventional opencast mechanized method of mining.

### **5.3 Proposed Bench Height and Width:**

The Charnockite is hard and compact rock, the bench height is proposed 5.0 meter vertical bench the width of the bench is not less than the Height.

### **5.4 Indicate the overburden / mineral production expected pit wise as detailed below (composite plan and section showing pit layout, dumps, disposal of waste if any etc.):**

The overburden in the form of Gravel, the Gravel will be directly loaded into trucks for the filling and levelling of low-lying areas, this will be done only after obtaining permission and paying necessary seigniorage fees to the Government. The excavated Rough stone will be directly loaded into Tippers to the needy customers. The Composite year wise Development and production plan and sections indicating the Pit lay out, Greenbelt development are shown in Plate No. III.



## Year wise development and Production

TABLE-6

YEARWISE PRODUCTION DETAILS							
Years	Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Rough stone (m <sup>3</sup> )	Gravel (m <sup>3</sup> )
I	XY-EF	I	34	89	2	-	6052
		II	31	83	5	12865	-
		III	26	73	3	5694	-
		III	55	73	2	8030	-
		IV	20	63	5	6300	-
		<b>Total</b>					<b>32889</b>
II	XY-EF	IV	30	63	5	9450	-
		V	45	53	5	11925	-
		VI	40	43	5	8600	-
		VII	35	33	5	5775	-
		<b>Total</b>					<b>35750</b>
III	XY-CD	VIII	30	23	5	3450	-
		VII	100	63	2	12600	-
		VIII	60	53	5	15900	-
		<b>Total</b>					<b>31950</b>
IV	XY-AB	VIII	40	53	5	10600	-
		VI	27	69	5	9315	-
		VII	23	64	3	4416	-
		VII	53	64	2	6784	-
<b>Total</b>					<b>31115</b>	-	
V	XIY1-AB	VIII	48	59	5	14160	-
		VI	56	30	5	8400	-
		VII	46	25	5	5750	-
		VIII	36	20	5	3600	-
		<b>Total</b>					<b>31910</b>
<b>Grand Total</b>						<b>163614</b>	<b>6052</b>

The Recoverable reserves have been computed as **1,63,614m<sup>3</sup>** of Rough Stone at the rate of 100% recovery for five years and **6,052m<sup>3</sup>** of Gravel for one year upto depth of 37m below ground level for a mining period.

The applicant ensures the total quantity proposed in the benches will not exceed during the quarrying operation. Besides the Rough Stone locked up in benches will be exploited after obtaining necessary permission from the office of **Director of Mine Safety, Chennai** region by submitting relevant documents, appropriate safety plans and its Mitigation measures.





One lorry load	=	6m <sup>3</sup> (approx.)
Total No of Working days	=	300 Days per year
Total quantity to be removed in this five years plan period	=	1,63,614m <sup>3</sup>
Hence total lorry loads per day	=	1,63,614m <sup>3</sup> /6m <sup>3</sup>
	=	27269 lorry loads
	=	27269/5 years
	=	5454/300 Days
Rough Stone	=	18 lorry loads per day
Total quantity to be removed in this one year plan period	=	6,052m <sup>3</sup>
Hence total lorry loads per day	=	6,052m <sup>3</sup> /6m <sup>3</sup>
	=	1009 lorry loads
	=	1009/300 Days
Gravel	=	3 lorry loads per day
Working hours = 8.30 am to 5.30 pm (with 12.30-1.30 pm lunch break)		

### 5.5 Machineries to be used:

#### For Mining:

The following machineries are utilized on rental basis for the development and production work at this quarry. The proposed and adopted machinery make may variable, if machinery making companies provide upgraded machines the same will be applied as per availability in market.

TABLE-7

#### I. DRILLING MACHINE:

S. No.	Type	Nos	Dia Hole mm	Size Capacity	Motive power
1	Jack hammer	5	30-35	1.2m to 2.0m	Compressed air
2	Compressor	1	-	400 psi	Diesel Drive

#### II. EXCAVATION & LOADING EQUIPMENT:

S. No.	Type	Nos	Capacity	Motive Power
1	Excavator with Bucket and Rock Breaker	1	300	Diesel Drive

#### III. HAULAGE WITHIN THE MINE & TRANSPORT EQUIPMENT:

S. No.	Type	Nos	Capacity	Motive Power
1	Tippers	3	20 tonnes	Diesel Drive

The above machineries are adequate to meet out the development and production schedule drawn out during this mining plan period.



### 5.6 Disposal of Overburden/Waste:

The overburden in the form of Gravel, the Gravel will be directly loaded into trucks for the filling and levelling of low-lying areas. The excavated Rough Stone (100%) will be directly loaded into Tippers to the needy customers. There is no Waste anticipated during this plan period hence, disposal of waste does not arise.

### 5.7 Brief note on conceptual mining plan for the entire lease period base on the geological, mining and Environment considerations:

Conceptual mining plan is prepared with an object of long term systematic development of benches, layouts, selection of permanent structures, depth of quarrying and ultimate pit dimensions, selection of sites for construction of infrastructure, etc.,

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc.,

As the applicant has applied quarry lease for five years, the ultimate pit limit (dimension) at the end of this mining plan period is given below:

TABLE-8

Pit ID	Length (m) (max)	Width (m) (max)	Depth (m) (max)
I	65	115	37m below ground level
II	163	87	

Greenbelt has proposed on the safety zone by planting Aathi, Iruvathi & Punnai, etc., trees of native species. All the base line information studies like Air quality monitoring, Noise and vibration monitoring, Water analysis studies will be carried out every year as per the MoEF&CC Norms (Please refer Plate Nos. III & IV).

It is proposed to engage any local institution to monitor the EIA and EMP during the course of quarrying operation after the grant of quarry lease.

There is no waste anticipated during the entire life of quarry. Hence, backfilling is not possible in this quarry. After completion of quarry operation, the quarry pit will be allowed to collect the seepage and rainwater, the water storage will be kept as temporary reservoir for charging the nearby wells and the storage water will be used for afforestation purpose. The quarry pit will be fenced with barbed wire fencing to prevent inadvertent entry of public and cattle (Refer Plate No. IV). The Conceptual Mining is based upon the entire ROM proposed for the life of the Mine.

## 6.0 BLASTING

### 6.1 Blasting pattern:

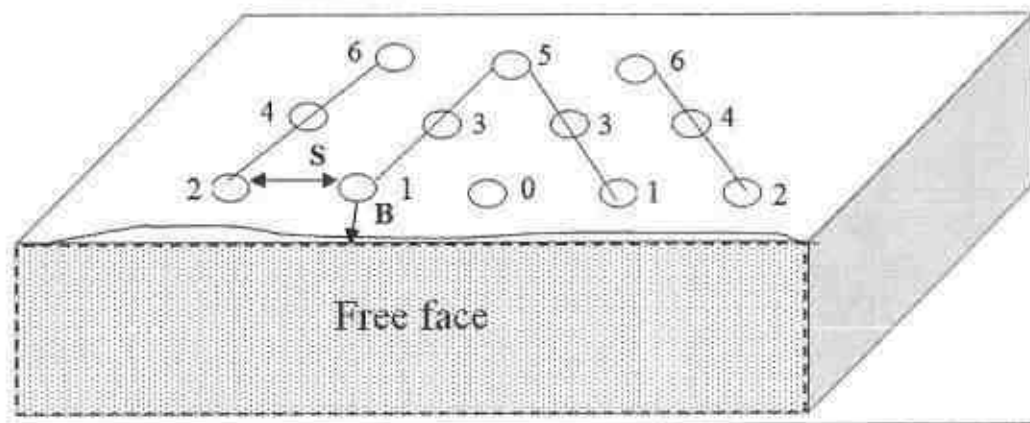
The quarrying operation is proposed to carried out by Mechanized Opencast Method in conjunction with conventional method of mining using Jack hammer drilling and slurry blasting of shattering effect for loosen the Rough stone. Besides those are noise free Eco friendly machineries.



Drilling and blasting parameters are as follows:

Depth of Each hole	:	1.5m
Diameter of hole	:	30-32mm
Spacing between holes	:	1.2m
Burden for hole	:	1.0m
Pattern of hole	:	Zigzag – Multi-rows
Inclination of holes	:	80° from horizontal
Use of delay detonators	:	25millisecond Delays
Detonating fuse	:	Non-Electric Detonators

**BLASTING PATTERN DRAWING**



**Staggered “V” Pattern of Blasting Design**

Spacing	=	1.2m
Burden	=	1.0m
Depth of the hole	=	1.5m
No of holes proposed per day	=	94 Holes

**6.2 Type of explosives to be used:**

Small Dia. 25mm slurry explosives are proposed to be used for shattering and heaving effect for removal and winning of Rough Stone. No deep hole drilling or primary blasting is proposed.

**6.3 Measures proposed to minimize ground vibration due to blasting:**

The quarry is situated more than 300m from the nearby villages, Controlled blasting measures is being adopt for minimizing ground vibration and fly rock.

Shallow depths jackhammer drilling & blasting is proposed to be carried out with minimum use of explosive mainly to give hearing effect in Rough Stone for easy excavation and to control fly rock.

**Delay detonators:**

Delay blasting (millisecond delays) permits to divide the shot in to smaller charges, which are detonated in a predetermined millisecond sequence at specific time intervals.



The major advantages of delay blasting are:

- Reduction of ground vibration.
- Reduction in air blast.
- Reduction in over break.
- Improved fragmentation.
- Better control of fly-rock.

**Blasting program for the production per day:**

No of Holes	= 94 Holes
Yield	= 282 Tons
Powder factor	= 6 Tons/Kg of explosives
Total explosive required	= 47 Kg-Slurry explosives
Charge/ hole	= 0.5 Kg
Blasting at day time only	= 12.00 – 12.30p.m (whenever required)

**6.4 Storage and safety measures to be taken while blasting:**

The applicant will engage authorized explosive agency to carry out the small amount of blasting and it will be supervised by competent and statutory foreman/Permit Mines Manager. The explosives agencies should be having the valid Blaster certificate. He will blast holes in the quarry site. After the completion of Blasting the Explosive Agencies will take it out back the remaining quantity of Explosives. The Competent Qualified Statutory personnels of the Company will maintain the records of Explosives as per the Indian Explosives Act.

**7.0 MINE DRAINAGE**

**7.1 Depth of water table (based on nearby wells and water bodies):**

The Water Table in the area is 68m, which is observed from the nearby existing private boreholes. The lease area is fully covered by Massive Charnockite formation. Hence the Ground Water problem will not arise. If water seepage may occur due to the fracture, the same will be used for Greenbelt. Anyhow, Garland drain will be constructed all along the boundary to prevent surface run-off water entering into the quarry.

TABLE-9

Type	Distance & Direction	Location
Bore Well	1.5km Northern side	11°09'08.74"N 77°25'21.38"E

**7.2 Arrangements and places where the mine water is finally proposed to be discharged:**

The quarry operations are confined to well above the water table during the entire lease period. If water is encountered at quarry due to rain water and seepage, the same will be pumped out by 5HP water pump and discharge to the Green belt development areas. Besides, the water will also be used for dust suppression on haul roads during Haulage of machineries.

**8.0 OTHER PERMANENT STRUCTURES (also shown in the map)****TABLE-10**

S. No.	Salient Features Present around site	Prescribed safety distance	If any present within Prescribed distance it's actual distance and direction from the area
8.1	Railways, Highways	50m	None of the above situated within 50m radius. Nearest National Highway – Coimbatore to Salem (NH-544) – 6.9km – North side Nearest State Highway – Tiruppur to Vijayamangalam Road (SH-19A) – 470m – West side Nearest Major District Road – Vavipalayam to Uthukuli Road (MD-1102) – 2.4km – NE
8.2	Water Bodies (River, Pond, Lake, Odai, Canal)	50m	There is no River, Pond, Lake, Odai, Canal located within 50m radius of the lease applied area.
8.3	Village Road	10m	No village road is passing within 10m radius of the lease applied area.
8.4	Habitation / Village, Archaeological / historical monuments & Places of worships	300m	There is no approved habitation, archaeological / historical monuments & place of worships within 300m radius from the lease applied area (Refer Plate No I-B).
8.5	Housing area, EB line (HT & LT Line)	50m	There is no Housing area, EB line (HT & LT Line) within the radius of 50m from the lease applied area.



8.6	Adjacent Patta lands / Govt. Land	7.5m/10m	Direction	Classification	Safety Distance
			North	Patta land	7.5m
			East	Patta land	7.5m
			South	Patta land	7.5m
			West	Patta land	7.5m
			(Refer Plate No. II).		
8.7	Boundaries of the permitted area	7.5m/10m	<p>The boundaries of the lease-applied area are as follows:</p> <p>North - S.F.Nos.209 &amp; 382/2A (P)</p> <p>East - S.F.Nos.382/2A (P) &amp; 392</p> <p>South - S.F.No.382/2B</p> <p>West - S.F.No.205</p> <p>(Refer Plate No. II).</p>		
8.8	Reserve forest	60m	<p>There is no reserve forest / forest / social forest / wild life sanctuary etc., within 60m radius of the lease applied area. (Refer Plate No. IA and IB).</p>		
8.9	Protected area / ECO sensitive area/ Wild Life Sanctuary	10km	<p>There is no ECO sensitive Zone/ Wild Life Sanctuary/ Critically Polluted Area/ HACA/ CRZ located within 10km radius of the area. (Refer Plate No. IA).</p>		





## 9.0 EMPLOYMENT POTENTIAL & WELFARE MEASURES

### 9.1 Employment potential (skilled, semi-skilled, un skilled):

The following manpower's are proposed in the mining plan to carry out the day-to-day quarrying activities, the same employment is maintaining aimed at the proposed production target and also to comply with the statutory provisions of the Metalliferous Mines Regulations, 1961.

#### a. Skilled labour:

Mine Foreman	:	1
Blaster/mate	:	1
Excavator – Operator	:	1
Tippers Driver	:	3
Jack hammer operator	:	10

#### b. Semi-skilled:

Security	:	1
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#### c. Unskilled:

Labour & Helper	:	3
Co-operator and Cleaner	:	4
<b>Total</b>	:	<b>23</b>

The above manpower is adequate to meet out the production schedule and the machinery strength envisaged in the mining plan and to comply with the statutory provisions of the Mines Safety Regulations. It is been ensured that the labour will not be employed less than 18 years, **No child labour** will engaged or entertained for any kind of quarrying operations. All the labours engaged for quarrying operations will be insured during the quarry lease period.

### 9.2 Welfare Measures:

#### a. **Drinking Water:**

Packaged drinking water is available from the nearby approved water vendors in Uthukuli which is about 3.3km on the Northeastern side of the lease applied area.

#### b. **Sanitary Facilities:**

Hygienic modern Sanitary Facilities will be constructed as semi-permanent structure and it will be maintained periodically as hygienic.



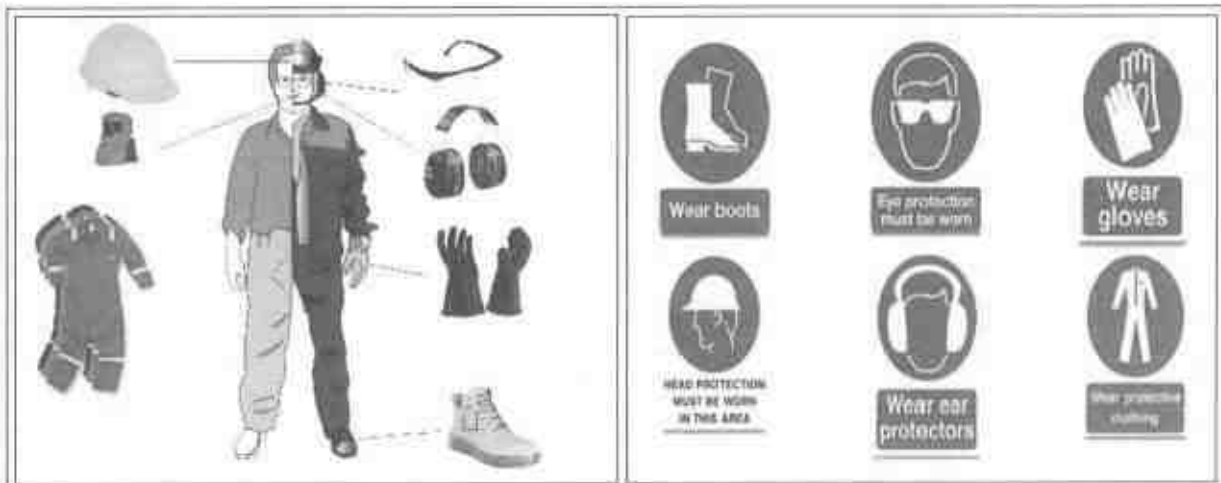
**c. First aid facility:**

First aid kits are kept in Mines office room, in case of such eventuality is the victim will be given first aid immediately at the site by the competent and statutory foreman/permit manager/mate. will be in charge of first aid and injured person will be taken to the hospital by the applicant vehicle. Hospital is available in Uthukuli located at a distance of 3.3km on the Northeastern side.

**d. Labour Health:**

Periodically medical check-up related to occupational health safety will be conducted to all the workers in applicant own cost.

**e. Precautionary safety measures to the labourers:**



- Helmets,
- Mine Goggles,
- Ear plugs,
- Ear muffs,
- Dust mask,
- Reflector jackets,
- Safety Shoes

All personnel protective devices will be provided as per the specification approved by Director of mines safety. Periodically medical check-up will be conducted for all workers for any mine health related problems. Proper training and vocational education will be given by qualified and experienced safety officer to all the employees about the safety and systematic Rough Stone quarrying operations. The drillers and workers will be sent for vocational training periodically, to carry out the quarrying operations scientifically and to safe-guard the men and machinery and to create awareness about conventional opencast quarrying operations.



**PART - B****10.0 ENVIRONMENT MANAGEMENT PLAN****10.1 Existing Land use pattern:**

The quarry lease applied area exhibits plain topography. The area is a dry barren land devoid of Agriculture and Habitations. The lease applied area has utilized only for quarry operation in earlier.

**LAND USE TABLE-11**

<b>Description</b>	<b>Present area in (ha)</b>
Quarrying Pit	1.85.0
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.61.5
<b>Grand Total</b>	<b>2.48.5</b>

**10.2 Water Regime:**

It is a simple opencast quarry operation. The quality of water will not be affected due to this quarrying operation. However, mitigation measures will be carried out like Garland drains constructed on all sides of quarry pit to avoid surface run-off rain water entering into the pit. During rainy season the water table in the adjacent area may raise up. The subject area is a hard batholithic formation hence, the water table will not encounter from adjacent lands.


The waste water discharged to water bodies will be met the standard prescribed under the Environment (Protection) Act – 1986 by The Ministry of Environment, Forest and Climate change.







## 10.3 Flora and Fauna:

TABLE-12

## List of Flora

S. No.	Name of the plant (Scientific)	Family Name	Common Name	Habit	Picture
1	<i>Azadirachta indica</i>	<i>Meliaceae</i>	Neem, Vembu	Tree	
2	<i>Calotropis gigantea</i>	<i>Asclepiadaceae</i>	Crown Flower, Erukku	Shrub	
3.	<i>Opuntia vulgaris</i>	<i>Cactaceae</i>	Sappattukkalli	Shurb	
4.	<i>Borassus flabellifera</i>	<i>Areaceae</i>	Palmyra Palm	Tree	
5.	<i>Prosopis juliflora</i>	<i>Fabaceae</i>	Seemai Karuvelam	Tree	

## List of Fauna

S. No.	Scientific Name	Common Name	Picture
1.	<i>Utetheisa pulchelloides</i>	Heliotrope Moth	
2.	<i>Probergrothius sanguinolens</i>	Indian Red Bug	
3.	<i>Capra aegagrus hircus</i>	Goat	
4.	<i>Diplacodes trivialis</i>	Chalky Percher	
5.	<i>Corvus leuillanti</i>	Crow	
6.	<i>Calotes versicolor</i>	Garden Lizard	



#### 10.4 Climatic Conditions:

The area receives rainfall of about 607mm/annum and the rainy season is mainly from Oct - Dec during monsoon. The summer is hot with maximum temperature of 42°C and winter encounters a minimum temperature of 23°C.

#### 10.5 Human settlement:

There are few villages located in this area within 5km radius; the approximate distance and population are given below:

TABLE-13

S. No.	Name of the Village	Approximate distance & Direction from lease applied area	Approximate population
1.	Velampalayam	2.1km – NE	3,600
2.	Agraharaperiapalayam	2.0km – NW	3,000
3.	Mudalipalayam	4.4km – SE	2,200
4.	Sircar Periyapalayam	2.0km – SW	6,000

Basic human welfare Amenities such as Health Centre, Schools, Communication Facilities, and Commercial Centres etc., are available at Uthukuli located at a distance of 3.3km on the Northeastern side of the area.

#### 10.6 Plan for air, dust suppression:

The air quality will be affected by the Suspended Particulate Matter (SPM) generated by the slurry blasting, Jack hammer drilling, loading and unloading during the Rough Stone quarry operation.

The following Mitigations measures will be carried out:

- Compaction, gradation and drainage on both sides for haulage road.
- Fixed water sprinkling arrangements by own water tankers.
- Muffle blasting on overburden and waste to control fly rocks during blasting.
- Enforcing speed limits of 20km/hr within quarry area.
- Regular monitoring of exhaust fumes as per RTO norms.
- All personnel protective equipment like Nose-mask, earplug/ muffs will be provided to the Workers.
- Vegetations will be formed on the non-quarrying area.

Air quality will be monitored periodically as per Norms and Mitigative measures carried out to prevent dust and Air propagation in to air. The estimated budget for dust suppression would be around Rs.52,000/year.

**10.7 Plan for Noise level control:**

The noise level increased due to the Drilling, Blasting, Excavation and Transportation.

**Engineering Noise control:**

Noise will be created due to the usage of Machineries and Vehicles. The Noise will be controlled in the following manner.

- Proper maintenance at done with regular interval by the Oiling and greasing for the machineries and vehicles to control the Source of noise during operation and transportation.
- NONEL blasting will be practiced to control Noise, ground vibration and fly rocks for removal of Overburden and Waste rocks.
- Transporting vehicles are enforcing the speed limits of 20km/hr within quarry area to reduce Noise level.
- The drivers will be strictly instructed to running the vehicle during the transportation not exceed 40km per hour from despatch to destination.
- All personnel protective equipment like earplug/ muffs will be provided to the Workers.
- Selection of new low – noise equipments for the Rough stone quarry operation.
- Modifications of older equipments,
- Implementation of effective preventive maintenance which reduces noise more than 50%.
- Developing Green belts which act as Acoustic barrier, pollution absorbent and noise controller.
- Sentries with flags & whistle will be posted in village road junction and populated area to control and regulate traffic.

Shallow holes of 32mm diameter and maximum depth of 1.5m will be drilled and conventional low power explosives such as slurry explosives, ordinary safety fuse will be used for Rough Stone. Hence, ground vibration and noise pollution i.e., minimal and restricted within the quarry working area.

Noise level monitoring and other Mitigation measures will be carried out to reduce Noise and Vibration. The estimated budget for Noise level monitoring would be around **Rs.2,000/Year**.

**10.8 Environment impact assessment statement describing impact of mining on the next five years:**

In the mining plan proposed for a production of Rough Stone does not involve deep hole drilling and blasting. Such limited mining activity is not likely to cause any impact adversely on the environment. As far as pollution of air, water and noise concerned, the Environment impact studies will be conducted as per EIA notification issued by MoEF&CC. It is B2 Category mine. The estimated budget would be around **Rs.3,80,000/-**.

**10.9 Proposal for waste management:**

There is no waste anticipated in this Rough Stone and Gravel quarrying operation. The entire quarried out materials will be utilized (100%).

**10.10 Proposal for reclamation of land affected during mining activities and at the end of mining (refilling / fencing etc.):**

In the mining plan only to a maximum depth of 37m below ground level has been envisaged as workable depth for safe & economic mining during entire lease applied area. There is no waste generated hence, backfilling is not possible. Hence, the quarry area will be fenced with Barbed wire fencing also safety bund constructed around the quarry to prevent inadvertent entry of public and cattle. The barbed wire fencing cost would be around Rs.1,35,000/-.

**10.11 Programme of Greenbelt development (indicate extend, number, name of species to be afforested):**

The safety zone all along the boundary barrier has been identified to be utilized for Greenbelt development. Appropriate native species of Aathi, Iruvathi & Punnai, etc., trees will be planted in a phased manner as described below.

TABLE-14

Years	No. of trees proposed to be planted	Survival %	Area to be covered sq.m.	Name of the species	No. of trees expected to be grown
I	30	80	280	Aathi, Iruvathi & Punnai, etc.,	24
II	30	80	280		24
III	30	80	280		24
IV	30	80	280		24
V	30	80	280		24

Nearly 1,400sq.m area is proposed to use under Greenbelt by planting 30 Number of tree saplings during every year with an anticipated survival rate of 80% (Please refer Plate No. III). The estimated budget for plantation and maintenance of Greenbelt development would be around Rs.30,000/- for the period of five years.

The Greenbelt Development will be formed in around the quarried out top benches with 150 tree saplings during fourth and five years of this mining plan period, approach road and nearby village road with 100 tree saplings during first year of this mining plan period. The cost would be around Rs.50,000/-.

**10.12 Proposed financial estimate / budget for (EMP) environment management:**

Budget Provision for the entire quarrying period:

TABLE-15

S. No.	Monitory and Analysis Description	Rate per location	No. of location	Total Charges/ six months	Total Charges/ year
1	Ambient air quality monitoring	6500	4	26000	52000
2	Noise level monitoring	250	4	1000	2000
3	Ground vibration monitoring	1000	2	2000	4000
4	Water sampling and analysis	9000	1	9000	18000
<b>Total EMP Cost/ year</b>					<b>76,000</b>

The EMP cost would be around **Rs.3,80,000/-** for the period of five years.

<b>A. Project / investment / Operational cost</b>			
i)	Land cost	The Land value as per the Government Guideline land cost is about, Rs.11,12,000/ha, hence the total land cost is calculated about 2.48.5Ha X Rs.11,12,000/- = Rs.27,63,320/- i.e., Rs.27,64,000/- (Source: <a href="https://tnreginet.gov.in/portal/">https://tnreginet.gov.in/portal/</a> )	Rs.27,64,000/-
ii)	Machinery to be used	The following machineries are proposed to meet out the productions. Excavator attached with Rock Breaker, Tippers, Tractor mounted compressor with Jack hammer and loose tools (Rental Basis)	Rs.20,00,000/-
iii)	Refilling/ Fencing	Fencing will be constructed around the quarry pit to prevent the inadvertent entry of public and cattles cost would be around	Rs.1,35,000/-
iv)	Labourers shed	Labour sheds will be constructed as semi-permanent structure. The cost would be around	Rs.1,50,000/-
v)	Sanitary facility	Adequate latrine and urinal accommodation shall be provided at conveniently accessible places the cost would be around	Rs.1,00,000/-
vi)	Others items	First aid room & accessories	Rs.80,000/-





vii) Drinking water facility for the labourers	Packaged drinking water will be provided for all the Labours. Drinking water will be readily available at conveniently accessible points during the whole of the working shift the cost would be around	Rs.1,00,000/-
viii) Sanitary arrangement	The latrine and urinal will keep clean and sanitary condition. The maintenance cost would be around	Rs.60,000/-
ix) Safety kit	All the Safety kit such as Helmet, Earmuffs, Goggles, Reflector Jackets, Safety shoes etc., will be provided to the workers by the applicant own cost which would be around	Rs.80,000/-
x) Water sprinkling	Water will be sprinkled in the haul roads by water sprinklers the cost would be around	Rs.1,50,000/-
xi) Garland drains Construction	Construction of garland drains to divert surface run-off from virgin area away from mining area	Rs.90,000/-
xii) Greenbelt etc.	Green belt development under safety zone during this Plan period (150 sapling x Rs. 200/- per sapling)	Rs.30,000/-
	Green belt development on around the quarried out top benches during fourth and five years of this mining plan period (150 sapling x Rs. 200/- per sapling)	Rs.30,000/-
	Green belt development on around the approach road and nearby village road during first year of this mining plan period (100 sapling x Rs. 200/- per sapling)	Rs.20,000/-
	<b>Total Operational Cost</b>	<b>Rs.57,89,000/-</b>



<b>B. EMP Cost: (Per year)</b>	
Air Quality monitoring	Rs.52,000/-
Water Quality Sampling	Rs.18,000/-
Noise Monitoring	Rs. 2,000/-
Ground Vibration test	Rs. 4,000/-
<b>Total Cost</b>	<b>Rs.76,000/-</b>
Total EMP Cost for the five years period is <b>Rs.3,80,000/-</b>	
<b>Description</b>	<b>Amount (Rs.)</b>
<b>A. Operational Cost</b>	<b>Rs.57,89,000/-</b>
<b>B. EMP Cost</b>	<b>Rs.3,80,000/-</b>
<b>Total Project Cost (A+ B)</b>	<b>Rs.61,69,000/-</b>
The applicant indents to involve corporate environment responsibilities (CER) activity like Books to the library, Water Purifier, Table & Chair, Plantation and Sanitary Facilities to the Uthukuli Govt. School at 2.0% from the total project cost. The Cost would be around <b>Rs.1,24,000/-</b> .	Rs.1,24,000/-
<b>Total Cost</b>	<b>Rs.62,93,000/-</b>
The Total cost would be around one crore sixty two lakhs and ninety three thousand only.	





## 11.0 PROGRESSIVE QUARRY CLOSURE PLAN

### 11.1 Introduction:

The Progressive Quarry Closure Plan for Rough Stone and Gravel quarry over an extent of 2.48.5ha of Patta land in S.F.No.382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State has been prepared for **Thiru. S. Rajasekar** S/o. Semalai Gounder, residing at No.71, Thimmanaickenpalayam, Morattupalayam Post, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State.

### 11.2 Present Land use pattern:

LAND USE TABLE-16

Description	Present area in (ha)
Quarrying Pit	1.85.0
Infrastructure	Nil
Roads	0.02.0
Green Belt	Nil
Unutilized Area	0.61.5
<b>Grand Total</b>	<b>2.48.5</b>

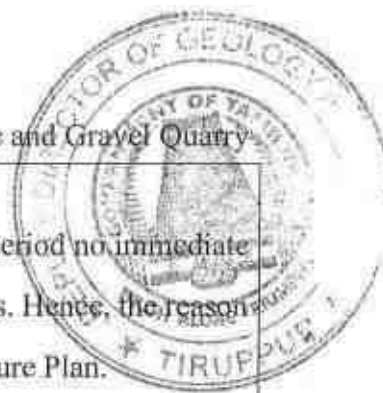
### 11.3 Method of Mining:

Open cast Mechanized Mining is being carried out with 5.0 meter vertical bench with a bench width is not less than the bench height for Rough Stone.

However, as far as the quarrying of Rough Stone is concerned, observance of the provisions of Regulation 106 (2) (b) is available with Director General of Mines Safety. If the applicant/lessee intends to modify the dimensions of benches, relaxation and permission are available with Director General of Mines Safety under 106 (2) (b) of Metalliferous Mines Regulations, 1961. In such a scenario if there is any drastic change in the Resources and Reserves a modified plan will be submitted to the concerned authority for necessary relaxation, clearance and permission. The relaxation will be applied and obtained after the execution of lease deed / commencement of quarry operation.

### 11.4 Mineral Processing Operations:

The quarried out Rough Stone will be transported by the 20tons capacity Tippers to the needy crushers. Splitting of rock mass of considerable volume from the parent rock mass by Jack hammer drilling and blasting, hydraulic excavators are used for loading the Rough Stone from pithead to the needy crushers.

**11.5 Reasons for closure:**

As the mineral is not going to be exhausted during the proposed plan period no immediate closure is planned and sufficient reserves are available to carry on the activities. Hence, the reason for closure will be discussed in the ensuing mining plan or in Final Mine Closure Plan.

**11.6 Statutory obligations:**

The applicant ensures to comply all the conditions stipulated in the precise area communication letter before the execution of lease deed and during the course of quarry operations.

**11.7 Progressive quarry closure plan preparation:**

Name and address of the Qualified Person who prepared the progressive closure plan and name and address of the executing agency who is involved in the Preparation of progressive quarry closure plan.

Name	:	<b>Dr. P. Thangaraju, M.Sc., Ph.D.,</b> Qualified Person (As per Rule 15(I)(a) and (I)(b) of MCR, 2016)
Address	:	Reg. No.17, Advaita Ashram Road, Alagapuram, Salem District – 636 004.
Telephone	:	0427- 2431989 (Office)
Cell No	:	+91 94422 78601 & 94433 56539

Applicant will himself implement the closure plan; no outside agency will be involved.

**11.8 Review of Implementation of Mining Plan including Progressive Closure Plan upto the Final Closure Plan:**

There is no waste generated during entire life of quarry, hence backfilling is not possible in the quarried out pit. The entire quarry area is an active also no proposal given for Progressive quarry closure plan in the previous mining plan hence, the applicant has not taken any action for progressive quarry closure. Hence, review of implementation of progressive quarry closure does not arise at present. However, if any work done for progressive quarry closure plan during this plan period, it will be discuss in the ensuing Mining Plan.

**11.9 Closure Plan:****(i) Mined Out Land:**

At the end of mining plan period, about 2.22.0ha of area will be mined out. Land use at various stages is given in the table below:

**LAND USE TABLE-17**

<b>Description</b>	<b>Present area in (ha)</b>	<b>Area at the end of this quarrying period (ha)</b>
Quarrying Pit	1.85.0	2.22.0
Infrastructure	Nil	0.01.0
Roads	0.02.0	0.02.0
Green Belt	Nil	0.14.0
Unutilized Area	0.61.5	0.09.5
<b>Grand Total</b>	<b>2.48.5</b>	<b>2.48.5</b>

The Greenbelt Development will be formed in around the approach road and nearby village road during first year of this mining plan period.

**(ii) Water quality management:**

Following control measures will be adopted for controlling water pollution:

- Construction of garland drains to divert surface run-off from virgin area away from mining area.
- Construction of check dams / gully plugs at strategic places to arrest silt wash off from broken up area.
- Collection of surface run-off from broken up area in mine pits for settling and only properly settled excess water from mine pit will be discharged to nearby users. The storm water/ mine water will be used for dust suppression, greenbelt development, etc.
- Periodic analysis of mine pit water and ground water quality in nearby villages.
- The quarried-out pit will be allowed to collect rain and seepage water which will act as a reservoir for storage. This water storage will enhance the static level and ground water recharge of nearby wells and it will be used for agriculture purpose to the nearby agriculture lands.
- Domestic sewage from site office & urinals/latrines provided in QL is discharged in septic tank followed by soak pits.

**(iii) Air Quality Management:**

The proposed mining method is not likely to produce much of dust and fugitive emissions to cause damage to ambient air quality of the area. Workers will be provided with personnel protective equipment like face-mask, earplug/ muffs.

For air pollution management at the progressive quarry closure plan, greenbelt will be developed to prevent and control air pollution.

**(iv) Top Soil and Waste Management:**

There is no topsoil and waste generated during the proposed plan period. The entire quarried out Rough Stone and Gravel is utilized (100%). Hence, waste management does not arise.

**(v) Disposal of mining machinery:**

Part of the Machineries will be purchased by fresh condition also part of machineries has been utilized on rental basis. After completion of quarry operation all purchased machineries will be utilized another quarry area or sold out to the second hand. Hence, disposal or decommissioning of mining machinery does not arise.

**(vi) Safety & Security:**

Safety measures will be implemented to prevent access in the excavation area an unauthorized persons as per Mine Act 1952, MMR 1961.

- Safety measures will be implemented as per Mine Act 1952, MMR 1961, and Mines Rules 1955.
- Provisions of MMR 1961 shall be strictly followed and all roads shall be wider than the height of the bench or equal to the height of the bench and have a gradient of not more than 1 in 16.
- The bench height will be 5.0m.
- Width of working bench will be kept about 5.0m for ease of operations and provide sufficient room for the movement of equipments.
- Protective equipment like dust masks, ear-plugs/ muffs and other equipments shall be provided for use by the work persons.
- Notices giving warning to prevent inadvertent entry of persons shall be displayed at all conspicuous places and in particular near mine entries.
- Danger signs shall be displayed near the excavations and proper signal by siren alarm will be provide before blasting time to prevent any accident.
- Security guards will be posted.
- In the event of temporary closer, approaches will be fenced off and notice displayed.
- Installation of CCTV cameras in the quarry and entrance of the quarry.
- Monitoring of Quarrying operation by external agency as directed by authorities.

**(vii) Disaster Management and Risk Assessment:**

This should deal with action plan for high-risk accidents like landslides, subsidence, flood, fire, seismic activities, tailing dam failures etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. The capability of applicant to meet such eventualities and the assistance to be required from the local authorities should be described.

- The mechanized mining activities in the area may involve any high-risk accident due to side falls/collapse, flying stones due to blasting etc.
- The complete quarrying operation will be carried out under the Management and control of experienced and qualified Mines Manager having Certificate of Competency to manage the mines granted by DGMS.
- All the provisions of Mines Act 1952, MMR 1961 and Mines Rules 1955, TNMMCR 1959 and other laws applicable to mine will be strictly complied with.
- During heavy rainfall the mining activities will be suspended.
- All persons in supervisory capacity will be provided with proper communication facilities.
- Competent persons will be provided FIRST AID kits which they will always carry.
- The Greenbelt Development will be formed in around the approach road and nearby village road during first year of this mining plan period.

**Environmental Monitoring Cell:**

A dedicated team nominated by the mine manager or Agent will monitor and maintain the environmental compliances of the quarry as per the approved Environment Management Plan and report the Compliance to the Mine Manager half yearly.

**Disaster Management Cell:**

The Competent Qualified Statutory managers appointed by the lessee as per the Director of Mines Safety will be responsible for Disaster Management. It care of any eventualities his mobile number will be displayed and he will take all the precautions and safety measures as per Mines and Minerals (Development and Regulations) Act, 1957.

**(viii) Care and Maintenance during Temporary Discontinuance:**

In case of any temporary discontinuance due to court order or due to statutory requirement or any other unforeseen circumstance following measures shall be taken for care, maintenance and monitoring of conditions.

- Notice of temporary discontinuance of work in mine shall be given to the DGMS as per the MMR 1961.
- All the mining machinery shall be shifted to a safe place.
- Entrance to the mine or part of the mine, to be discontinued shall be fenced off. Fencing shall be as per the circular 11/1959 from DGMS.





- Security Guards shall be posted for the safety and to prevent any unauthorized entry to the area.
- Carry out regular maintenance of the facilities/area detailed below in such a way as would have been done as if the mines were operation:
  - Quarry roads and approach roads,
  - Fencing on approach roads,
  - Checking and maintenance of machines and equipment,
  - Drinking water arrangements,
  - Quarry office, first aid stations etc.
- Competent persons shall inspect the area regularly.
- Air, water and other environmental monitoring shall be carried out as per CPCB and IBM Guideline.
- Care and upkeep of plantation shall be carried out on regular basis.
- Status of the working and status monitoring for re-opening of the mines shall be discussed daily.

In case of discontinuance due to any natural calamities/abnormal conditions, quarrying operation will be restarted as early as possible after completing rescue work, restoring safety and security, repairs of roads etc.

**(ix) Economic Repercussion of Closure of Quarry and manpower Retrenchments:**

The quarry lease is granted for a period of five years only. As per the production Programme envisaged, there will be no effect on the man power as the majority of persons belong to nearby villages and will have an option either to be available for employment for the next contract/ lease or do the agriculture in their fields.

**(x) Time Scheduling for Abandonment:**

The lease applied area has enormous potential for continuance of operations even after the expiry of the lease period. The details of time schedule of all abandonment will be given at the time of final closure plan.

**(xi) Abandonment Cost:**

As at present mining is not going to be closed so abandonment cost could not be assessed. However, based on the progressive quarry closure activities during the plan period, cost is assessed as given below:

**LAND USE TABLE-18**


ACTIVITY		YEARS					RATE	COST (Rs.)	
		I	II	III	IV	V			
Plantation under safety zone	Nos.	30	30	30	30	30	@200 Rs Per sapling	30,000/-	
	Cost	6000	6000	6000	6000	6000			
Plantation in the quarried out top benches	Nos.	-	-	-	75	75			30,000/-
	Cost	-	-	-	15000	15000			
Plantation in the approach road and nearby village road	Nos.	100	-	-	-	-			20,000/-
	Cost	20000	-	-	-	-			
Wire Fencing (In Mtrs) 450 Mtrs		135000					@300 Rs	1,35,000/-	
Garland Drain (In Mtrs) 300 Mtrs		90000					Per Meter	90,000/-	
<b>TOTAL</b>								<b>3,05,000/-</b>	

**12.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT**

This Mining plan for Rough stone (Charnockite) and Gravel is under Rules 41 & 42 as per the Amended under Tamil Nadu Minor Mineral Concession Rules, 1959. The provisions of the Mines Act, Rules and Regulations and orders made there under shall be complied within the quarrying operation, so that the safety of the mine, machinery and person will be well protected. Permission, relaxation or exemption wherever required for the safe and scientific quarrying of the deposit will be obtained from the Department of Mines Safety. Any violation pointed out by the inspecting authorities shall be rectified and modified after scrutiny comments as per the guidelines of the Concerned Department and Authorities.

I hereby ensure that the information provided is correct to best of my knowledge and experience, some of the information contained in this report has been provided by external sources and by the applicant and is presented as the form as submitted by the applicant. The information is not intended to serve as legal advice related to the individual situation. I do not owe and specifically disclaim any liability resulting from the use during the course of quarrying operations after the grant of lease. The document may be scrutinized by the competent authority before approval.

Prepared by

  
Dr. P. Thangaraju, M.Sc., Ph.D.,  
Qualified Person

(As per Rule 15(1)(a) and (1)(b) of MCR, 2016)

Place: Salem

Date: 26.09.2023


DONATE RED

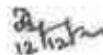
SPREAD GREEN

SAVE BLUE

This Mining Plan is approved subject  
to the Conditions indicated in the  
Mining Plan approved Letter  
No. 761/Mines/2022  
Dated 12/12/2023

This Mining Plan is approved as per the  
Powers conferred under rule 41(2) of Tamil  
Nadu Minor Mineral Concession Rules, 1959

  
12/12/23  
DEPUTY DIRECTOR  
Geology and Mining  
Tiruppur

  
12/12/23

  
12/12/23



நாள்: 20.09.2023

குறிப்பாணை

பொருள் : கனிமங்களும் சுரங்கங்களும் - சிறுகனிமம் - சாதாரண கற்கள்  
- திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புல எண். 382/2A (Part)-ல் 2.48.5 ஹெக்டர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் / கிராவல் மண் வெட்டி எடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவர் விண்ணப்பம் அளித்தது - புலத்தணிக்கை அறிக்கை சமர்ப்பிக்கப்பட்டது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தூக்க மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்ப்பிக்கக் கோருதல் - தொடர்பாக.

- பார்வை :
1. திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர், 71, திம்மநாயக்கன்பாளையம், மொரட்டுப்பாளையம் அஞ்சல், ஊத்துக்குளி வட்டம் என்பவரின் மனு நாள்: 07.12.2022.
  2. இவ்வலுவலக ந.க.எண். 761/2022/கனிமம் நாள்:08.12.2022.
  3. இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, சென்னை ந.க. 1870/எம்.எம்.1/2020 நாள்: 10.08.2020 கடிதத்துடன் அரசாணை (பல்வகை) எண். 169, தொழில் (எம்எம்.சி-1) துறை நாள்: 04.08.2020 இணைத்து வரப்பெற்றுள்ளது. (தமிழ்நாடு அரசிதழ் சிறப்பு வெளியீடு எண். 315 நாள்: 04.08.2020).
  4. வட்டார வளர்ச்சி அலுவலர் (வ.ஊ), ஊத்துக்குளி கடிதம் ந.க. 2115/2023/அ2 நாள்: 18.05.2023.
  5. வட்டாட்சியர், ஊத்துக்குளி கடிதம் ந.க. 3273/2022/அ2 நாள்: 31.01.2023
  6. சார் ஆட்சியர், திருப்பூர் கடிதம் ந.க. 6207/2022/அ3 நாள்: 05.05.2023.
  7. உதவி இயக்குநர் (பொ) / உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் புலத்தணிக்கை அறிக்கை நாள்: 08.2023.
  8. மற்றும் உரிய ஆவணங்கள்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 382/2A (Part)-ல் 2.48.5 ஹெக்டர் பரப்புள்ள பட்டா பூமியிலிருந்து 5 வருடங்களுக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவர் பார்வை 1-ல் கண்டுள்ளபடி உரிய ஆவணங்களுடன் விண்ணப்பம் அளித்துள்ளார்.

2 மேற்படி விண்ணப்பங்கள் தொடர்பாக, வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, சார் ஆட்சியர், திருப்பூர், மற்றும் உதவி இயக்குநர்



(பொ) / உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 382/2A (Part)-ல் 2.48.5 ஹெக்டர் பரப்பில் திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவருக்கு சாதாரண கற்கள் மற்றும் கிராவல் மண் எடுக்க குவாரி உரிமம் வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

**நிபந்தனைகள்:**


- i. 1959ம் வருடத்திய தமிழ்நாடு சிறு கனிம சலுகை விதிகள், அட்டவணை IIல் கண்டுள்ளபடி குவாரி செய்யப்படும் கனிமங்களுக்குரிய சீனியரேஜ் தொகை அவ்வப்போது செலுத்தி கனிமம் கொண்டு செல்லப்பட வேண்டும்.
- ii. அருகிலுள்ள பட்டா மற்றும் குவாரி நிலங்களுக்கு 7.5 மீ பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி மேற்கொள்ள வேண்டும்.
- iii. அனுபவம் வாய்ந்த வெடிபொருள் பயன்படுத்துவோர் மூலம் குறைந்த அளவு சக்தி கொண்ட வெடிபொருட்களை பயன்படுத்தி அருகிலுள்ள பட்டாதாரர்களுக்கு எவ்வித இடையூறுமின்றி / அருகிலுள்ள பட்டா மற்றும் அரசு புலங்களில் எவ்வித ஆக்கிரமிப்பும் இன்றி குவாரிப்பணி மேற்கொள்ள வேண்டும்.
- iv. விதிகளின் படி ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினை உரிய காலத்திற்குள் சமர்ப்பிக்க வேண்டும்.
- v. குவாரி உரிமம் வழங்க உள்ள பகுதிக்கு சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் முன் அனுமதி பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும்.
- vi. பிரஸ்தாப புலத்திற்கு DGPS அளவீடு செய்யப்பட்டு அதற்கான வரைபடத்தினை அசல் மற்றும் குறந்தகட்டிலும் சமர்ப்பிக்க வேண்டும்.
- vii. குவாரியில் விதிமீறல்கள் ஏதேனும் கண்டறியப்பட்டால் தமிழ்நாடு சிறுகனிம சலுகை விதிகள், 1959 ல் குறிப்பிட்டுள்ள விதிகளின்படி அபராத நடவடிக்கை மேற்கொள்ளப்படும்.
- viii. குவாரி உரிமம் வழங்க உள்ள பகுதிக்கு சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் முன் அனுமதி பெற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும்.

3. எனவே, வட்டார வளர்ச்சி அலுவலர், ஊத்துக்குளி, வட்டாட்சியர், ஊத்துக்குளி, சார் ஆட்சியர், திருப்பூர், மற்றும் உதவி இயக்குநர் (பொ) / உதவிப் புவியியலாளர் (கனிமம்), திருப்பூர் ஆகியோரின் பரிந்துரை மற்றும் நிபந்தனைகளின்

அடிப்படையில், திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம்  
பட்டா புல எண். 382/2A (Part) ல் 2.48.5 ஹெக்டர் பரப்பில் மட்டும் 1959ம் வருட தமிழ்நாடு  
சிறுகனிம விதிகள், விதி எண்.19-ன் படி மேற்கண்ட நிபந்தனைகளுக்குட்பட்டு 5 (ஐந்து)  
வருட காலத்திற்கு திரு. எஸ். ராஜசேகர், த/பெ. சேமலை கவுண்டர் என்பவருக்கு சாதாரண  
சற்கள் மற்றும் கிராவல் மண் குவாரி உரிமம் வழங்குவதற்குரிய தகுதியான நிலப்பரப்பாக  
கருதப்படுகிறது.



4. மேலும், தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண். 41-ன்படி  
குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள்  
சமர்ப்பிக்குமாறு மனுதாரரைக் கேட்டுக்கொள்ளப்படுகிறது. மேலும் ஏற்பளிக்கப்பட்ட  
சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959ம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை  
விதிகள், விதி எண்.42-ன் படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப்  
பற்று சமர்ப்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம்  
நிரிவிக்கப்படுகிறது.

  
உதவி இயக்குநர்(பொ)/  
உதவி புவியியலாளர்,  
புவியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.

புறநர்:

திரு. எஸ். ராஜசேகர்,  
த/பெ. சேமலை கவுண்டர்,  
71, திம்மநாயக்கன்பாளையம்,  
மொரட்டுப்பாளையம் அஞ்சல்,  
ஊத்துக்குளி வட்டம்.

  
20/9/23



திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை

முன்னிலை:- டாக்டர். கே.எஸ். பழனிசாமி, இ.ஆ.ப.,

ந.க. 105 / கனிமம் / 2017

நாள்: 25.09.2018.

பொருள்: கனிமங்களும் குவாரிகளும் - சாதாரண கற்கள் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டர் பரப்பிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் கோரிய திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஐந்து ஆண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் உத்தரவிடப்படுகிறது.

- பார்வை:
1. திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவரின் குவாரிக் குத்தகை உரிமம் கோரிய விண்ணப்பம் நாள்: 07.02.2017.
  2. திருப்பூர் சார் ஆட்சியர் அவர்களின் அறிக்கை ந.க. 671 / 2017 / அ3 நாள்: 16.05.2017.
  3. திருப்பூர் புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அவர்களின் இடப்பார்வை அறிக்கை நாள்: 29.01.2018.
  4. இவ்வலுவலக இதே எண்ணிட்ட கடிதம் நாள்: 29.1.2018 (Precise area communication letter).
  5. திருப்பூர் மாவட்ட சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் தடையின்மைச் சான்று DEIAA - TPR / F. NO. 358 / 1 (VIII) / 2018 dated 14.8.2018.
  6. மனுதாரர் திரு. எஸ். ராஜசேகர் என்பவர் கடிதம் நாள்: 4.9.2018 மற்றும் 19.09.2018.

#### உத்தரவு:-

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவர் குவாரிக் குத்தகை உரிமம் கோரி பார்வை 1ல் காணும் விண்ணப்பத்தினை சமர்ப்பித்துள்ளார்.

2. மனுதாரர் உரிய படிவத்தில் மனு செய்திருப்பதுடன், விண்ணப்பக் கட்டணம் மற்றும் அடிப்படைச் செலவினங்களுக்காக ரூ. 1500/-ஐ சலான் எண். 122, நாள்: 07.02.2017-ல் திருப்பூர் பாரத மாநில வங்கியில் செலுத்தியுள்ளார். மேலும், மனுதாரர் செலுத்த வேண்டிய வருமான வரி மற்றும் கனிம வரி எதுவும் நிலுவையில் இல்லை.





என்பதற்கான சான்றுறுதி ஆவணம் மற்றும் கிராமக் கணக்கு நகல்களையும் சமர்ப்பித்துள்ளார்.

3. இவ்விண்ணப்பத்தின் மீது உரிய நில இருப்பு அறிக்கை வழங்கக் கோரி இவ்வலுவலக கடிதத்தின் வாயிலாக திருப்பூர் சார் ஆட்சியர் கேட்டுக் கொள்ளப்பட்டார்.

4. திருப்பூர் சார் ஆட்சியர் சம்பந்தப்பட்ட புலத்தினை தணிக்கை செய்து, பார்வை 2-ல் கண்டவாறு தனது நில இருப்பு அறிக்கையினை சமர்ப்பித்துள்ளார். அவர் தனது அறிக்கையில்,

"ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், க.ச. 382/2ஏ நெ. காலையில் பு.ஹெக். 5.19.5 பூமியானது ஊத்துக்குளி சார் பதிவாளர் அலுவலக கிரைய ஆவண எண். 1184 / 1999ன்படி மனுதாரருக்கு கூட்டாக பாத்தியப்பட்டது எனவும், இதில் 0.11.94 ஹெக்டர் பரப்புள்ள பூமியானது ஆவண எண். 810/2012ன்படி கமலன் என்பவரால் நந்தகோபால் என்பவருக்கு கிரையம் வழங்கப்பட்டது எனவும், மேற்படி புலம் அடங்கியுள்ள பட்டா எண். 421ல் கூட்டாக பாத்தியப்பட்டுள்ள நபர்கள் மனுதாரருக்கு குத்தகை உரிமம் வழங்குவது தொடர்பாக, சம்மத கடிதம் கொடுத்துள்ளனர் எனவும், மேற்படி பூமியில் 1.98.5 ஹெக்டர் பூமியில் மனுதாரருக்கு மாவட்ட ஆட்சியரின் செயல்முறைகளின்படி ந.க. 207 / கனிமம் / 2012 நாள்: 07.07.2012ன்படி 06.07.2017 வரை குத்தகை உரிமம் வழங்கப்பட்டுள்ளது எனவும் தெரிவித்துள்ளார்.

மேலும், மனுதாரர் திரு. ராஜசேகர் என்பவர் குவாரி உரிமம் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைக் கற்கள் நடப்பட்டு வெள்ளை பெயிண்ட் அடிக்கப்பட்டு கிகப்பு வண்ணக்கொடி கட்டப்பட்டுள்ளது எனவும், இது தொடர்பாக மேற்படி கிராமத்தில் அ1 விளம்பரம் பரப்புரை செய்யப்பட்டுள்ளது எனவும், நாளது தேதி வரை பொதுமக்களிடமிருந்து எவ்வித ஆட்சேபனையும் வரப்பெறவில்லை எனவும், உரிமம் கோரும் பூமியினைச் சுற்றி 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட வீட்டுமனைகள், நத்தம் குடியிருப்புகள், மசூதி, தேவாலயம் உள்ளிட்ட புராதனச் சின்னங்கள் உள்ளிட்டவைகள் ஏதுமில்லை" என தெரிவித்து, மனுதாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் பட்டா எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டர் பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க குவாரிக் குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

5. இதனைத் தொடர்ந்து, இப்புலத்தினை தணிக்கை செய்துள்ள துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் பார்வை 3-ல் காணும் கடிதத்தில் தனது அறிக்கையினை சமர்ப்பித்துள்ளார். அவர் தனது அறிக்கையில்,



6. மேற்கண்ட தணிக்கை அலுவலர்களின் பரிந்துரை அறிக்கைகளை ஏற்று ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண் 382/2A (பகுதி) பரப்பு 1.98.50 ஹெக்டேர் பட்டா நிலப்பரப்பு குவாரி குத்தகை உரிமம் வழங்க முடிவு செய்யப்பட்ட பகுதி (Precise Area) என அறிவிக்கப்பட்டு விண்ணப்பத்தாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் பெற்று சமர்ப்பிக்கும்படி பார்வை 4-ல் காணும் கடிதத்தின்படி கேட்டுக் கொள்ளப்பட்டது.

7. அதன்படி, மனுதாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவர் துணை இயக்குநர் (கனிமம்), திருப்பூர் அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத் திட்டத்தினையும், மாவட்ட அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையம், திருப்பூர் (District Level Environment Impact Assessment Authority, Tiruppur) (DEIAA)-யிடமிருந்து சுற்றுச்சூழல் ஒப்புதலையும் பெற்று இவ்வலுவலகத்தில் பார்வை 5-ல் கண்டவாறு சமர்ப்பித்துள்ளார்.

8. மேலும், மனுதாரர் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவர் திருப்பூர் மாவட்ட அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்திடமிருந்து பெறப்பட்ட சுற்றுச்சூழல் ஒப்புதலில் தெரிவிக்கப்பட்டுள்ள நிபந்தனைகளின்படி, தமிழ் மற்றும் ஆங்கில நாளிதழ்களில் அறிவிப்பு வெளியீடு செய்து, அதன் விபரத்தினை பார்வை 6-ல் காணும் கடிதத்தின்படி தெரிவித்துள்ளார். மேலும், மேற்கண்ட அலுவலர்களின் பரிந்துரை மற்றும் சிறுகனிம சலுகை விதிகளின் பேரில், மனுதாரருக்கு குவாரி குத்தகை உரிமம் வழங்க ஒப்புதல் தெரிவிக்கப்பட்டதன் பேரில், மனுதாரர் விதிகளின்படி காப்புத் தொகையாக ரூ. 10000/-ஐ பாரத மாநில வங்கி, திருப்பூர், சலான் எண். 27, நாள்: 18.09.2018-ன்படி செலுத்தி அசல் சலானையும், 1959-ம் தமிழ்நாடு சிறுகனிம சலுகை விதிகளின் பின் இணைப்பு V கண்டுள்ள படிவத்தில் உரிய முத்திரைத்தாளில் குத்தகை ஒப்பந்தப் பத்திரம் தயார் செய்து அளித்துள்ளார்.

எனவே, திருப்பூர் சார் ஆட்சியர் மற்றும் துணை இயக்குநர் (கனிமம்), திருப்பூர் ஆகியோரின் பரிந்துரை அறிக்கைகளின்படியும் திருப்பூர் மாவட்ட சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (District level Environment Impact Assessment Authority) (DEIAA) சுற்றுச்சூழல் ஒப்புதல்படியும் திரு. எஸ். ராஜசேகர், த/பெ. (லேட்). சேமலைக் கவுண்டர் என்பவருக்கு ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண் 382/2A (பகுதி) பரப்பு 1.98.50 ஹெக்டேர் நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுத்துச் செல்ல தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959-ன் விதி 19(1), 20 மற்றும் 33-ன்படி குத்தகை ஒப்பந்தப் பத்திரம் நிறைவேற்றிய நாளான 25.09.2018 முதல்



ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமக் கணக்கு பட்டா எண் 421-ன்படி விண்ணப்பப் புலம் 382/2A ஆனது விண்ணப்பதாரர் திருராஜசேகர் த/பெ.சேமலை கவுண்டர் மற்றும் நான்கு நபர்களின் பெயரில், கூட்டுப்பட்டாவாகத் தாக்கலாகியுள்ளது எனவும், கூட்டுப் பட்டாதாரர்களான திருமதிபழனியம்மாள்-1, ஹரிபிரசாத்-2, ஹரிசங்கர்-3 மற்றும் திருமூர்த்தி-4 ஆகியோர் மேற்படி காலையில் 1.98.5 ஹெக்டேர் பரப்பளவுள்ள பூமியில் விண்ணப்பதாரர் திரு ராஜசேகர் என்பவர் மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து சம்மதப் பத்திரம் அளித்துள்ளனர் எனவும், இதன் மூலம் விண்ணப்பதாரர் திரு. ராஜசேகர் என்பவருக்கு மேற்படி புல எண்ணில் கல் குவாரி உரிமம் பெற ஸ்தல பாத்தியதை உள்ளது எனவும், விண்ணப்பப் புலத்தில் கீழ்க்கண்டவாறு ஏற்கனவே குவாரிக் குத்தகை உரிமம் வழங்கப்பட்டு குவாரி உரிம காலம் முடிவடைந்துள்ளது என தெரிவித்துள்ளார்.

1. ஈரோடு மாவட்ட ஆட்சியரின் ந.க. 21516 / 2007 / எக்ஸ்-2 நாள் 9.7.2007-ன்படி ஐந்து ஆண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் வழங்கப்பட்டு, அந்த உரிமமானது 8.7.2012ல் முடிவடைந்துள்ளது.
2. திருப்பூர் மாவட்ட ஆட்சியரின் ந.க. 267 / கனிமம் / 2017 நாள் 7.7.2012-ன்படி சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க ஐந்து ஆண்டுகளுக்கு வழங்கப்பட்ட குவாரி குத்தகை உரிமம் 6.7.2017 உடன் முடிவடைந்துள்ளது.

மேலும், விண்ணப்பபுலம் சமதளமானது எனவும், இதில் ஏற்கனவே கல் குவாரி குத்தகை உரிமம் வழங்கப்பட்ட காலத்தில் கல் உடைத்த சமச்சீரற்ற கற்குழி உள்ளது எனவும், இரண்டு மீட்டர் முதல் நான்கு மீட்டர் ஆழம் வரை கிராவல் மண்ணும் அதன் கீழ் சார்னோகைட் வகை பாறையும் காணப்படுகிறது எனவும், இவ்வகைப் பாறை சாதாரண கற்கள் மற்றும் ஜல்லிக் கற்கள் உற்பத்தி செய்ய ஏற்றவையாக உள்ளது எனவும், கற்குழியின் ஆழம் பன்னிரண்டு மீட்டர் முதல் இருபத்தி நான்கு மீட்டர் வரை ஆழம் மாறுபட்டு காணப்படுகிறது எனவும், மேலும், பிரஸ்தாப புலத்தினைச் சுற்றி 50 மீட்டர் சுற்றளவில் எவ்வித நிலையான அமைப்புகளும் இல்லை என தெரிவித்துள்ளார்.

இறுதியாக, ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 382/2A (பகுதி)-ல் 1.98.5 ஹெக்டாரிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுத்து குவாரிப் பணி செய்ய திரு. எஸ். ராஜசேகர், த/பெ. (லேட்), சேமலைக் கவுண்டர் என்பவருக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959-ன் விதி எண். 19 (1), 20 மற்றும் 33-ன் கீழ் ஐந்து ஆண்டுகளுக்கு சாதாரண கல்குவாரி குத்தகை உரிம அனுமதி வழங்க சில நிபந்தனைக்கு உட்பட்டு பரிந்துரை செய்துள்ளார்.



24.09.2023 வரை ஐந்து ஆண்டுகளுக்கு கீழ்க்கண்ட நிபந்தனைகளுக்கு உட்பட்டு குவாரி உரிமம் வழங்கி உத்தரவிடப்படுகிறது.

நிபந்தனைகள்:-

1. குத்தகை ஒப்பந்த பத்திரம் நிறைவேற்றப்படும் நாள் குவாரி பணி தொடங்கப்படும் முதல் நாளாக கருதப்பட்டு அன்றைய தினத்திலிருந்து 5 ஆண்டுகளுக்கு மட்டுமே திருப்பூர் மாவட்ட அளவிலான சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையம் (DEIAA) வழங்கிய சுற்றுச்சூழல் ஒப்புதல் சான்று செல்லத்தக்கது.
2. குத்தகை புலத்தினை அடுத்துள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.
3. பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமும் இன்றி பாதுகாப்பான முறையில் குவாரிப்பணி செய்ய வேண்டும்.
4. பொதுமக்களின் நலன் கருதி பாதுகாப்பான முறையில் குறைந்த அழுத்தமுள்ள வெடிபொருட்கள் பயன்படுத்தியும், கைத்துளைப்பான் கருவி கொண்டு துளையிட்டும், தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய பாதுகாப்பானதும், அகலமான Benches அமைத்து குவாரிப்பணி செய்ய வேண்டும்.
5. மாவட்ட அளவிலான சுற்றுச்சூழல் செயல் விளைவு மதிப்பீட்டு ஆணையம், திருப்பூர் (DEIAA-Tiruppur) சுற்றுச்சூழல் ஒப்புதல் கடிதத்தில் தெரிவிக்கப்பட்டுள்ள பொது மற்றும் சிறப்பு நிபந்தனைகளை முறையாக கடைபிடித்து குவாரிப்பணி செய்வதுடன், குவாரிப் பணி ஆரம்பிப்பதற்கு முன்பாக தமிழ்நாடு மாகாணக் கட்டுப்பாட்டு வாரியத்தின் தடையின்மை சான்று பெற்று மாவட்ட நிர்வாகத்திற்கு சமர்ப்பித்து அதன் பின்னரே குவாரிப்பணி துவங்க வேண்டும்.
6. குத்தகைதாரர் தனக்கு அளிக்கப்பட்ட குத்தகை பகுதியின் எல்லைகளை தெளிவாக காட்டும் வகையில் கல் நட்டு வண்ணம் இட்டு குத்தகை காலம் முழுமைக்கும் பராமரிக்க வேண்டும்.
7. குத்தகைதாரர் குவாரியின் அருகே குத்தகைதாரர் பெயர், கிராமத்தின் பெயர், வட்டத்தின் பெயர், புல எண். பரப்பு, குத்தகை ஆணை எண். குத்தகை காலம், கனிமத்தின் பெயர், போன்ற விபரங்கள் குறிக்கப்பட்ட தகவல் பலகையை தமது சொந்த செலவில் வைத்து நன்கு பராமரிக்க வேண்டும்.
8. குவாரிக்கு சென்றுவரும் பாதை வசதிகள் குத்தகைதாரர்கள் அவர் தம் சொந்த பொறுப்பிலேயே அமைத்துக் கொள்ள வேண்டும்.
9. குத்தகை வழங்கப்பட்ட பாதையில் குண்டுக்கல், ஐல்வி, அரவை கல், வேலிக்கற்கள், போன்ற சிறுகனிமங்கள் உடைத்தெடுக்க மட்டுமே அனுமதியுண்டு. வெளிநாடுகளுக்கு ஏற்றுமதியாகும் மெருகட்டும் களவடிவ கற்கள் வெட்டி எடுக்கக் கூடாது.
10. குவாரியிலிருந்து கொண்டு செல்லப்படும் மேற்கண்ட வகை கற்களுக்கு 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் பின் இணைப்பு II-ல் கண்டுள்ளவாறு உரிமவரி (சீனியரேஜ் தொகை) செலுத்த வேண்டும். அரசு அவ்வப்போது அறிவிக்கும் உரிமவரி மாற்றங்களுக்கு ஏற்ப எவ்வித ஆட்சேபணை இன்றி செலுத்துதல் வேண்டும்.





11. திருப்பூர் மாவட்ட கனிம கட்டமைப்பு அறக்கட்டளை (District Mineral Foundation Trust) நிதிக்காக சாதாரண கற்கள் எடுத்துச் செல்ல செலுத்தப்படும் சீரியரேஜ் தொகைக்கு 10% சதவீத தொகை மற்றும் அரசு அவ்வப்போது அறிவிக்கும் மாற்றங்களுக்கு ஏற்ப அறக்கட்டளை நிதி செலுத்தப்பட வேண்டும்.
12. குத்தகை அனுமதி வழங்கப்பட்ட நிலத்திலிருந்து கொண்டு செல்லப்பட்ட கனிமத்திற்கு முறையான கணக்குகளும், குழிவாயில் பதிவேடும் முறையாக பராமரித்தல் வேண்டும். அவற்றை சம்பந்தப்பட்ட அலுவலர்கள் தணிக்கைக்கு ஆஜர்படுத்த கோரினால் தவறாது சமர்ப்பிக்க வேண்டும்.
13. துணை / உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை)-ன் அலுவலக முத்திரை, கையொப்ப முத்திரையுடன் கூடிய உரிய அனுப்புகைச் சீட்டை வாகனங்களுக்கு கொடுக்கப்படும் போது அனுப்புகைச் சீட்டில் வாகன எண், தேதி, புறப்படும் நேரம், செல்லும் இடம் ஆகியவற்றை முறையாகக் குறிப்பிட்டு கையொப்பம் இட்ட பின்னரே, குத்தகைதாரரோ அல்லது அவரது அனுமதி பெற்ற நபரோ கொடுக்க வேண்டும். மேற்கண்டவாறு குறிப்பிடுவதில் ஏதேனும் தவறுகள் இருந்தாலோ, கலங்கள் பூர்த்தி செய்யப்படாமல் இருந்தாலோ முறையற்ற வகையில் கனிமம் எடுத்துச் செல்வதாகக் கருதப்பட்டு வாகனத்தை கைப்பற்றி அபராதம் விதிப்பதோடு, அதற்கு குத்தகைதாரரை பொறுப்பாக்கி கனிம விதிகளின் படி மேல் நடவடிக்கை எடுக்கப்படும்.
14. குத்தகை அனுமதி வழங்கப்பட்ட புலத்தை முழுமையாகவோ, பகுதியாகவோ எவருக்கும் உள் குத்தகைக்கு விடுவதோ அல்லது கிரையம் செய்வதோ கூடாது.
15. குத்தகைதாரர் ஒவ்வொரு நாளும் குவாரியில் இருந்து எவ்வளவு சாதாரண கற்கள் எடுக்கப்பட்டது என்பதையும் எந்த அளவு சாதாரண கற்கள் லாரி/ வாகனங்கள் மூலம் வெளியே அனுப்பப்பட்டது என்ற விபரத்தையும் காட்டும் பதிவேட்டினைப் பராமரித்து வரவேண்டும்.
16. குத்தகைதாரர், தமக்கு குத்தகை வழங்கப்பட்ட பகுதிக்கு அருகில் உள்ள பட்டா நிலத்திற்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப் பணி செய்யப்பட வேண்டும்.
17. வண்டிப்பாதை மற்றும் நடைபாதைகளில் இருந்து 10 மீட்டர் தூரம் தள்ளி குவாரி செய்ய வேண்டும். ரோடுகள், புகைவண்டிப்பாதை, பொதுப்பணித்துறை, வாய்க்கால், பொதுமக்கள் உபயோகத்திற்கான பகுதிகள், மின்சாரம் மற்றும் தொலைபேசி கம்பி செல்லும் பகுதிகள், வழிபாட்டு இடங்கள் மற்றும் பழங்கால சின்னங்கள் உள்ள பகுதிகள் ஆகியவற்றில் இருந்து 50 மீட்டர் பாதுகாப்பு தூரம் விட்டு குவாரி செய்ய வேண்டும்.
18. குத்தகைக்கு விடப்பட்டுள்ள விஸ்தீரணத்தில் மட்டுமே குத்தகைதாரர் குவாரி செய்ய வேண்டும். அதற்கான கூடுதலான விஸ்தீரணத்தில் குவாரி செய்வது தெரியவந்தால் அபராத நடவடிக்கை மேற்கொள்வதுடன் குவாரி குத்தகை உரிமம் இரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.
19. குத்தகை நிபந்தனை மீறப்பட்டால் குத்தகை இரத்து செய்யவோ, செய்யப்பட்ட தவறுதலுக்கு அபராத நடவடிக்கை எடுத்து தண்டம் விதிக்கவோ அல்லது கிரிமினல் வழக்குத் தொடுக்க மாவட்ட ஆட்சியருக்கு அதிகாரம் உண்டு. குத்தகை ரத்து செய்யப்பட்டால் காப்புத் தொகை உட்பட அனைத்து தொகைகளும் அரசுக்கு ஆதாயமாக்கப்படும்.



20. குத்தகைதாரர் தமிழ்நாடு சிறுவகைக்கனிம சலுகை விதிகள் 1959ல் கண்டுள்ள விதிகளுக்கும் மற்றும் அரசு அவ்வப்போது அறிவிக்கும் சட்டதிட்டங்களுக்கு உட்பட்டு குவாரிப்பணிகள் செய்ய வேண்டும்.
21. குவாரி குத்தகை உரிமம் காலாவதியான பின்பு எக்காரணத்தை முன்னிட்டு மீண்டும் புதுப்பிக்கவோ அல்லது கால நீட்டிப்போ செய்து தரப்பட மாட்டாது.
22. வெடிபொருள் சட்டம் 1884ல் தெரிவிக்கப்பட்ட சரத்துக்கள்படி குறைந்த அளவு வெடிபொருளை உபயோகித்து கற்கள் வெளியே சிதறாமலும், சத்தம் அதிக ஏற்படாமலும், பொதுமக்களுக்கும், கால்நடைகளுக்கும், எவ்வித பாதிப்பும் இன்றிய கல்குவாரி பணி செய்யப்பட வேண்டும்.
23. வெடிபொருள்கள் அரசு உரிமம் பெற்ற விற்பனைதாரரிடம் மட்டுமே பெற்று வெடிப்பதற்கு உரிய உரிமம் / அங்கீகாரம் பெற்ற வெடிப்பாளர்களை (Blaster / Mine mate) கொண்டு கல் குவாரியில் வெடி வைத்து பாறைகளை உடைக்க வேண்டும்.
24. குவாரிப்பணி ஆரம்பிப்பதற்கு முன்னதாக குவாரி பணி செய்யப்பட இருக்கு புலங்களின் எல்லையைச் சுற்றிலும், முள் கம்பி வேலி (Barbed wire fencing) அமைக்கப்பட வேண்டும்.
25. குழந்தை தொழிலாளர்கள் எவரையும் வேலைக்கு அமர்த்துதல் கூடாது.

மேற்கூறப்பட்ட நிபந்தனைகள் மற்றும் கனிம சட்டம் விதிகளை மீறியுள்ள உறுதியிடும் தருணத்தில் விதிமுறைகளுக்கு உட்பட்டு குத்தகை இரத்து செய்ய நடவடிக்கை எடுக்கப்படும். மேற்கண்ட நிபந்தனைகள் ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகள் திருப்பூர் மாவட்ட சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் நிபந்தனைகள் மற்றும் தமிழ்நாடு சிறுவகைக்கனிம சலுகை விதிகள் 1959, கனிமம் மற்றும் சுரங்கம் (ஒழுங்குமுறை மற்றும் மேம்பாடு)-1957, மெட்டாலி.பெரஸ் மைன்ஸ் ரெகுலேசன் -1961 மற்றும் கனிம சட்டம் 195 ஆகியவற்றின் அடிப்படையில் குத்தகை தாரர் குவாரிப் பணி புரிய வேண்டும்.

(ஓம்)... கே.எஸ். பழனிசாமி,  
மாவட்ட ஆட்சியர்,  
திருப்பூர்.

// உண்மை நகல் / உத்தரவுப்படி //

  
மாவட்ட ஆட்சியருக்காக,  
திருப்பூர்.

பெறுநர்

திரு எஸ்.ராஜசேகர்,  
த/பெ. (வேட்) சேமவைக் கவுண்டர்,  
71, திம்மநாயக்கன்பாளையம்,  
மொரட்டுப் பாளையம் - 638 752,  
ஊத்துக்குளி வட்டம்.

நகல்:-

1. சார் ஆட்சியர், திருப்பூர்
2. வட்டாட்சியர், ஊத்துக்குளி
3. கிராம நிர்வாக அலுவலர் - மொரட்டுப்பாளையம்.  
(வட்டாட்சியர் மூலமாக)





1

DR. K.S. PALANISAMY, I.A.S.,  
CHAIRMAN

DISTRICT LEVEL ENVIRONMENT  
IMPACT ASSESSMENT AUTHORITY  
Collectorate,  
Master Plan Complex,  
Palladam Road,  
Tiruppur- 641 604

**ENVIRONMENTAL CLEARANCE**

**Lr. No. DEIAA – TPR / F. No. 358 / 1 (VIII) / 2018 dated: 14.08.2018.**

To

Thiru S.Rajasekar,  
S/o. (Late) Semalai Gounder,  
71 Dhimmanaickenpalayam,  
Morattupalayam,  
Uthukuli Taluk,  
Tiruppur District - 638 752.

Sir,

Sub: DEIAA- Tiruppur – Proposed Rough Stone and Gravel quarry located at S.F. No. 382/2A (Part) - over an extent of 1.98.50 Hectares – Morattupalayam Village – Uthukuli Taluk – Tiruppur District – grant of Environmental Clearance – Reg.

- Ref: 1. Your application For Environmental Clearance dated 16.02.2018.
2. Minutes of the 4<sup>th</sup> meeting of DEAC, Tiruppur, held on 05.06.2018.
3. Minutes of the 3<sup>rd</sup> meeting of DEIAA, Tiruppur, held on 10.07.2018.
- \*\*\*\*\*

**Details of Minor Mineral Activity:-**

This has reference to your application first cited. The proposal is for obtaining Environmental Clearance for quarrying of Rough Stone and Gravel (Minor minerals) under "B2" Category, based on the particulars furnished in your application as shown below.

1.	Name of Project Proponent and Address	Thiru S.Rajasekar, S/o. (Late) Semalai Gounder, 71 Dhimmanaickenpalayam, Morattupalayam, Uthukuli Taluk, Tiruppur District - 638 752.
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Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur,

  
For Chairman.



<b>2. Location of the Proposed Activity</b>	
Survey Number	S.F. No. 382/2A (Part)
Latitude and Longitude	11° 08' 14.89" N to 11° 08' 20.80" N 77° 25' 15.05" E to 77° 25' 20.01" E
Village	Morattupalayam
Taluk	Uthukuli
District	Tiruppur
<b>3. Proposed Activity</b>	
i. Minor Mineral	Rough stone and Gravel
ii. Quarry Lease Area	1.98.50 Hectares
iii. Approved Quantity	1,70,830 M <sup>3</sup> of Rough stone and 5,472 M <sup>3</sup> of Gravel
iv. Depth of Mining	The quarry operation proposed upto a depth of 37 meters below ground level.
v. Type of quarrying	Semi Mechanized Opencast Quarrying
vi. category (B1/B2)	B2
vii. Precise area Communication	District Collector, Tiruppur, Letter No.Na. Ka. 105 / Mines / 2017, dated 29.01.2018.
viii. Mining Plan Approved	Deputy Director, Geology and Mining, Tiruppur R.C. No. 105 / Mines / 2017 dated 14.02.2018.
ix. Mining Lease period	5 Years
Whether project area attracts any General condition Specified in the EIA notification, 2006 as amended:-	Not attracted.
5 Man Power requirement per day:	11 Employees
<b>6 Utilities</b>	
i. Source of Water	Water vendors
ii. Quantity of Water Requirement in KLD	
a. Drinking & Domestic purposes	0.2 KLD
b. Dust Suppression	0.4 KLD
c. Green belt	0.4 KLD
	----- 1.0 KLD
iii. Power Requirement:	
a. Domestic Purpose	
b. Industrial Purpose	Not required.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

For Chairman.



7.	<b>Cost</b> i. Project Cost ii. EMP Cost	Rs. 60,27,000/- (Inclusive of EMP Cost) Rs. 7,30,000/-
8	Public Consultation:-	Not required.
9.	Date of Appraisal by DEAC:- Agenda No.	05.06.2018 Item No. 8
10.	<b>Date of Review / Discussion by DEIAA and the Remarks:-</b> The proposal was placed before the DEIAA, Tiruppur in its 3 <sup>rd</sup> Meeting held on 10.07.2018 as agenda Item No.8 and the Authority after careful examination has approved the proposal for the grant of Environmental Clearance to the said project for quarrying of Rough stone and Gravel subject to the terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.	
11.	<b>Validity:-</b> 1) This Environmental Clearance is granted for quarrying of 1,70,830 Cubic Meters of Rough Stone and 5,472 Cubic Meters of Gravel for a period of five years from the date of execution of the quarry lease agreement. 2) The Environment Clearance is co-terminus with the quarry lease period.	

**Conditions to be Complied before commencing quarrying operation:-**

1. The Project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - i. The project has been accorded Environmental Clearance.
  - ii. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - iii. Environmental Clearance may also be seen on the website of the DEIAA, Tiruppur.
  - iv. The advertisement should be made within 7 days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the DEIAA, Tiruppur.
2. No Objection Certificate from the Standing Committee of the National Board of Wild Life shall be obtained, if protected areas are located within 10 Kilo meters from the proposed project site.
3. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Mineral Concession Rules, 1959.
4. A copy of the Environmental Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat Union, Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
5. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
6. The proponent shall ensure that First Aid Box is available at site.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

For Chairman.





7. The excavation activity shall not alter the natural drainage pattern of the area.
8. The excavated pit shall be restored by the project proponent for useful purposes.
9. The proponent shall quarry and remove only in the permitted areas as per the Approved Mining Plan.
10. The quarrying operation shall be restricted between 7 AM and 6 PM.
11. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
12. A minimum distance of 50 meters from any Public/Civil structure shall be kept from the periphery of the quarry permitted area.
13. Depth of quarrying shall be 2 meters above the ground water table or upto the approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.
14. The mined out pits should be backfilled where warranted and the area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emission. Delay detonator and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. The explosives shall not be stored at quarry site unless proper license should be obtained from the Petroleum Explosives and Safety Organization under Explosives Act.
18. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
19. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and the records kept for inspection.
20. The proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, Gol on 16.11.2009.
21. The following measures are to be implemented to reduce Air Pollution during transportation of mineral.
  - a. Roads shall be graded to mitigate the dust emission.
  - b. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.
22. The following measures are to be implemented to reduce Noise Pollution.
  - a. Proper and regular maintenance of vehicle and other equipment.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

  
For Chairman.



- b. Limiting time exposure of workers to excessive noise.
  - c. The workers employed shall be provided with protection equipment and earmuffs etc.
  - d. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
23. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dated: 11.1.2010 issued by the MoE&F, GoI to control noise to the prescribed level.
  24. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
  25. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
  26. The following measures are to be adopted to control erosion of dumps:-
    - a. Retention / toe walls shall be provided at the foot of the dumps.
    - b. Worked out slopes are to be stabilized by planting appropriate shrub / grass species on the slopes.
  27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans-boundary movement Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCB.
  28. Concealing the factual date or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
  29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
  30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the over flow after allowing setting of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
  31. The proponent shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. It at any stage, if it is observed that the ground water table is getting depleted due to the mining activity, necessary corrective measures shall be carried out. The PWD, Ground Water Division shall ensure this.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

For Chairman.





32. No tree-felling shall be done in the leased area, except only with the permission from competent authority.
33. To Take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air and flora / fauna environment, slurry water generated / disposed and method of disposal, involving a reputed academic institution.
34. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the quarry lease period of this application.
35. It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500 m radius from the periphery of the quarry site.
36. Ground water quality monitoring should be conducted once in 6 months by the proponent and the records kept for inspection. The District Environment Engineer, TNPCB, shall ensure this.
37. Transportation of the quarries material shall not cause any hindrance to the village people / existing village road.
38. Free silica test should be conducted and reported to Tamil Nadu Pollution Control Board, Tiruppur, and Regional Director, MoEF, GOI.
39. Air sampling at intersection point should be conducted and reported to Tamil Nadu Pollution Control Board, Tiruppur and Regional Director, MoEF, GOI.
40. Bunds to be provided at the boundary of the project site.
41. The project proponent shall undertake plantation/ afforestation work by planting the native species on all side of the lease area at the rate of 400 / Hec. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
42. At least 200 Neem Trees, 200 Tamarind Trees and 200 Palm Trees should be planted around the boundary of the quarry site.
43. Floor of excavated pits should be leveled as per the Approved Mining Plan (Conceptual Mining Plan).
44. The project proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR activity.
45. The project proponent shall comply with the Tamil Nadu Minor Mineral Concession Rules, 1959 and other relevant Mining Rules and Regulations where ever applicable.
46. Rainwater shall be pumped out via settling tank only.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

For Chairman.



47. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
48. As per MoEF & CC, Govt, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild life angle including clearance from obtaining committee of the National Board for Wild Life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10 KM from National Park and Sanctuaries.
49. The quarrying activity shall be stopped if the entire quantity indicated in the Approved Mining Plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the Deputy Director/Assistant Director, Geology and Mining.
50. Safety equipments should be provided to all the employees.
51. Safety distance of 50 meters has to be provided in case of railway, reservoir, canal / odoi.
52. The proponent shall collect the Baseline data covering the Air, Water, Noise and land environment quality for the quarry site for every 6 months. The District Environment Engineer, TNPCB, shall ensure this.
53. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically.
54. The proponent shall furnish the data obtained from the Public Works Department regarding the details of Ground water table in the quarry site.
55. The proponent has to provide insurance protection to the workers.
56. The Proponent has to display the name board at the quarry site showing the details of proponent, lease period, extent, etc., with respect of the existing activity before the commencement of mining.
57. If any Heavy earth machinery and equipments, utilized, necessary approval shall be obtained from the competent authority as per Metaliferous Mining Regulations 1961.

**General Conditions:-**

1. Environmental Clearance is given only on the factual records, documents and details furnished by the Proponent.
2. The Proponent shall obtain the Consent for establishment and Consent to operate from the Tamil Nadu Pollution Control Board, Tiruppur before commencing the quarry activity.
3. No change in mining technology and scope of working should be made without prior approval of the DEIAA, Tiruppur.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

  
For Chairman.



4. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particular matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
5. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
6. A 7.5 Meter berm shall be left from the boundary of adjoining field.
7. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
8. Vehicular emission shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
9. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
10. All personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves, etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any constructions due to exposure to dust and take corrective measures, if needed.
11. Periodical medical examination of workers engaged in the project shall be carried out and records to be maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc. and a record should be maintained.
12. Workers / labours shall be provided with facilities for drinking water and sanitation facility for female and male separately.
13. The project proponent shall ensure that child labour is not employed / engaged in the quarrying activity.
14. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Officer located at Chennai.
15. The Environmental Clearance does not absolve the applicant / proponent of his obligation / requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

For Chairman.



16. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
17. The DEIAA, Tiruppur may alter / modify the above conditions or stipulate any further condition in the interest of environment protection.
18. The DEIAA, Tiruppur may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this DEIAA, Tiruppur that the project proponent has deliberately concealed and / or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
19. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
20. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India / Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
21. Any other conditions stipulated by other statutory / Government authorities shall be complied.
22. Any appeal against this environmental clearance shall lie with the Tamil Nadu State Environment Impact Assessment Authority, Chennai, if preferred, within a period of 30 days.

Sd/-14.08.2018,  
Chairman, DEIAA,  
Tiruppur.

/True copy / By order /

  
For Chairman.

Copy to

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi
2. The Principal Secretary, Environment and Forest Department, Government of Tamil Nadu, Secretariat, Fort. St. George, Chennai- 600 009.



3. The Additional Chief Secretary to Government, Industries Department, Government of Tamil Nadu, Secretariat, Fort. St. George, Chennai- 600 009.
4. The Chairman, State Level Environment Impact Assessment Authority, Panagal Maaligai, Saidapet, Chennai – 600 015.
5. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai-34.
6. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex East Arjun Nagar, New Delhi 110 032.
7. The Director of Geology and Mining, Guindy, Chennai-32.
8. The District Environment Engineer, Tamil Nadu Pollution Control Board, Tiruppur (North).
9. The Assistant Director, Public Works Department, Ground Water Division, Coimbatore.
10. The District Forest Officer, Tiruppur.
11. Spare.



District : Tiruppur

Taluk : UTHUKKULI

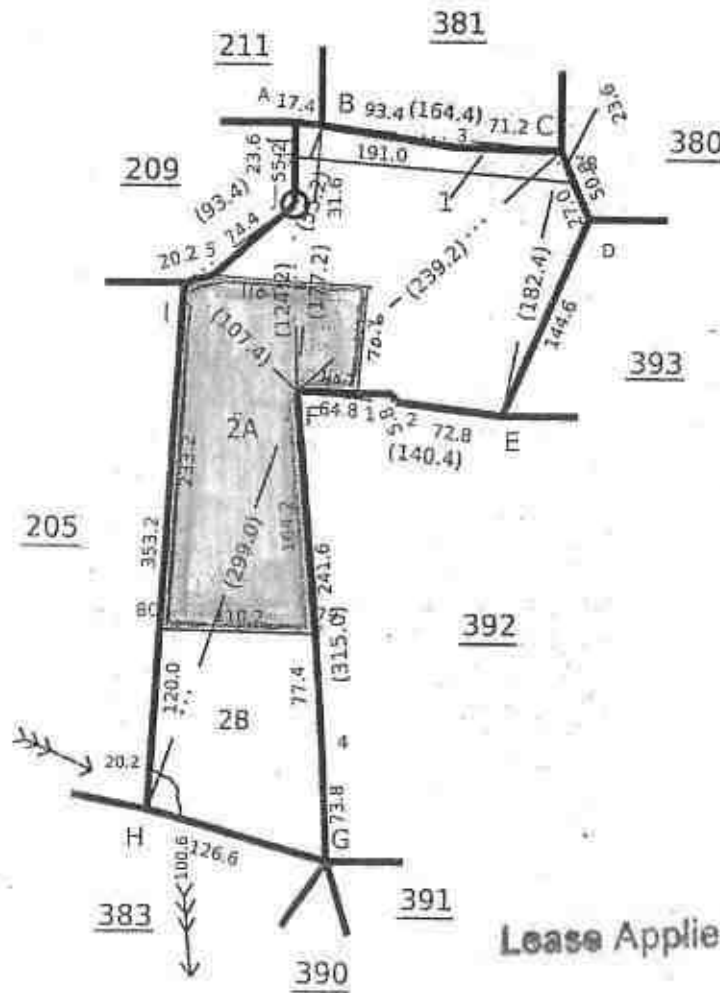
Village : Moratuppalayam [81]


Survey No : 382

ANNEXURE 1

Area : Hect 07 Ares 22.00

Scale : 1 : 5000



 - தாதாரண கட்டுகள் அடங்கிய சங்கீத அலுவல் கோடும்  
 பகுதி 4வனரை 382/2A யாகும் } = 6 ஏக்கர்  
 4வனரை

கிராம தாலுக்காவிலுள்ள  
 மற்றும் பிறப்பு இறப்பு பதிவாளர்  
 மாரட்டுப்பாளையம் தருப். உத்தகுக்குளி வட்டம்.  
 திருப்பூர் மாவட்டம்



Date of Issue: 10-11-2022 10:20:39

mv.240 f

T. Luk 52080  
 PERUNDURAI

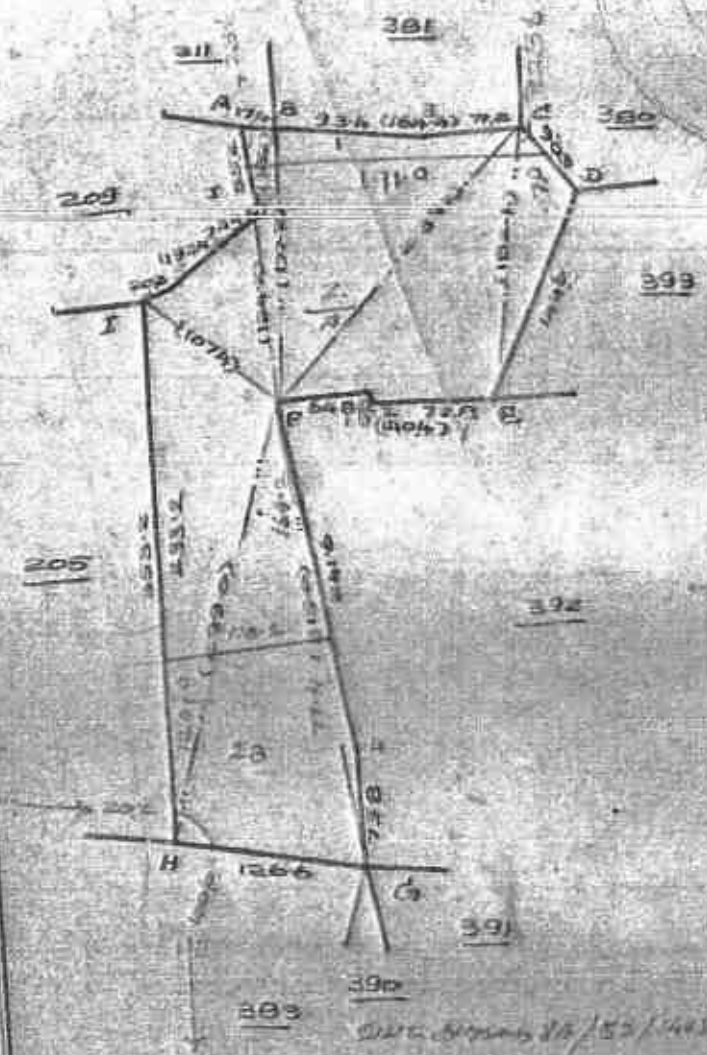
Village

Name HORRITUP PALAY  
 Area 722.0 Hect. Acre

Field No. 382



	L		
	3534		
	2866	242	F
	H		
	R		
	2392		
107	1428		
	G		
	I		
	932		
	740		
	J		
	3109		
	2414		
	K		
7	1712		
	230	112	J
	B		
	1544		
	332	40	3
	B		
	552		
172	226		
	I		
	1242		
2	738		
	F		
	G		
	1824		
2	1414	298	D
	E		
1	1404		
	676	02	3
	644		
2	R		



சமீபத்தில் 18/05/1985  
 நாள் 11-11-05-இல் 10034  
 சிவில் சர்வீஸ்

*Be...*  
 1205/1405

சமீபத்தில் நிலங்கள் சர்வீஸ்  
 1205/1405  
 1205/1405

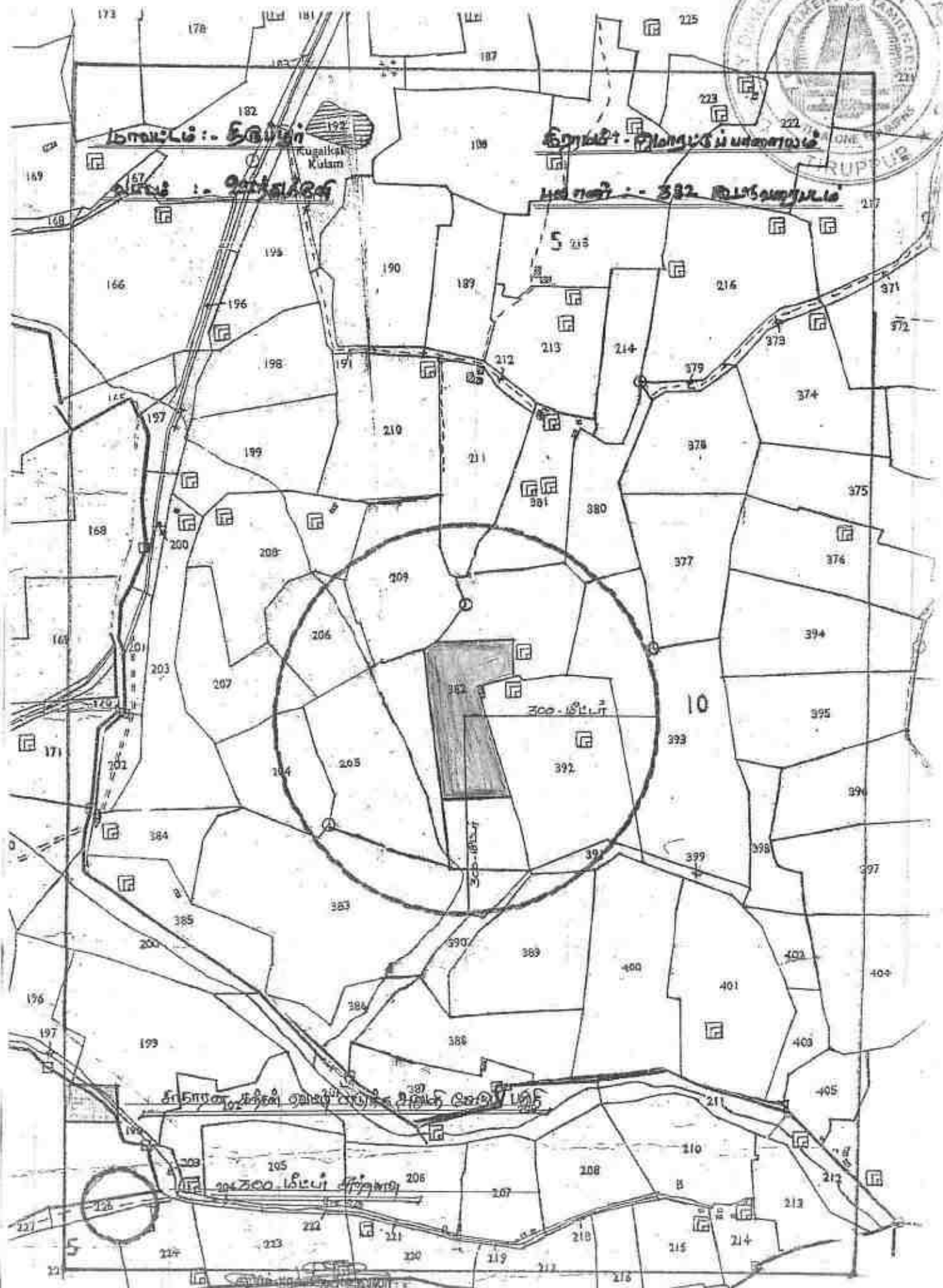
மற்றுமே பி. பி. இரப்ப பதிவாளர்  
 மெட்ரொப்பாளையும் சர்ப. ஊக்குகினி வட்டம்

Completed by  
 M. ...

Scale

1:10000  
 1:10000

Prepared  
 P. ...



மற்றும் விவரம் இரட்டிப்பில் உள்ளது





தமிழ்நாடு அரசு  
வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

வருவாய் கிராமம் : மொரட்டுப்பாளையம்

பட்டா எண் : 421



உரிமையாளர்கள் பெயர்

1.	ராமசாமி	மனைவி	பழனியம்மாள்	
2.	ராமசாமி	மகன்	ஹரிபிரசாத்	
3.	ராமசாமி	மகன்	ஹரிசங்கர்	
4.	குமாரசாமி	மகன்	திருமூர்த்தி	
5.	சேமலை கவுண்டர்	மகன்	ராஜசேகர்	

புல எண்	உட்பிரிவு	புன்செய்		நன்செய்		மற்றவை		குறிப்புரைகள்
		பரப்பு	தீர்வை	பரப்பு	தீர்வை	பரப்பு	தீர்வை	
		ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	ஹெக்ட - ஏர்	ரூ - பை	
382	2A	5 - 19.50	10.39	--	--	--	--	2020/0103/32/234401- -R142/05/S -- 16-09- 2020
		5 - 19.50	10.39					

குறிப்பு 2 :



- மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் <https://eservices.tn.gov.in> என்ற இணைய தளத்தில் 32/09/081/00421/90107 என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
- இத் தகவல்கள் 22-09-2023 அன்று 11:00:58 AM நேரத்தில் அச்சடிக்கப்பட்டது.
- கைப்பேசி கேமராவின் 2D barcode படப்பாள் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்





மாவட்டம் : திருப்பூர்

வட்டம் : ஊத்துக்குளி

கிராமம் : மொரட்டுப்பாளையம்

1. புல எண்	382	9. மண் வயனமும் ரகமும்	8 - 3
2. உட்பிரிவு எண்	2A	10. மண் தரம்	5
3. பழைய புல உட்பிரிவு எண்	349C	11. தீர்வை (ரூ - ஹெ)	2.00
4. பகுதி	P	12. பரப்பு (ஹெக்டேர் - ஏர்)	5 - 19.50
5. அரசு / ரயத்துவாரி	ரயத்துவாரி	13. மொத்த தீர்வை (ரூ - பை)	10.39
6. நிலத்தின் வகை	புஞ்சை	14. பட்டா எண்	421
7. பாசன ஆதாரம்	-	15. குறிப்பு	-
8. இரு போகமா	-	16. பெயர்	பழனியம்மாள்மற்றும 4பேர்

குறிப்பு 1:



1.

மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை.  
இவற்றை தாங்கள் <http://eservices.tn.gov.in> என்ற இணைய தளத்தில் 80107 என்ற குறிப்பு  
எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

ANNEXURE

FIFTY  
RUPEES

Rs.50



पचास

रुपये

रु. 50

தமிழ்நாடு தமிழ்நாடு TAMILNADU

3.12.2022

8F 195400

ச. ராஜசேகர்

திம்மநாயக்கன் பானையம்.

சம்மதக் கடிதம்

**S. கருணாத்.**  
முத்தரைத்தாள் விற்பனையாளர்,  
பெருந்துறை டவுன்,  
உரிமம் எண்: 16/2008/ #ரோடு,  
பெருந்துறை, திம்மநாடு

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், 6-71, திம்மநாயக்கன்பாளையத்தில் வசிக்கும் (அமரர்) சேமலைக்கவுண்டர் மகன் எஸ்.ராஜசேகர் ஆகிய உங்களுக்கு,

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், 71-திம்மநாயக்கன்பாளையத்தில் வசிக்கும் (அமரர்) ராமசாமி மனைவி பழனியம்மாள் - (1) மேற்கண்ட முகவரியிலேயே வசிக்கும் மேற்படி (அமரர்) ராமசாமி மகன் ஆர்.ஹரிபிரசாத்-(2), மேற்கண்ட முகவரியிலேயே வசிக்கும் மேற்படி (அமரர்) ராமசாமியின் இன்னொரு மகன் ஆர்.ஹரிசங்கர்-(3) மற்றும் திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், சர்க்கார் கத்திரங்குணணி கிராமம், பாப்பப்பாளையம், 1-13D மேற்குத் தோட்டத்தில் வசிக்கும் குமாரசாமி மகன் கே.திருமூர்த்தி -(4) ஆகிய நான்கு பேரும் எழுதிக் கொடுக்கும் சம்மதக் கடிதம் என்னவென்றால்,

MOB: 99655 41074 & 220074  
**S. MANIAN, M.A., B.L.**  
Advocate & Notary Public  
305, 308, Ram Nagar,  
PERUNDURAI - 638 092, Erode Dt  
Tamil Nadu, India  
Bank No. 2211 - Current No. 187

R. Palani

R. Sankar

R. Sankar

K. Thirumook

S. Manian



திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல  
எண்: 382/2A-ல் 5.19.5 ஹெக்டர் பரப்புள்ள பூமி, பட்டா எண்: 421-ல் நம்மில் 1,2,3,4  
எண்ணிடப்பட்டுள்ளவர்களின் பெயரிலும் மேற்கண்ட எஸ்.ராஜசேகர் பெயரிலும்  
கூட்டுப்பட்டவாகத் தாக்கலாகியுள்ள நம் ஐவருக்கும் சொந்தமான பட்டா நிலமாகும்.

மேற்கண்ட பூமியில் 1 எண்ணிடப்பட்ட எஸ்.ராஜசேகர் என்பவர் சாதாரணக் கற்கள்  
மற்றும் கிராவல் மண் எடுக்க விண்ணப்பம் செய்துள்ளார். மேற்கண்ட புலத்தில் உதவி  
இயக்குனர் (கலிமம்) அவர்களால் அனுமதி வழங்கும் நாளில் இருந்து, ஐந்து வருட  
காலத்திற்குக் குவாரிக் குத்தகை உரிமம் வழங்க 1, 2, 3 மற்றும் 4 எண்ணிடப்பட்டுள்ள  
எங்களுக்கு எவ்விதமான ஆட்சேபணையும் இல்லை. பின்னிட்டு எவ்விதப் பிரச்சனையும்  
செய்ய மாட்டோம் என முழுமனதுடன் சம்மதிக்கிறோம் என உறுதி கூறுகிறோம்.

R. Palani

R. Palani

R. Palani

K. Thirumal

Exe... ..

SOLEMNLY AFFIRMED AND SIGNED  
BEFORE ME AT PERUNGUDI, ERODE DISTRICT,  
PIN: 638 052 ON 3-12-2022

R. Palani

3.12.2022

S. M.

3-12-2022  
S. MANJAN, M.A., B.L.  
Advocate & Notary Public  
735, 22A, Rain Nagar  
PERUNGUDI-638 052, Erode Dist.  
Tamil Nadu, India.  
Book No. 2021/2022

S. M.

3-12-2022





  
புத்தொலைபேசி  
Government of India  
ரஜசேகர செமலை  
S RAJASEKAR SEMALAI  
தந்தை செமலை  
Father : SEMALAI  
பிறந்த நாள் / DOB : 03/05/1953  
ஆண்பால் / Male



6955 6747 4577

ஆதார் - சாதாரண மனிதனின் அதிகாரம்

  
ஆதார்  
முகவரி  
வா: செமலை, 671,  
திம்மநாயக்கன்பாளையம்,  
மொரட்டுப்பாளையம்,  
மொரட்டுப்பாளையம்,  
உட்டுக்குடி ரீ. திருப்பூர், தமிழ்  
நாடு, 638752

Address:  
S/O: Semalai, 671,  
THIMMANAIKENPALAYAM,  
MORATTUPALAYAM,  
Morattupalayam, Utukuli Rs,  
Tiruppur, Tamil Nadu, 638752

6955 6747 4577

 1947  
1800 300 1947

 help@uidai.gov.in

 www.uidai.gov.in

PERMANENT ACCOUNT NUMBER

AEZPR3461B



NAME  
SEMALAI GOUNDER RAJASEKAR

FATHER'S NAME  
SEMALAI GOUNDER

DATE OF BIRTH  
03-08-1953

SIGNATURE

Commissioner of Income-tax (Computer Operations)

கணினி மூலம் இயங்கும் கணினி அமைப்பின் மூலம்  
கணினி மூலம் இயங்கும் கணினி அமைப்பின் மூலம்  
கணினி மூலம் இயங்கும் கணினி அமைப்பின் மூலம்

வந்தவரவரவிட ஆணைகளை (கணினி மூலம் இயங்கும்)  
108, மகாத்மா காந்தி சாலை  
சென்னை 600 034

In case this card is lost/found, Kindly inform/return to  
the issuing authority.

Commissioner of Income - tax (Computer Operations)  
108, Mahatma Gandhi Road,  
Chennai - 600 034







2121010

# சென்னை பல்கலைக் கழகம்

## University of Madras

அறிவியல் புலம்  
FACULTY OF SCIENCE

சென்னைப் பல்கலைக் கழகப் பேரவை 1994 ஆம்

ஆண்டு ஏப்ரல் மாதம் நடந்த கனிமவியல் தேர்வில்  
பி. தங்கராசு என்பவர் முதல் வகுப்பில்

தேர்ச்சி பெற்றார் என்று தக்க கோரலானார்கள் சான்றிதழை அறிவியல் நிறைஞர்  
எனும் பட்டத்தை அவருக்குப் பல்கலைக் கழக இலச்சினையின் வழங்குகிறது.

*The Senate of the UNIVERSITY OF MADRAS hereby  
makes known that P. Thangaraju  
has been admitted to the Degree of Master of Science, to/she  
having been certified by duly appointed Examiners to be qualified  
to receive the same in Geology and was placed in the  
First Class, at the Examination held in April 1994.*



Given under the seal of the University

சேப்பாக்கம், Choppak.

சென்னை, Madras.

25-01-1999

340 A

பதிவாளர்.

Registrar

P.T. Thangaraju

துணை வேந்தர்

Vice-Chancellor





GOVERNMENT OF INDIA  
MINISTRY OF LABOUR AND REHABILITATION  
OFFICE OF THE DIRECTOR GENERAL OF MINES SAFETY

Certificate of Practical experience granted by the Manager to a candidate for a Manager's / Surveyor's / Foremen's / Over man's / Sirdar's / Mate's / Short firer's/ Blaster's Certificate of competency (Restricted) examination under the Metalliferous Mines Regulations 1961.

I T.VENKATARAJAGOPALAN being the Mines Agent of M/S.LIMENAPH CHEMICALS, RAJAPALAYAM OF LIMESTONE PRODUCTS (Thenmali Limestone Mine) do hereby certify that Thiru. P.THANGARAJU, son of S.PERIASAMY (whose signature is appended) worked as a Geologist in the above mine from 02.05.1994 to 30.12.1999. During his term of work aforesaid, he has obtained practical experience as detailed overleaf. The duties connected with his work have involved continuous attendance at the mine and have been efficiently performed by him.

I believe him to be of good character and a fit and proper candidate to be examined for Certificate of Competency.

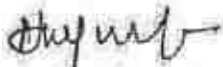
THEMNALAI LIME STONE MINES  
10/6/06  
Agent (Mines)  
(Signature with date and official Seal)  
[T.VENKATARAJAGOPALAN]

Mines Agent:

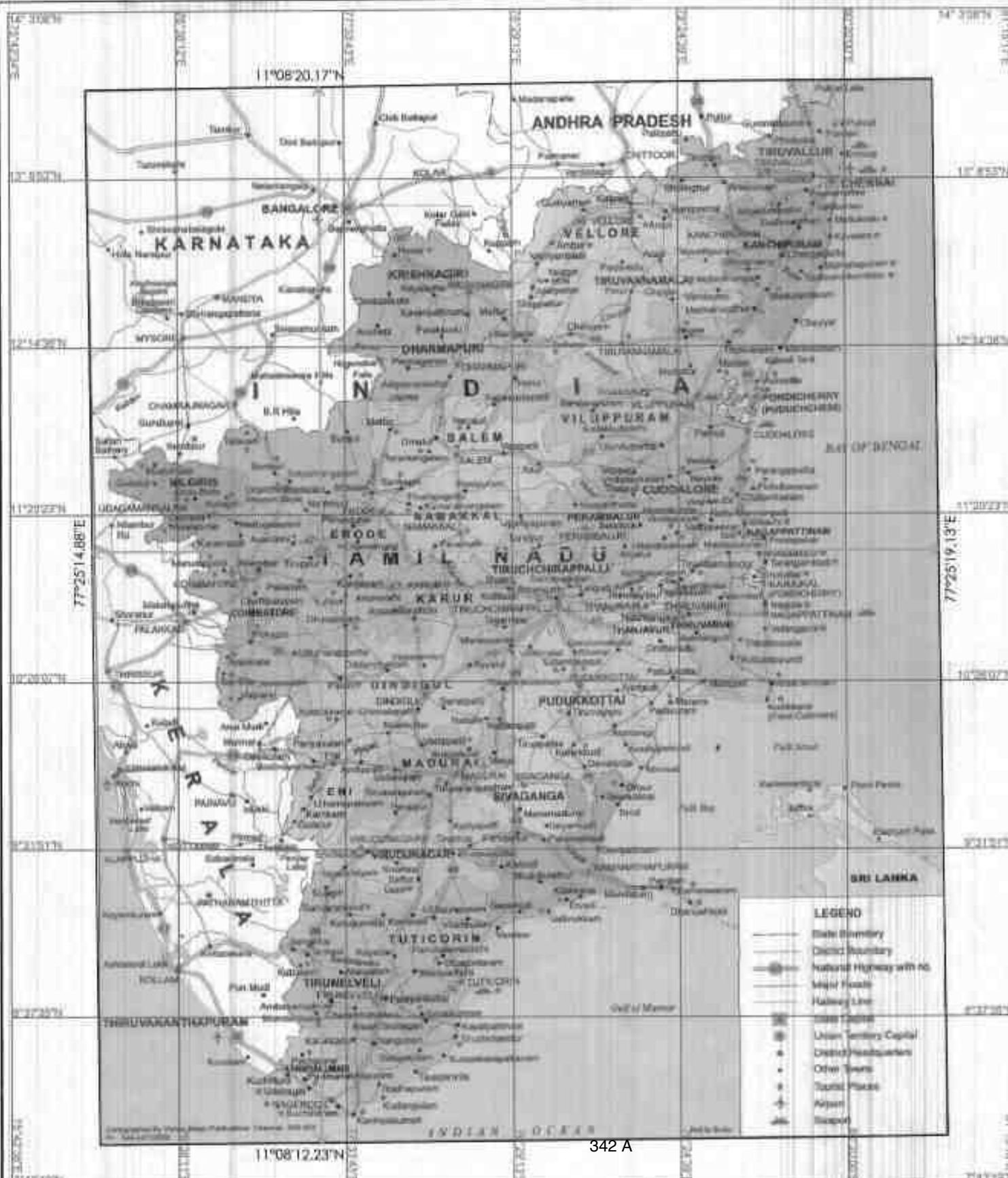
P.O. : ARUKANGULAM

District : TIRUNELVELI

State : TAMIL NADU

  
(Signature of Candidate)

(State name of Mineral) : LIMESTONE



**INDEX**

Q.L.APPLIED AREA: ●

TOPO SHEET NO. : 58 E/08

LATITUDE : 11°08'12.23"N to 11°08'20.17"N  
 LONGITUDE : 77°25'14.88"E to 77°25'19.13"E

**APPLICANT :**

Thiru.S. RAJASEKAR,  
 S/O SEMALAI GOUNDER,  
 No. 71,THIMMANAICKENPALAYAM,  
 MORATTUPALAYAM POST,  
 UTHUKULI TALUK,  
 TIRUPPUR DISTRICT- 638752.

**LOCATION OF Q.L.A AREA:**

SF.No : 352/2A(P),  
 EXTENT : 2.48.5 HA,  
 VILLAGE : MORATTUPALAYAM,  
 TALUK : UTHUKULI,  
 DISTRICT : TIRUPPUR,  
 STATE : TAMILNADU,

**PLATE NO - I**

DATE OF SURVEY : 25.09.2023

**LOCATION PLAN**

SCALE, 1:24,00,000

**PREPARED BY :**

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS PLATE IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE BASED UPON THE LEASE MAP AUTHENTICATED BY STATE GOVERNMENT.

*(Signature)*  
 D.P. THANGARAJU, M.Sc., Ph.D.,  
 QUALIFIED PERSON

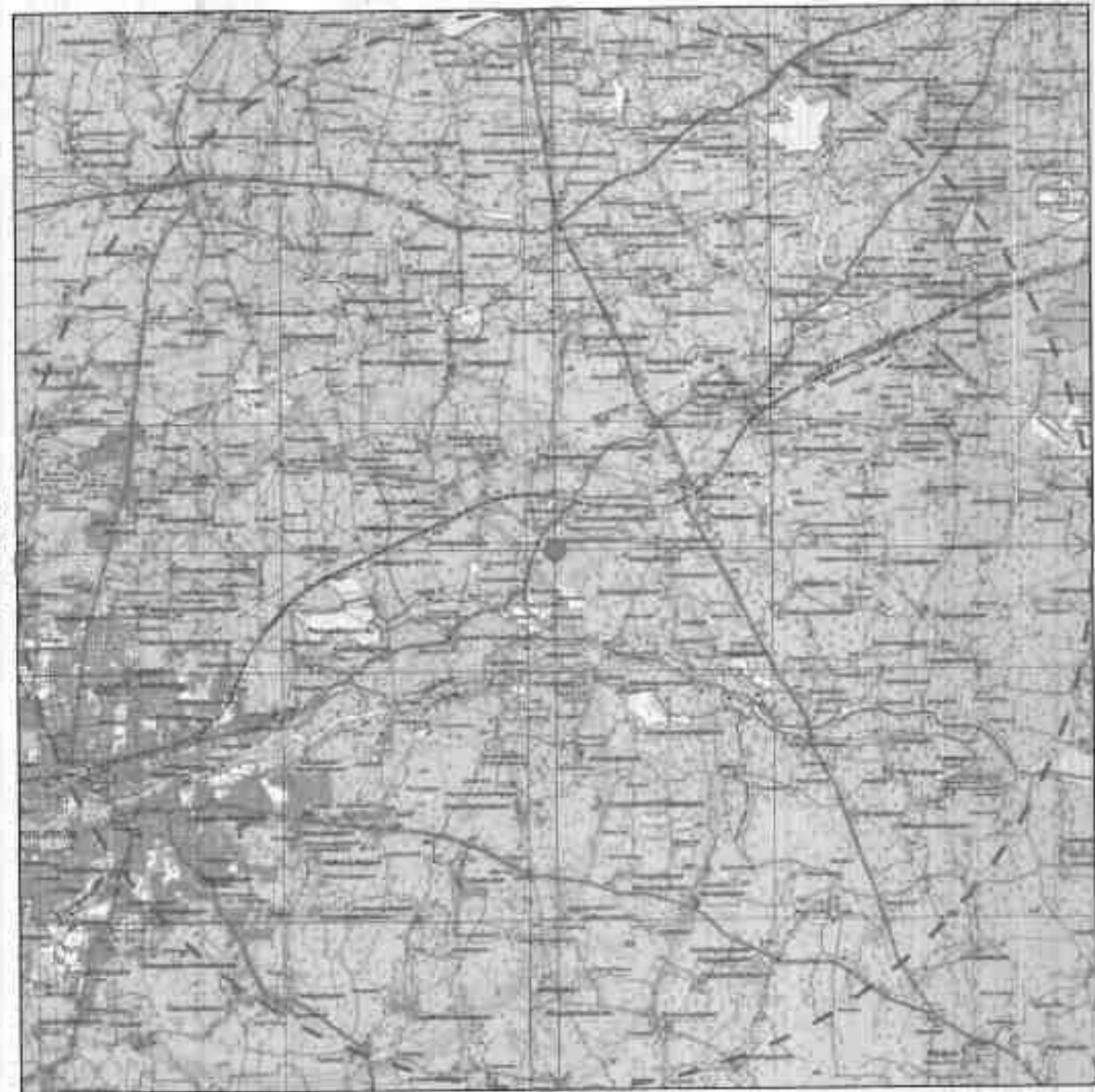
INDEX

- Express highway: with toll; with bridge; with distance stone.
- Roads: metalled; according to importance.
- Roads, double carriageway; according to importance.
- Unmetalled road, Cart-track, Pack-track with pass, Post-path.
- Stream: with track in bed; unconfined. Canal.
- Dam: masonry or rock filled; earthwork. Weir.
- River; dry with water channel; with island & rocks. Tidal river.
- Submerged rocks, Shoal, Swamp, Reefs.
- Wells: lead; unlined. Tubewell, Spring, Tank, permanent.
- Embankments: road or rail; tank. Broken ground.
- Railways, broad gauge: double; single with station.
- Railways, other gauges: double; single with distance stone; do.
- Mineral line or narrowway, Kib, Cutting with tunnel.
- Cuttings with sub-features. Rocky slopes, Cliffs.
- Soil features: (1) flat. (2) sand hills (permanent).
- Towns or Villages: inhabited; deserted. Port.
- Isle: permanent; temporary. Tower, Antiquities.
- Temple, Chhatra, Church, Mosque, Igah, Tomb, Graves.
- Lighthouse, Lightship, Buoy: lighted; unlighted. Anchorage.
- Mine: Vise on incline. Gas. Scarb.
- Palms; palmyra; other. Banian, Coconut, Bamboo, Other trees.
- Areas cultivated; Wooded. Surveyed trees.
- Boundary, international.
- Boundary, state: demarcated; undemarcated.
- Boundary, district; subdivision; taluk or taluk; farm.
- Boundary pillars: surveyed; uncoloured.
- Height: triangulated; aneroid; pole; approximate.
- Beach-mark: pebbles; military; canal.
- Post office, Telegraph office, Overhead tank.
- Rest house or inspection bungalow, Circuit house.
- Camping Ground, Forest: reserved; protected.
- Spice garden; administrative; locality or tribal.
- Hospital, Dispensary, Veterinary; Hospital/Dispensary.
- Aerodrome, Helipad, Tourist site.
- Powerline: with pylons surveyed; with poles unsurveyed.



11° 13' 45.46"N

77° 19' 45.46"E



77° 30' 48.51"E

11° 02' 46.94"N

**APPLICANT :**

THIRU.S. RAJASEKAR,  
S/O SEMALAI GOUNDER,  
No. 71, THIMMANAICKENPALAYAM,  
MORATTUPALAYAM POST,  
UTHUKULI TALUK,  
TIRUPPUR DISTRICT- 638752.

**LOCATION OF Q.L.A AREA:**

SF.No : 382/2A(PJ),  
EXTENT : 2.48.5 HA.,  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMILNADU.

**PLATE NO - I-A**

DATE OF SURVEY : 25.09.2023

**TOPO SKETCH OF QUARRY LEASE  
APPLIED AREA FOR 10Km RADIUS**

SCALE: 1:1,00,000

**PREPARED BY :**

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS  
PLATE IS TRUE AND CORRECT TO THE BEST OF MY  
KNOWLEDGE BASED UPON THE LEASE MAP  
AUTHENTICATED BY STATE GOVERNMENT

*[Signature]*  
Dr. P. THANGARAJU, M.Sc., Ph.D.,  
QUALIFIED PERSON

TOPO SHEET NO. : 58 E/08

LATITUDE : 11°08'12.23"N to 11°08'20.17"N  
LONGITUDE : 77°25'14.88"E to 77°25'19.13"E

10km RADIUS :   
343 A  
Q.L. APPLIED AREA : 

**INDEX**



-  Q.L. APPLIED AREA
-  1 Km RADIUS
-  500m RADIUS
-  SEASONAL AGRICULTURE LAND
-  TREES & COCONUT FARM
-  HABITATION & INFRASTRUCTURE
-  QUARRY PIT & CRUSHER UNIT
-  WIND DIRECTION
-  STATE HIGHWAY
-  EARTHEN ROAD
-  APPROACH ROAD
-  BARREN LAND
-  ODAI
-  NOYYAL RIVER

**APPLICANT :**

Thiru.S. RAJASEKAR,  
S/O SEMALAI GOUNDER,  
No. 71, THIMMANAICKENPALAYAM,  
MORATTUPALAYAM POST,  
UTHUKULI TALUK, TIRUPPUR DISTRICT- 638752.

**LOCATION OF Q.L.A AREA:**

SF.No : 382/2A(P),  
EXTENT : 2.48.5 HA,  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMILNADU,

**PLATE NO - I-B**

DATE OF SURVEY : 25.09.2023

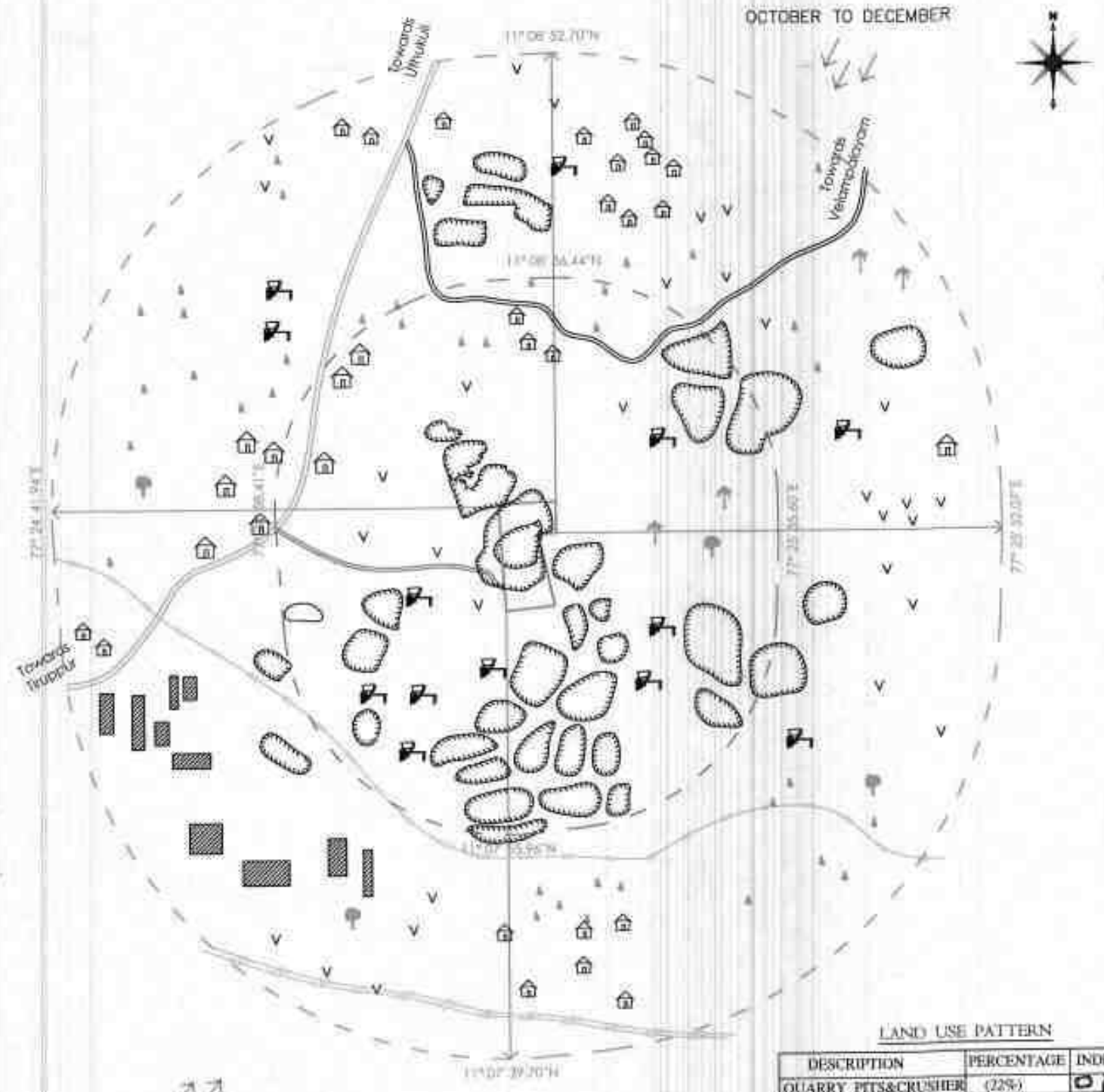
**ENVIRONMENTAL & LAND USE PLAN**

SCALE: 1:10,000

**PREPARED BY :**

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS  
PLATE IS TRUE AND CORRECT TO THE BEST OF MY  
KNOWLEDGE BASED UPON THE LEASE MAP  
AUTHENTICATED BY STATE GOVERNMENT

*(Signature)*  
M. S. MANGARAJU, M.Sc., P.L.D.,  
QUALIFIED PERSON



OCTOBER TO DECEMBER

JULY TO SEPTEMBER

TOPO SHEET NO. : 58 E/08  
LATITUDE : 11°08'12.23"N to 11°08'20.17"N  
LONGITUDE : 77°25'14.98"E to 77°25'34.98"E

344 A

**LAND USE PATTERN**






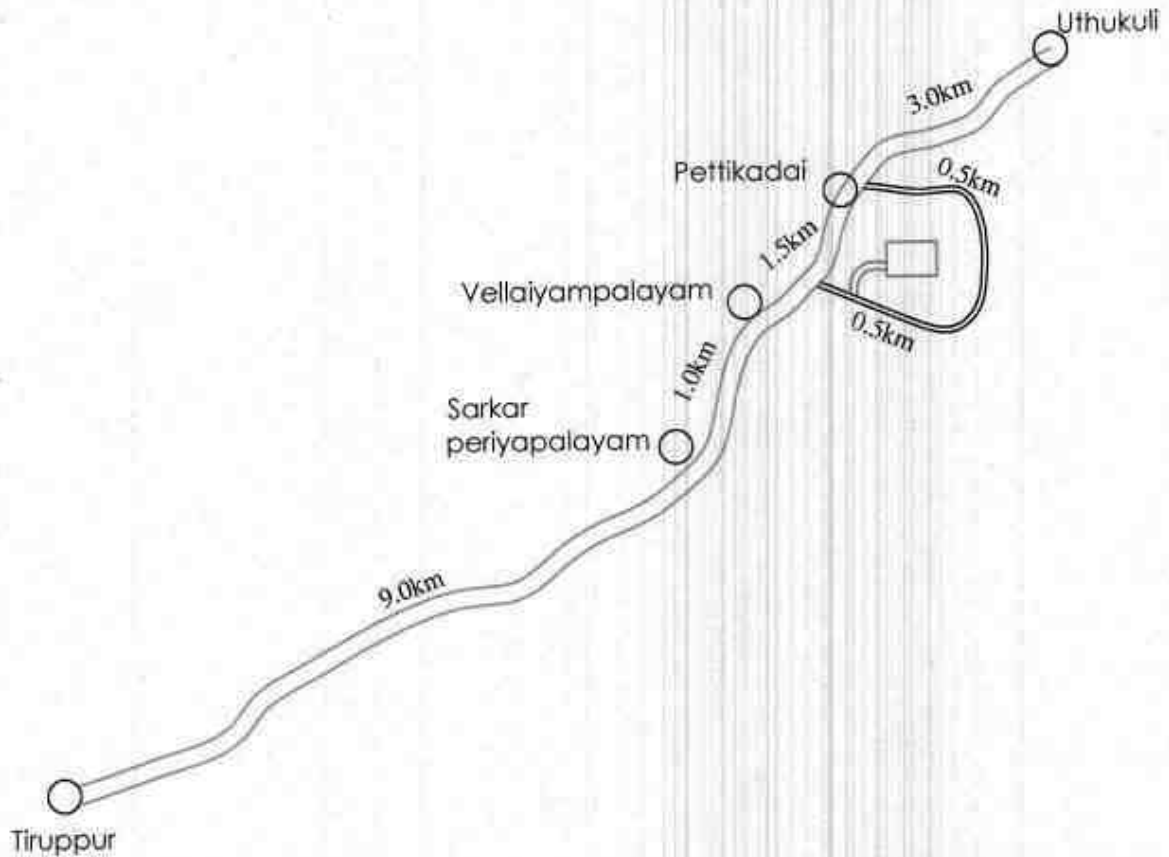
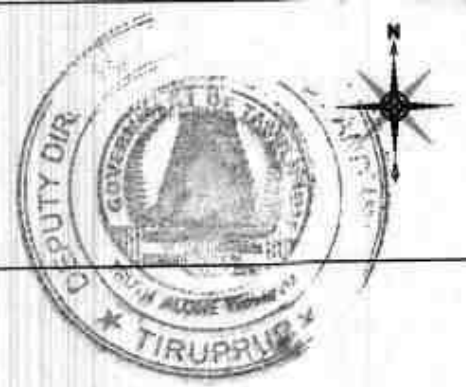
DESCRIPTION	PERCENTAGE	INDEX
QUARRY PITS&CRUSHER	(22%)	
TREES&COCO.FARM	(05%)	
SEASONAL AGRI LAND	(46%)	
ROADS&ODAI	(05%)	
HABITATION&INFRA.	(08%)	
BARREN LAND	(14%)	
TOTAL	100%	



PLATE NO : I-C  
ROUTE MAP



INDEX

Q.L.APPLIED AREA



STATE HIGHWAY



CART TRACK



APPROACH ROAD



APPLICANT :

Thiru.S. RAJASEKAR,  
S/O SEMALAI GOUNDER,  
No. 71, THIMMANAICKENPALAYAM,  
MORATTUPALAYAM POST,  
UTHUKULI TALUK,  
TIRUPPUR DISTRICT- 638752.

LOCATION OF Q.L.A AREA:

SF.No : 382/2A(P),  
EXTENT :2.48.5 HA,  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI,  
DISTRICT : TIRUPPUR,  
STATE : TAMILNADU.

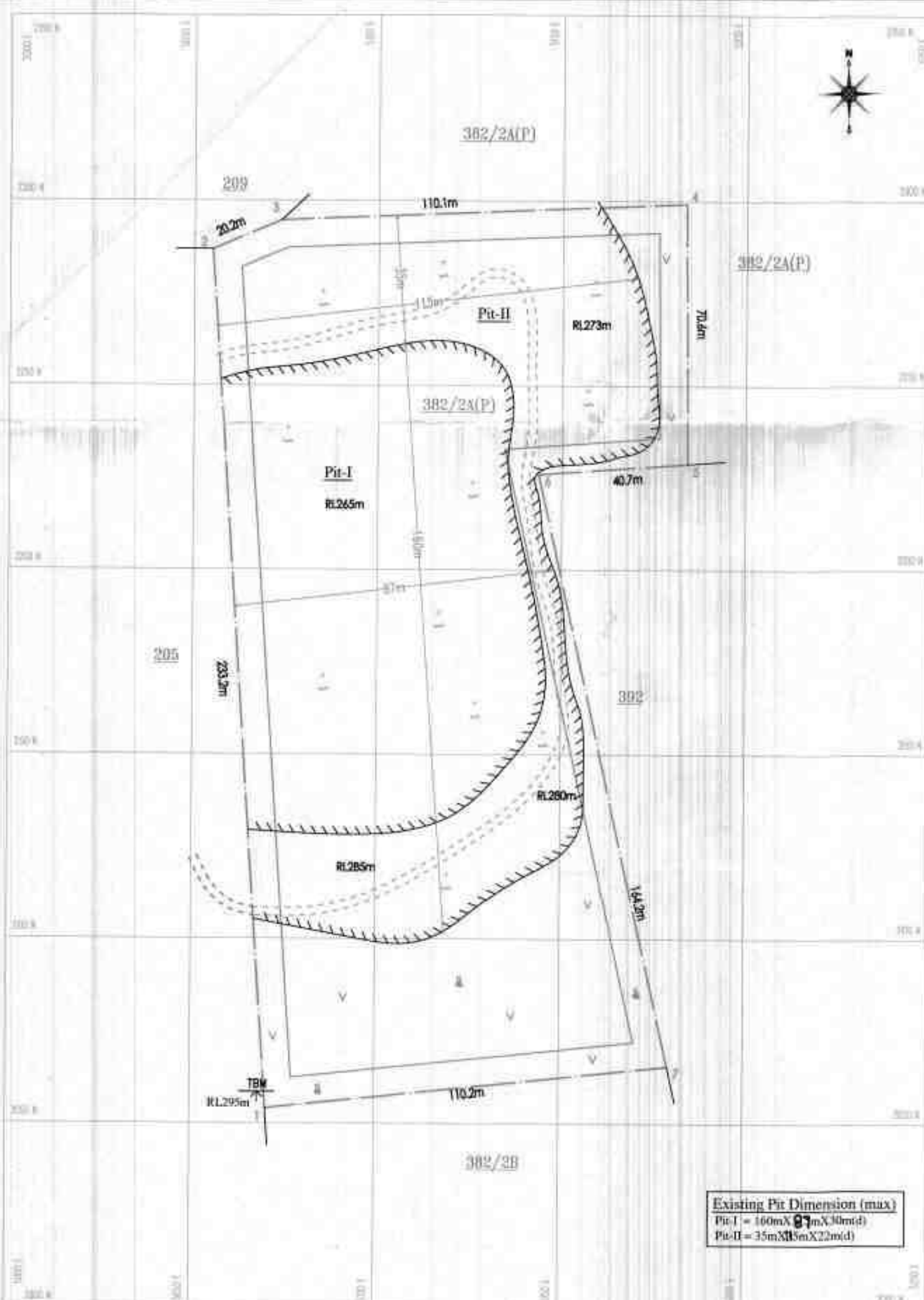
SCALE :

NOT TO SCALE

PREPARED BY:

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS  
PLATE IS TRUE AND CORRECT TO THE BEST OF MY  
KNOWLEDGE BASED UPON THE LEASE MAP  
AUTHENTICATED BY STATE GOVERNMENT

*[Signature]*  
Dr. P. THANGARAJU, M.Sc., P.K.O.,  
QUALIFIED PERSON



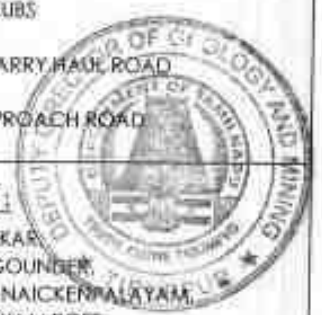
BOUNDARY CO-ORDINATES

S.N.	LATITUDE	LONGITUDE
1	11° 08' 12.237N	77° 25' 15.337E
2	11° 08' 19.807N	77° 25' 14.987E
3	11° 08' 25.007N	77° 25' 15.577E
4	11° 08' 25.177N	77° 25' 19.127E
5	11° 08' 17.887N	77° 25' 19.137E
6	11° 08' 17.797N	77° 25' 13.777E
7	11° 08' 12.577N	77° 25' 18.977E

DATUM : UTM-WGS84, ZONE 44 NORTH

INDEX

- Q.L. APPLIED AREA BOUNDARY
- 7.5m SAFETY DISTANCE
- TEMPORARY BENCH MARK
- GRAVEL
- ROUGHSTONE
- QUARRY PIT
- SHRUBS
- QUARRY HAUL ROAD
- APPROACH ROAD



APPLICANT :

THIRU.S. RAJASEKAR  
S/O SEMALAI GOUNDER,  
No. 71, THIMMANAICKENPALAYAM,  
MORATTUPALAYAM POST,  
UTHUKULI TALUK,  
TIRUPPUR DISTRICT-638752.

LOCATION OF Q.L.A. AREA:

SF.No : 382/2A(P),  
EXTENT : 2.48.5 HA,  
VILLAGE : MORATTUPALAYAM,  
TALUK : UTHUKULI  
DISTRICT : TIRUPPUR,  
STATE : TAMILNADU.

PLATE NO - II

DATE OF SURVEY : 25.09.2023

QUARRY LEASE PLAN & SURFACE PLAN

SCALE: 1:1000

PREPARED BY :

THIS IS TO CERTIFY THAT THE INFORMATION IN THIS  
PLATE IS TRUE AND CORRECT TO THE BEST OF MY  
KNOWLEDGE BASED UPON THE LEASE MAP  
AUTHENTICATED BY STATE GOVERNMENT

*Thangaraj M.S.*  
G.P. THANGARAJ, M.Sc., P.H.D.,  
QUALIFIED PERSON

Existing Pit Dimension (max)  
Pit-I = 160m X 87m X 30m(d)  
Pit-II = 35m X 15m X 22m(d)



NO.	DATE	REVISION
1	11/08/2024	ISSUE FOR PERMIT
2	11/08/2024	ISSUE FOR PERMIT
3	11/08/2024	ISSUE FOR PERMIT
4	11/08/2024	ISSUE FOR PERMIT
5	11/08/2024	ISSUE FOR PERMIT
6	11/08/2024	ISSUE FOR PERMIT
7	11/08/2024	ISSUE FOR PERMIT
8	11/08/2024	ISSUE FOR PERMIT
9	11/08/2024	ISSUE FOR PERMIT
10	11/08/2024	ISSUE FOR PERMIT

DATE: 25/08/2024 4:00PM

Existing Pz Dimension (meter)  
 Pz1 = 10000 (100m)  
 Pz2 = 10000 (100m)

QZ1 QUARRY  
 1. 10000  
 2. 10000  
 3. 10000  
 4. 10000

- P1 - Proposed Area to be Permitted
- A1 - Proposed Area to be Permitted
- B1 - Proposed Area to be Permitted
- P2 - Proposed Area to be Permitted
- A2 - Proposed Area to be Permitted

- P3 - Proposed Area to be Quarried
- A3 - Proposed Area to be Quarried
- B3 - Proposed Area to be Quarried
- H3 - Proposed Area to be Quarried
- V3 - Proposed Area to be Quarried

**LEGEND**

	EXISTING BOUNDARY
	FSH SAFETY DISTANCE
	TEMPORARY ROADWAY
	ROAD
	ROADSIDE
	QUARRY PIT
	STONE & SPILL
	QUARRY
	QUARRY WALL/BORDER
	APPROACH ROAD
	DEPTH OF EXCAVATION

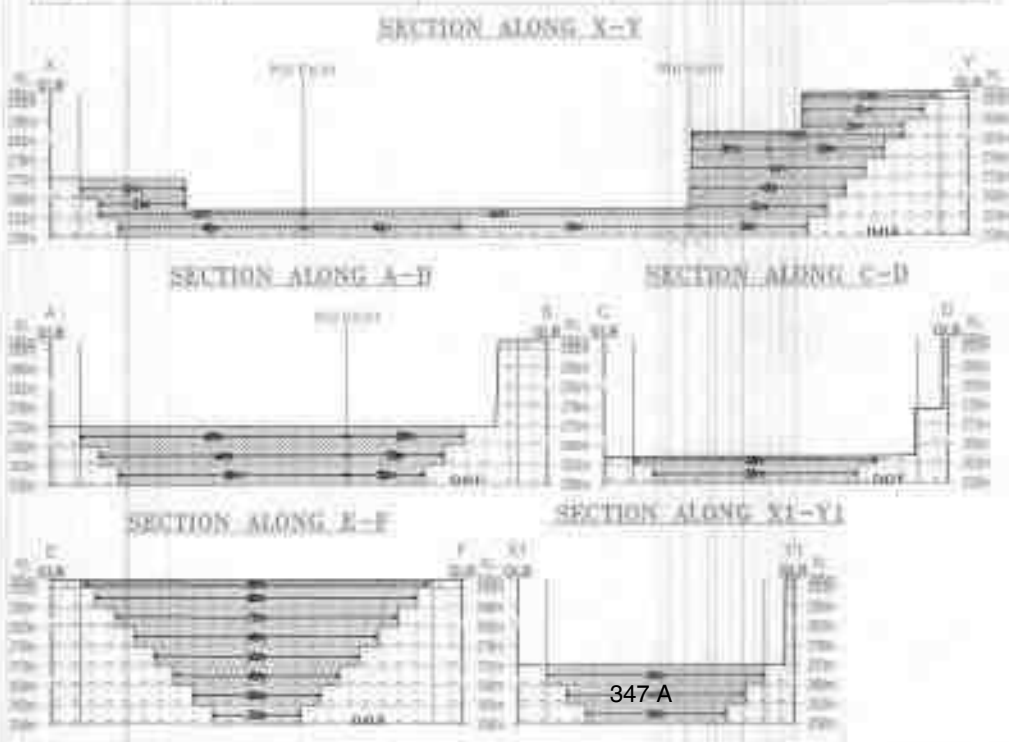
**APPLICANT:**  
 TENG S. RAJAGURU,  
 310 SEMALAI COASTAL,  
 NO. 71, TAMBAHAN KECAMBATAN  
 MOKA (TUNJANG) TAM. POKK,  
 JHONGKI NEGERI,  
 34100 (JAL. DISTRICT) - AMPANG.

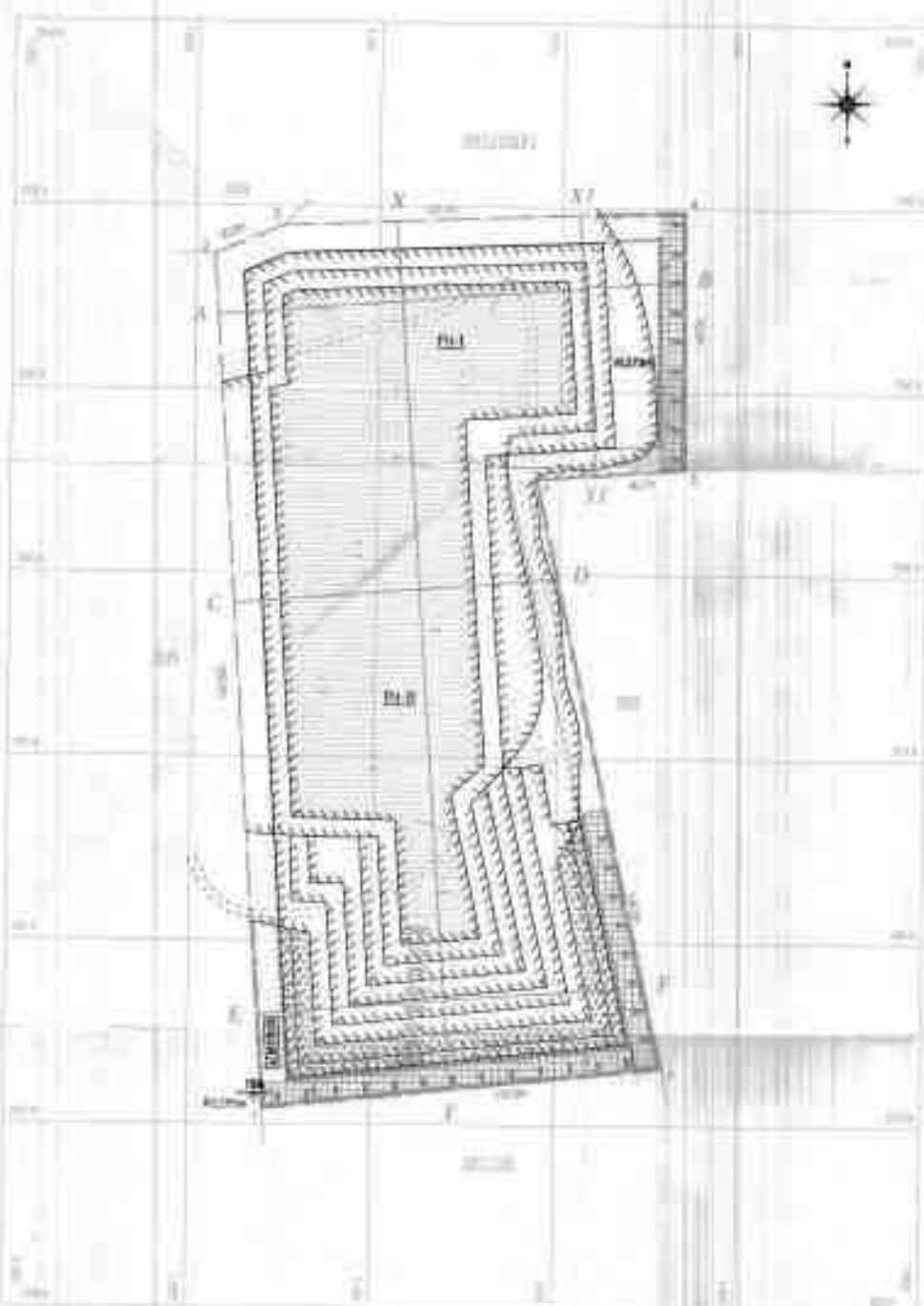
**LOCATION OF QZ-A AREA:**  
 MAMPAK (2023/01),  
 DISTRICT (2023/01),  
 WILAYAH (MUDA) PANGKALAN,  
 TAJUK (UTARA),  
 DISTRICT (2023/01),  
 Negeri (MAMPAK).

PLATE NO. - III  
 DATE OF ISSUE: 25/08/2024

TEMPORARY GEOLOGICAL PLAN,  
 YEARWISE DEVELOPMENT &  
 PRODUCTION PLAN & SECTIONS  
 SCALE: 1:1000

**DESIGNED BY:**  
 DR. S. S. SURESH KANTH (M. Sc. (Geology) & M. Sc. (Geotechnical Engineering))  
 M. Sc. (Geology) & M. Sc. (Geotechnical Engineering)  
 ATTACHED TO THE DEPARTMENT  
 OF GEOLOGY, MALAYSIA





SL. NO.	LETTER	AREA (SQ. METERS)	PERCENTAGE
1	A	10000.00	10.00
2	B	10000.00	10.00
3	C	10000.00	10.00
4	D	10000.00	10.00
5	E	10000.00	10.00
6	F	10000.00	10.00
<b>TOTAL</b>		<b>100000.00</b>	<b>100.00</b>

**DATE: 15th APRIL 2022**

**Proposed Fil Height (mm)**  
 P11 = 100000000  
 P12 = 100000000

ITEM	DESCRIPTION
1	EXISTING LAND FORM
2	PROPOSED QUARRY CLOSURE
3	APPROACH ROAD
4	BAR/WARE STORAGE

**LAND USE PATTERNS**

DESCRIPTION	PROPOSED AREA (SQ. METERS)	AREA OF TOTAL OF THE QUARRY CLOSURE (SQ. METERS)
EXISTING LAND FORM	100000	100000
PROPOSED QUARRY CLOSURE	100000	100000
APPROACH ROAD	10000	10000
BAR/WARE STORAGE	10000	10000
<b>TOTAL</b>	<b>220000</b>	<b>220000</b>

**INDEX**

- 0.5 M SAFETY DISTANCE
- 1.5 M SAFETY DISTANCE
- TEMPORARY BENCH NAME
- GRADE
- BOUNDARY
- QUARRY VE
- STONE & DIRT
- STONE
- QUARRY BOUNDARY
- APPROACH ROAD
- 1:1 SLOPE
- BARRED WIRE FENCING
- PROPOSED QUARRY CLOSURE
- EXISTING LAND FORM
- ICE LAYER
- RESERVED LAND FORM
- OUTCROCK LINE
- PROPOSED SURFACE LEVEL
- BAR/WARE STORAGE

**APPLICANT:**  
 M. S. RAJESWAR,  
 S/O M. S. RAJESWAR,  
 NO. 21, THIRUMANGALAM,  
 MURUGAIKOTTAI,  
 THIRUPPUR DISTRICT - 620012

**LOCATION OF Q.L.A. AREA:**  
 SP. NO. 3802(A),  
 BLOCK - 2, C-1, NA,  
 VILAGE - MURUGAIKOTTAI,  
 TALUK - THIRUPPUR,  
 DISTRICT - THIRUPPUR,  
 STATE - TAMIL NADU

**PLATE NO. IV**  
 DATE OF SURVEY - 23.04.2022

**PROGRESSIVE QUARRY CLOSURE PLAN & SECTIONS**  
 SCALE: 1/1000

**PREPARED BY:**  
 M. S. RAJESWAR (P) & CO. ENGINEERS & ARCHITECTS  
 NO. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

**SECTION ALONG X-Y**



**SECTION ALONG A-B**



**SECTION ALONG C-D**



**SECTION ALONG E-F**



**SECTION ALONG XI-XI'**







# HYDROGEOLOGICAL REPORT

Rough stone and Gravel Quarry Over an  
Extent of 2.48.5ha of Patta lands in S.F.Nos. 382/2A(P) of  
Morattupalayam Village, Uthukuli Taluk,  
Tiruppur District, Tamil Nadu State.

**HYDRO - GEOLOGICAL STUDIES AT THIRU. S. RAJASEKAR  
ROUGH STONE AND GRAVEL QUARRY MORATTUPALAYAM VILLAGE,  
UTHUKULI TALUK, TIRUPPUR DISTRICT, TAMILNADU.**

**1. INTRODUCTION**

Proprietor of Thiru. S. Rajasekar in Gravel and Rough Stone Quarry Over an extent of 2.48.5Ha (of patta land in S.F. Nos. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State on the hydrological regime of the area, The above area has been studied & investigated for finding out Ground water level and aquifer thickness and water quality in and around mine lease area. The electrical resistivity method, TEM study in Rough stone and gravel quarry and genesis rock with determine the shallow and deeper freshwater aquifer in the proposed mining area in Thiru. S. Rajasekar, Morattupalayam Village.

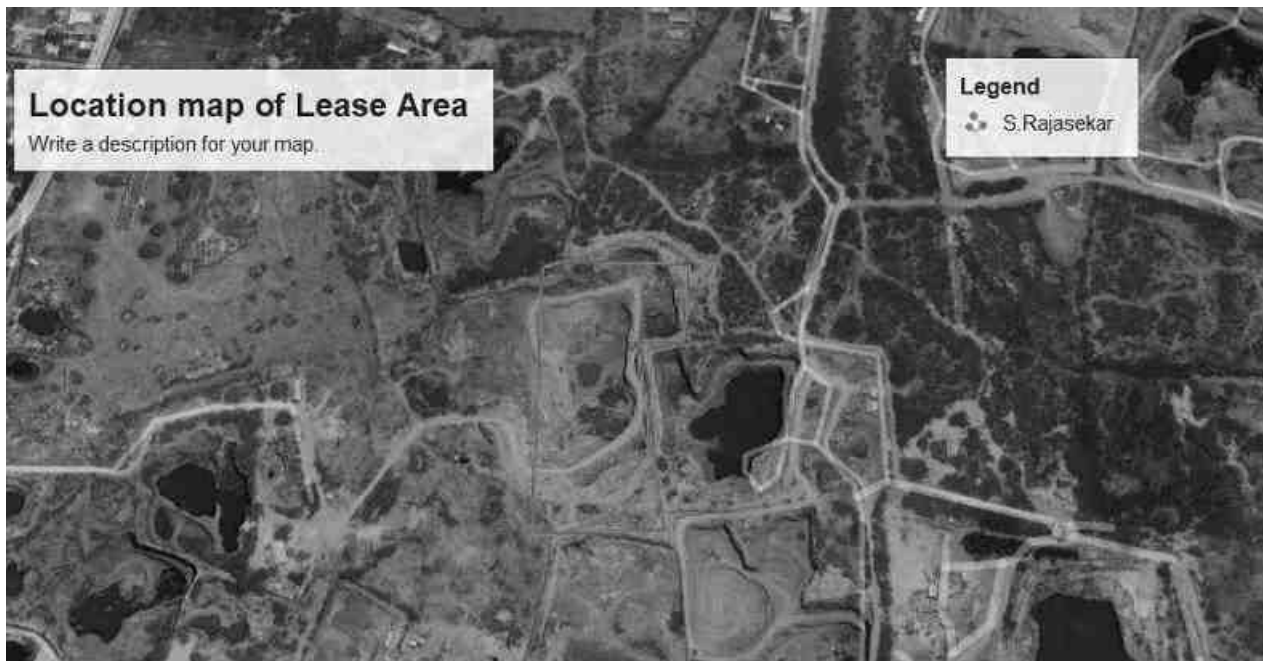
**1.1. Scope of Study**

In the present study, the main aim of the shallow and deeper aquifer investigation through electrical resistivity VES, Method is used to measure the apparent resistivity of the Study area. The present study is estimating the ground water level in S.F. Nos. 382/2A (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu of proposed leasehold area and their surrounding area. The study area is mostly covered by Water level, type of sand, type of rock and their basement rock characters. The main aim of the study is to determine the water table and flow movement of this Lease and surrounding area (**Fig.1**).

## 1.2. Profiles in the Study Area.

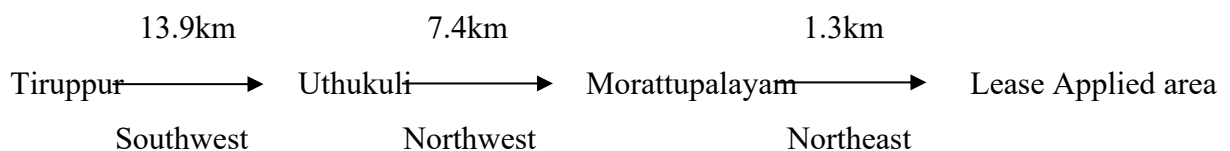
Name of the Lessee	: Thiru. S. Rajasekar,
Survey No	: S.F. No. 382/2A (P)
Extent	: 2.48.5Ha.
Village	: Morattupalayam village,
Taluka	: Uthukuli Taluk,
District	: Tiruppur
State	: Tamil Nadu

## 2. STUDY AREA DESCRIPTION



*Figure.1. Shows proposed mine lease area*

The lease area is about 9.4km Northeastern side of Tiruppur town and 3.3km Southwestern side of Uthukuli Town, the lease applied area located along Morattupalayam Village at a distance of 1.3km (NE).



## 2.1 Topography of the Lease Area and Its Surrounding Environments:

The lease applied area exhibits plain topography. The area has gentle sloping towards Northeastern side and altitude of the area is 292m (max) above from Mean Sea Level. The area is covered by 2m thickness of Gravel formation. Massive Charnockite is found after 2m (Gravel) which is clearly inferred from the existing quarry pit.

The Water table is found at a depth of 68m. Average annual rainfall is about 607mm.



*Figure 2. Topography and Outcrop in the lease area*

## 3. REGIONAL GEOLOGY OF CHENGALPATTU DISTRICT

Tiruppur district of Tamil Nadu forms a part of southern Granulitic terrain and is predominantly occupied by crystalline rocks of Archaean to late Proterozoic age. Regionally, the rocks can be grouped under five categories namely

- i. Charnockite Group represented by Charnockite, Pyroxene Granulite and Magnetite Quartzite,
- ii. Peninsular Gneissic Complex (II) comprising hornblende-biotite gneiss,
- iii. Basic intrusive include Pyroxinite / Dunite
- iv. Younger intrusive comprising, Nepheline-Syenite, Pink Granite, Pegmatite and Quartz veins and
- v. Quaternary sediments of Kankar and soil.

### Stratigraphy Sequence of Tiruppur District

Age	Group	Lithology
<b>Holocene</b>		<b>Block cotton soil/clay±gypsum Kankar/ Calc-tufa</b>
<b>Cenozoic</b>		
<b>Neoproterozoic</b>	<b>Acid Intrusive</b>	<b>Quartz veins Pegmatite Pink Granite</b>
	<b>Sivamalai Syenite Complex</b>	<b>Nepheline - Syenite</b>
	<b>Chalk Hills (Basic intrusives)</b>	<b>Pyroxenite/ Dunite</b>
<b>Archean - Paleoproterozoic</b>	<b>Peninsular Gneissic Complex (II) PGC (II)</b>	<b>Pink Granite Gneiss Hornblende Biotite Gneiss</b>
<b>Archean</b>	<b>Charnockite Group</b>	<b>Charnockite (Unclassified) Pyroxene granulite Banded Magnetite Quartzite</b>

Tiruppur District is predominantly occupied by hornblende Biotite gneisses of PGC (II) with enclaves of Magnetite Quartzite, Pyroxene Granulite and Charnockite. The area exposes several bands of Pyroxene Granulite which is medium grained, medium to dark grey in colour and stand out prominently in the gneissic country generally parallel to regional foliation. Charnockite is coarse grained, massive, many places it is foliated, grey coloured and greasy and exposed as bouldery outcrops and small knolls. It is well exposed in Central, Western and Southern parts of the Tiruppur District. The general strike of foliation varies from **N30°E – S30°W** with dipping towards **SE60°**

Hornblende-Biotite gneiss is well foliated, medium to coarse grained, pale grey and exposed as sheets and small knolls. Pink Granite gneiss occurs as thin bands and lensoidal bodies. It is a medium grained rock composed of alternating bands of mafic (mainly of biotite and hornblende) and felsic (Feldspar and Quartz) minerals. It is well recognized in Avinashi area.

Basic intrusives such as pyroxinite/dunite occurs as Outcrop and lensoidal bodies in the country rock and mostly concordant to the regional foliation. Many basic intrusive are reported in south and south-east of Tiruppur town. The trend of these bodies is east-west.

Nepheline syenite is a leucocratic, coarse grained rock and composed mainly of Feldspar with

Nepheline and shows pitted appearance due to removal of Nepheline. This alkaline rock is available in and around Sivanmalai area only.

Acid intrusives comprising pink granite, pegmatite and quartz veins are traversed country rocks in micro (cm wide-meter long) to meso-scale (few meter wide and several meter long) extend. Granite is exposed around 9 km SW of Avanashi. Small scale pegmatite and quartz veins are noticed almost in all the rock types.

Acid intrusives are overlain by sediments of Quaternary age, represented by Kankar and black cotton soil with Gypsum. Most of the area is covered by brown and red brown soil. Some part of the area covered with black cotton soil contains Gypsum as lumps. Black cotton soil covers south-western part of the district.

#### **4. RAINFALL OF THE DISTRICT AND CLIMATE CONDITIONS.**

##### **4.1 Rainfall**

The area receives rainfall through both south-west and north-east monsoons. About 40 percent of the precipitation is contributed by south-west monsoon and northeast monsoon accounts for 50 to 60 percent. The average annual rainfall for the basin area is 607 mm.

##### **4.2 Climatic Conditions.**

The basin area experiences tropical climate being hot and dry for the greater part of the year. The period from March to June is generally hot. The temperature ranges from 23°C. to 42°C

#### **5. HYDROGEOLOGY**

##### **(i) Major Geological formations:**

Tiruppur District is underlain by crystalline metamorphic complex in the western parts of district and sedimentary tract in eastern side. An area of 4551 Sq.km is covered by crystalline rocks (63%) and 2671 Sq.km is covered by sediments (37%). The general geological sequence of formation is given below:

- Quaternary** - Laterites, Sands and Clays
- Tertiary** - Sandstone, Gravels and Clays
- Cretaceous** - Limestone, Calcareous Sandstone and Clay unconformity.
- Archaean** - Charnockites, Gneisses, Granites, Dolerites and Pegmatite

- The major part of the area is covered by metamorphic crystalline rocks of charnockite, granitic

gneiss of Archaean age intruded by dolerite dykes and pegmatite veins. These rocks are highly metamorphosed and have been subjected to very severe folding, crushing and faulting.

- Ground Water occurs under the phreatic condition and wherever there are deep seated fractures, it occurs under semi-confined to confined conditions.
- Occurrence of Ground Water in hard rock depends upon the intensity and depth of weathering, fractures and fissures present in the rocks.
- Granites and gneisses yield moderately compared to the yield in Charnockites.
- Depth of well in hard rock generally ranges between 8 and 15m below ground level.
- Generally yield in open wells ranges from 30 to 250m<sup>3</sup> /day and in bore well between 260 and 430 m<sup>3</sup> /day. The weathered thickness varies from 2.5 m to 42m in general there are 3 to 5 fracture zones within 100 m and 1 to 4 fracture zones between 100 and 200 m.

The Cretaceous formation is represented by Arenaceous Lime stone, Calcareous sand - stone and marl.

The Tertiary formation is argillaceous comprising of Silty clay stones, argillaceous Lime stone.

The Quaternary deposits represented by the river deposits of Ponnaiyar and Varahanadhi spread over as patches in Tiruppur District. The alluvium consists of unconsolidated sands, gravelly sands, clays and clayey sands. The thickness of the sands ranges between 15 and 25 m in the alluvial formation which also form potential aquifers. In some areas, sand stone of tertiary formation are the potential groundwater reservoirs.

## **(ii) Aquifer Systems:**

Occurrence and storage of groundwater depend upon three factors viz., Geology, Topography and rainfall in the form of precipitation. Apart from Geology, wide variation in topographic profile and intensity of rainfall constitutes the prime factors of groundwater recharge. Aquifers are part of the more complex hydro geological system and the behavior of the entire system cannot be interpreted easily. In hard rock terrain the occurrence of Ground Water is limited to top weathered, fissured and fractured zone which extends to maximum 30 m on an average it is about 10-15 m in Tiruppur District.

In Sedimentary formations, the presence of primary inter granular porosity enhances the transmitting capacity of groundwater where the yield will be appreciable. The sedimentary area which occupies the eastern part of the District along the coastal tract is more favourable for groundwater recharge. Ground Water occurs both in semi confined and confined conditions. A brief description of occurrence of ground water in each formation is furnished below.



### **Alluvial Formations**

In the river alluvium groundwater occurs under water table condition. The maximum thickness is 37 m and the average thickness of the aquifer is approximately 12 m. These formations are porous and permeable which have good water bearing zones.

### **Tertiary Cuddalore sandstone**

Tertiary formations are represented by Cuddalore Sandstone and characterised as fluvial to brackish marine deposits. Predominantly this formation is divided into Lower and Upper Cuddalore formations. In the Upper Cuddalore formations the groundwater occurs in semi confined conditions, whereas in the Lower Cuddalore the groundwater occurs in confined condition with good groundwater potential.

### **Cretaceous Formations**

Groundwater occurring in the lens shape in the sandy clay lenses and fine sand is underlain by white and black clay beds which constitute phreatic aquifer depth which ranges 10m to 15m below ground level. Phreatic aquifer in Limestone is potential due to the presence of Oolitic Limestone.

### **Hard Rock Formations**

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development is much less in other type of rocks when compared to gneissic formation. The groundwater potential is low, when compared with the gneissic formations.

#### **• Granitic Gneiss**

Groundwater occurs under water table conditions in weathered, jointed and fractural formations. The pore space developed in the weathered mantle acts as shallow granular aquifers and forms the potential water bearing and yielding zones water table is shallow in canal and tank irrigation regions and it is somewhat deeper in other regions.

#### **• Charnockite**

Groundwater occurs under water table conditions but the intensity of weathering, joint, fracture and its development is much less when compared to gneissic formations. The groundwater potential is low, when compared with the gneissic formations.

## 6. METHODOLOGY OF STUDY

1. Open well and bore well water level measurement, depth of water level diameter of open well, agriculture land survey.
2. Geophysical survey for deep aquifer in nearby site Rock and soil geology also collected for the aquifer characteristic study
3. Aquifer thickness and quality measurement study in nearby proposed mine site areas of the study area

### 6.1 Geophysical Investigation

#### 6.1.1 Vertical Electrical resistivity sounding for aquifer study.

The electrical resistivity study is used to determine aquifer and occurred rock in the proposed site. The DDR 3 equipment was used for data collection (**Fig.3**)



*Figure 3. Electrical resistivity survey in the mine lease area.*

### **6.1.2 Basic Principles**

The electrical properties of rocks in the upper part of the earth's crust are dependent upon the lithology, porosity, and the degree of pore space saturation and the salinity of the pore water. Saturated rocks have lower resistivity than unsaturated and dry rocks. The higher the porosity of the saturated rock, or the higher the salinity of the saturating fluids, the lower is the resistivity. The presence of clays and conductive minerals also reduces the resistivity of the rock.

The resistivity of earth materials can be studied by measuring the electrical potential distribution produced at the earth's surface by an electric current that is passed through the earth. Current is moved through the subsurface from one current electrode to the other and the potential difference is recorded as the current passes. From this information, resistivity values of various layers are acquired and layer thickness can be identified.

The apparent resistivity values determined are plotted as a log function versus the log of the spacing between the electrodes. These plotted curves identify thickness of layers. If there are multiple layers (more than 2), the acquired data is compared to a master curve to determine layer thickness.

This method is least influenced by lateral in-homogeneities and capable of providing higher depth of investigation.

The resistance  $R$  of a certain material is directly proportional to its length  $L$  and cross-sectional area  $A$ , expressed as:

$$R = R_s * L/A \text{ (in Ohm)}$$

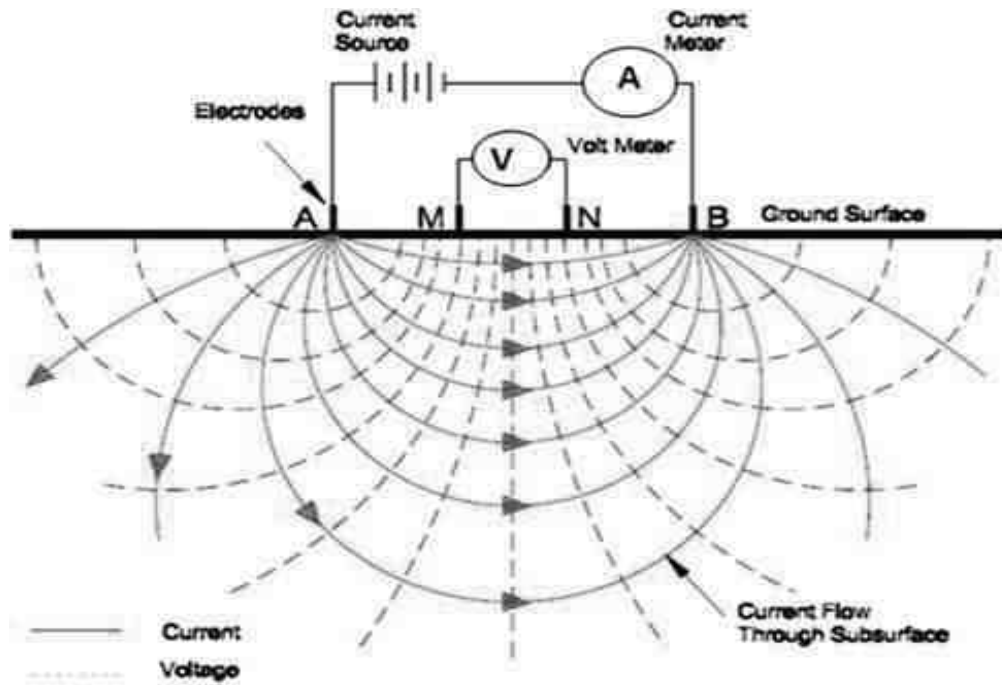
Where  $R_s$  is known as the specific resistivity (characteristic of the material and independent of its shape or size)

With Ohm's Law,

$$R = dV/I \text{ (Ohm)}$$

Where  $dV$  is the potential difference across the resistor and  $I$  is the electric current through the resistor. The specific resistivity may be determined by:

$$R_s = (A/L) * (dV/I) \text{ (in Ohm m)}$$



*Figure 4. Schematic Diagram of Electrical resistivity principle*

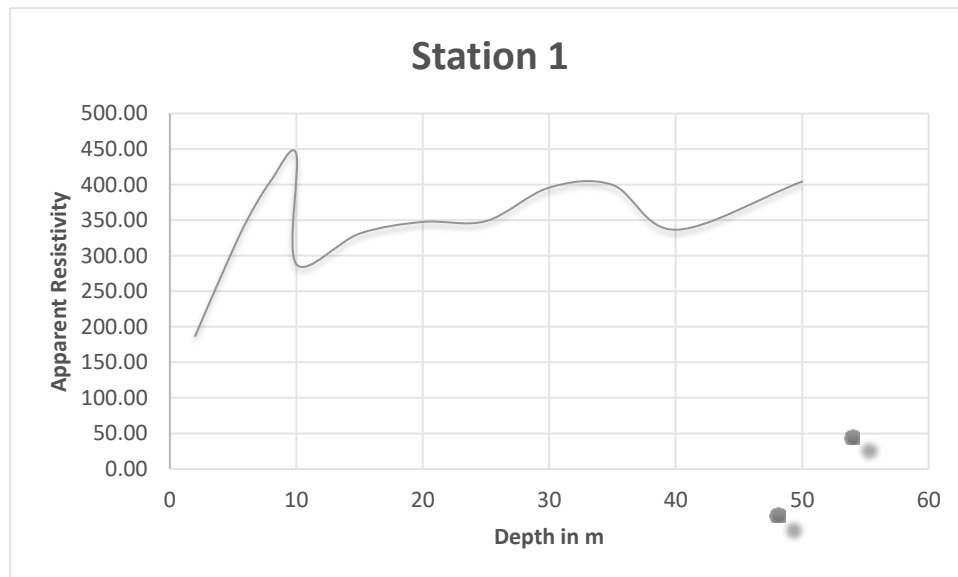


*Figure 5. Geophysical survey location in the lease area*

## 6. GEOPHYSICAL DATA INTERPRETATION & GRAPH

*Table 1 Geophysical data of Station 1*

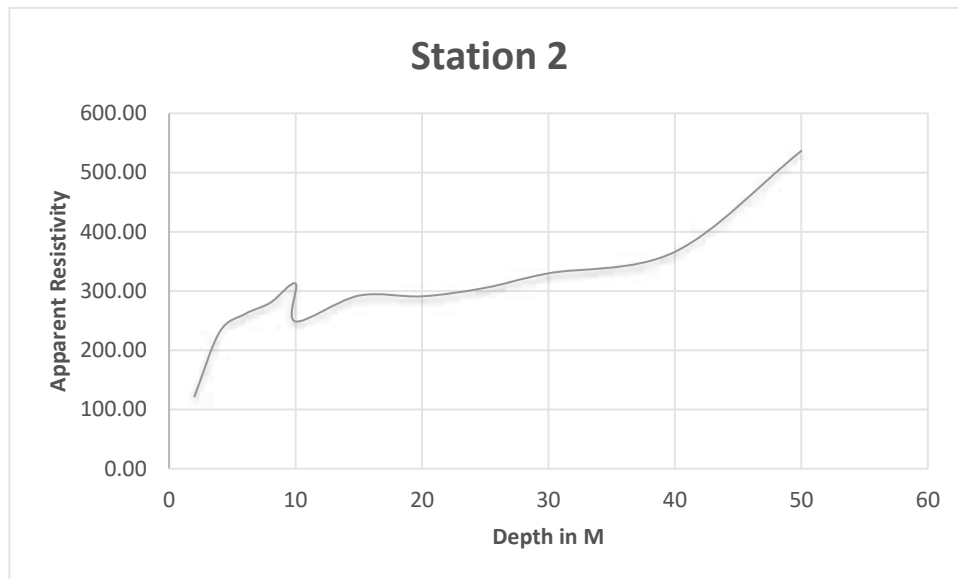
<i>S. No</i>	<i>Ab/2</i>	<i>Mn /2</i>	<i>K</i>	<i>R</i>	<i>Rho</i>
1	2	1	4.7	39.68	186.99
2	4	1	23.6	11.42	269.08
3	6	1	55.0	6.3	346.36
4	8	1	99.0	4.1	405.74
5	10	1	155.5	2.85	443.20
6	10	5	23.6	12.23	288.16
7	15	5	62.8	5.27	331.12
8	20	5	117.8	2.95	347.54
9	25	5	188.5	1.85	348.72
10	30	5	274.9	1.44	395.84
11	35	5	377.0	1.06	399.61
12	40	5	494.8	0.68	336.47
13	50	5	775.5	0.52	404.32



*Figure 6 Graphical Representation of Geophysical data Station 1*

**Table 2 Geophysical data of Station 2**

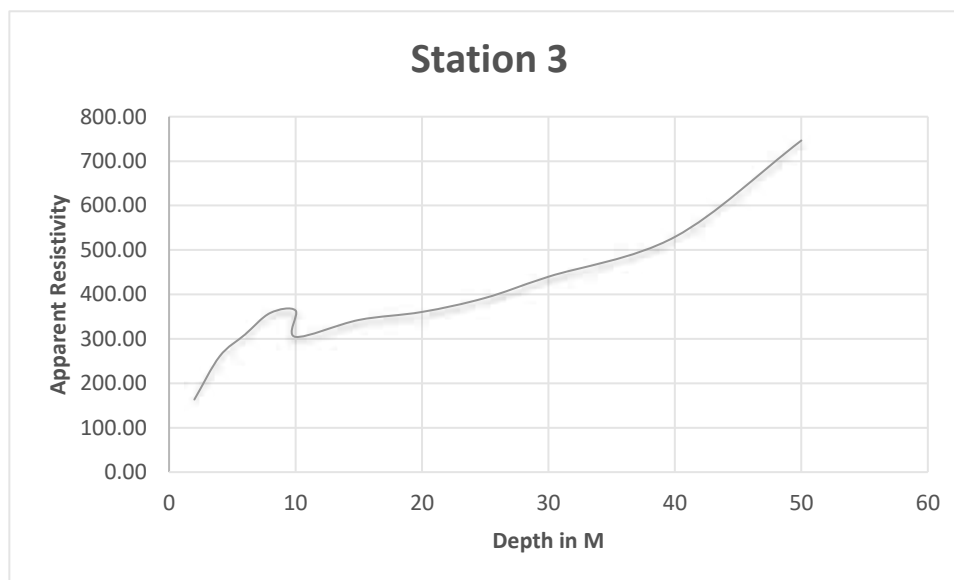
<b>S. No</b>	<b>Ab/2</b>	<b>Mn /2</b>	<b>K</b>	<b>R</b>	<b>Rho</b>
<b>1</b>	2	1	4.7	25.84	121.77
<b>2</b>	4	1	23.6	9.8	230.91
<b>3</b>	6	1	55.0	4.75	261.15
<b>4</b>	8	1	99.0	2.83	280.06
<b>5</b>	10	1	155.5	2.01	312.57
<b>6</b>	10	5	23.6	10.55	248.58
<b>7</b>	15	5	62.8	4.65	292.17
<b>8</b>	20	5	117.8	2.47	290.99
<b>9</b>	25	5	188.5	1.62	305.36
<b>10</b>	30	5	274.9	1.2	329.87
<b>11</b>	40	5	494.8	0.74	366.15
<b>12</b>	50	5	777.5	0.69	536.51



**Figure 7 Graphical Representation of Geophysical data Station 2**

**Table 3 Geophysical data of Station 3**

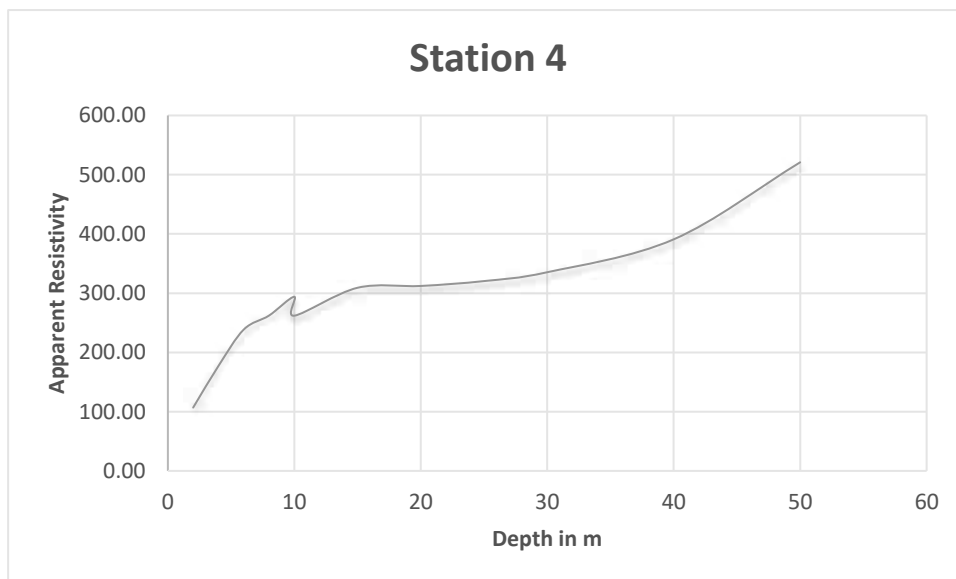
<i>S. No</i>	<i>Ab/2</i>	<i>Mn/2</i>	<i>K</i>	<i>R</i>	<i>Rho</i>
<b>1</b>	2	1	4.7	34.66	163.33
<b>2</b>	4	1	23.6	11.06	260.60
<b>3</b>	6	1	55.0	5.63	309.53
<b>4</b>	8	1	99.0	3.62	358.24
<b>5</b>	10	1	155.5	2.34	363.89
<b>6</b>	10	5	23.6	12.92	304.42
<b>7</b>	15	5	62.8	5.45	342.43
<b>8</b>	20	5	117.8	3.06	360.50
<b>9</b>	25	5	188.5	2.08	392.07
<b>10</b>	30	5	274.9	1.6	439.82
<b>11</b>	40	5	494.8	1.07	529.44
<b>12</b>	50	5	777.5	0.96	746.44



**Figure 8 Graphical Representation of Geophysical data Station 3**

**Table 4 Geophysical data of Station 4**

<b>S. No</b>	<b>Ab/2</b>	<b>Mn/2</b>	<b>K</b>	<b>R</b>	<b>Rho</b>
<b>1</b>	2	1	4.7	22.68	106.88
<b>2</b>	4	1	23.6	7.52	177.19
<b>3</b>	6	1	55.0	4.34	238.60
<b>4</b>	8	1	99.0	2.65	262.25
<b>5</b>	10	1	155.5	1.89	293.91
<b>6</b>	10	5	23.6	11.12	262.01
<b>7</b>	15	5	62.8	4.92	309.13
<b>8</b>	20	5	117.8	2.65	312.20
<b>9</b>	25	5	188.5	1.7	320.44
<b>10</b>	30	5	274.9	1.22	335.37
<b>11</b>	40	5	494.8	0.79	390.89
<b>12</b>	50	5	777.5	0.67	520.96

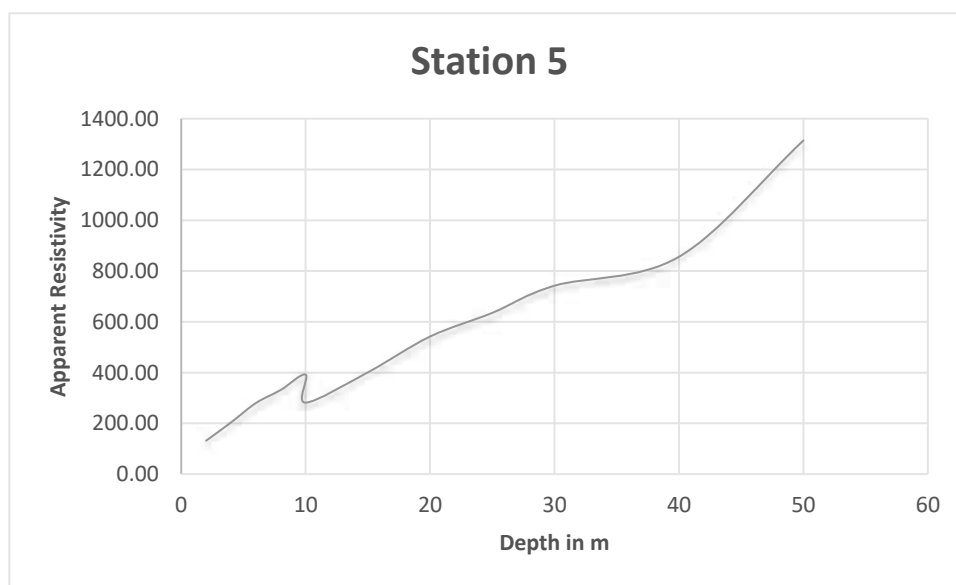


**Figure 9 Graphical Representation of Geophysical data Station 4**



**Table 5 Geophysical data of Station 5**

<i>Sr. No.</i>	<i>AB/2</i>	<i>MN/2</i>	<i>K</i>	<i>R</i>	<i>Rho</i>
<b>1</b>	2	1	4.7	27.93	131.62
<b>2</b>	4	1	23.6	8.64	203.58
<b>3</b>	6	1	55.0	5.09	279.84
<b>4</b>	8	1	99.0	3.35	331.52
<b>5</b>	10	1	155.5	2.52	391.88
<b>6</b>	10	5	23.6	11.95	281.57
<b>7</b>	15	5	62.8	6.38	400.87
<b>8</b>	20	5	117.8	4.6	541.93
<b>9</b>	25	5	188.5	3.37	635.23
<b>10</b>	30	5	274.9	2.7	742.20
<b>11</b>	40	5	494.8	1.73	856.01
<b>12</b>	50	5	777.5	1.69	1314.05



**Figure 10 Graphical Representation of Geophysical data Station 5**

## 7. CONCLUSION

- ❖ The lease applied area is flat terrain. The area has gentle sloping towards South side and altitude of the area is 292m (max) above from Mean Sea level.
- ❖ The geological study of the given area covered by gravel and rough stone in the entire area. The discharge of the groundwater controlled by the massive charnockite rock
- ❖ The study area exhibit almost (60° SE) vertical dipping formation. So it act as a barrier and restrict the groundwater flow movement.
- ❖ Based on the geophysical investigation, Vertical Electrical Sounding (VES) were conducted to determine the subsurface water table and rock types up to depth of 50 m.
- ❖ The subsurface formation up to this depth can be categorized as follows,
  - ❖ **0m to 2m (Average) - Top Soil**
  - ❖ **3m to 6m (Average) – weathered formation**
  - ❖ **6m to 50m (Average) – Charnockite Formation (Massive Formation)**
- ❖ Water level from open and bore in nearby proposed site –open well having recharge water in the Shallow perched aquifer well built by the rainwater.
- ❖ In this mine lease area, groundwater occurs at shallow depths, depending on the intensity of weathering and its development is much less compared to gneissic formation. The mine area such no major intersections of water table are expected up to 50m.
- ❖ The aquifer are found within the weathered / fractured metamorphic terrain. Currently the aquifers are located at 68 to 63 meters below ground level (BGL). However, considering the approved mining plan depth, which is **37 meters** below ground level. It will not impact the groundwater table.

- ❖ To obviate the impact due to catchment of rainwater as surface runoff management, effective measures like construction of peripheral garland drain, settling pond and ensuring water flow to the nearby downstream users are devised and will be implemented during the course of mining.
- ❖ From the above study it can be concluded there will be no adverse effect on the hydrological regime, water drainage, environment, and livelihood. Agricultural activity in the region.



**Dr. P. Thangaraju, M.Sc., Ph.D.,**

Govt. Approved Hydro Geologist

M/s. Geo Exploration and Mining Solutions,  
Regd. Office: No. 17, Advaita Ashram Road,  
Alagapuram, Salem – 636 004, Tamil Nadu

கிராம நிர்வாக அலுவலர்,  
மொரட்டுப்பாளையம் குருபு.

நாள்: 19.01.2023.

பணிநிறுத்தப்படுகிறது:-

பொருள்:-

கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புலஎண், 382/ 2A பகுதி 4.ஹெ 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக் கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்பதல் - தொடர்பாக

பார்வை :-

1. திருப்பூர் சார் ஆட்சியர் அவர்களின் அலுவலக ந.க.761/2022/கனிமம், நாள்: 08.12.2022.
2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.3273/2022 /அ2 நாள்:- 02.01.2023.



திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/ 2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்க்கண்டவாறு அறிக்கை சமர்ப்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A-ல் பகுதி 4.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியப்பட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி மனைவி பழனியம்மாள்-1, (லேட்) ராமசாமி மகன்கள் ஆர்.ஹரிபிரசாத்-2, ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குமாரசாமி மகன் கே.திருமூர்த்தி-4 ஆகியவர்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பாரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் ஏதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300மீ. சுற்றளவில் அங்கீகரிக்கப்பட்ட மணையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்கப்பட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை.
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமாளர்கள். கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் - 28.09.2018 முதல் 27.09.2023 வரை), வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல் 19.06.2027 வரை உள்ளது. மேற்குதிசையில் ஏதுவுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின் (HACA) கட்டுப்பட்டில் இல்லை.
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் குழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

நிலவருவாய் ஆய்வாளர் அலுவலகம்,  
ஊத்துக்குளி உள்வட்டம்.

நாள்: 20.01.2023.

பணிநீதனுப்பப்படுகிறது:-

பொருள்:- கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புலஎண். 382/ 2A பகுதி பு.ஹெ 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக் கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்புதல் - தொடர்பாக

பார்வை :- 1. திருப்பூர் சார் ஆட்சியர் அவர்களின் அலுவலக ந.க.761/2022/கனிமம் நாள்: 08.12.2022  
2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.3273/2022 /அ2 நாள்:- 02.01.2023  
3. மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் அறிக்கை நாள்:-19.01.202.

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திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/ 2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழண்டவாறு அறிக்கை சமர்ப்பிக்கப்படுகிறது.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A-ல் பகுதி பு.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியபட்டதாகும்.


திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலை கவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி மனைவி பழனியம்மாள்-1, (லேட்) ராமசாமி மகன்கள் ஆர்.ஹரிபிரசாத்-2, ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குமாரசாமி மகன் கே.திருமூர்த்தி-4 ஆகியவர்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலை கவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபணை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பாரருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300மீ. சுற்றளவில் அங்கீகரிக்கப்பட்ட மனையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்கப்பட்ட உள்ள புராதான சின்னங்கள் ஏதுமில்லை.
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமாளர்கள். கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் - 28.09.2018 முதல் 27.09.2023 வரை), வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல் 19.06.2027 வரை உள்ளது. மேற்குதிசையில் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின (HACA) கட்டுப்பட்ட இல்லை.
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2A பகுதி பு.ஹெ-2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலை கவுண்டர் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகணிமங்கள் சலுகை விதி 19(1) மற்றும் 33-ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்.

  
கிராம நிர்வாக அலுவலர்  
மற்றும் இணைப்பு திறப்பு பதவியாளர்  
மொரட்டுப்பாளையம் குளம், ஊத்துக்குளி வட்டம்  
திருப்பூர் மாவட்டம்.



## அ1 அறிவிப்பு

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம் மொரட்டுப்பாளையம் கிராமத்தில் வசிக்கும் பொதுமக்களுக்கு தெரிவிப்பது என்னவென்றால்,

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், புல எண். 382/2A(ப) (2.48.5) ஹெக்டேர் பட்டா நிலப்பரப்பில் சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டி எடுக்க ஐந்து வருடங்களுக்கு குத்தகை உரிமம் வழங்க கோரி, திரு.எஸ்.ராஜசேகர் த/பெ சேமலைக்கவுண்டர் என்பவர் மனு அளித்தன பேரில் முன்மொழி அறிக்கை அனுப்ப நடவடிக்கை எடுக்கப்பட்டு வருகிறது.

எனவே, மேற்காண் மனுதாரர் கோரும் குவாரிக்கு உரிமம் வழங்குவது தொடர்பாக ஆட்சேபணை தெரிவிப்போர், அது குறித்து, ஊத்துக்குளி வட்டாட்சியர் அவர்களிடமோ அல்லது ஊத்துக்குளி உள்வட்ட நிலவருவாய் ஆய்வாளர் அவர்களிடமோ எழுத்து மூலமாக 15 தினங்களுக்குள் தெரிவிக்குமாறு கேட்டுக் கொள்ளப்படுகிறார்கள். குறிப்பிட்ட காலக்கெடுவிற்குள் ஆட்சேபணை ஏதும் வரப்பெறாவிடின், குவாரிக்கு உரிமம் புதுபிக்க நடவடிக்கைகள் மேற்கொள்ளப்படும் என இதன் மூலம் தெரிவித்துக் கொள்ளப்படுகிறது.

நிலவருவாய் ஆய்வாளர்,  
ஊத்துக்குளி உள்வட்டம்,  
ஊத்துக்குளி வட்டம்,  
ஊத்துக்குளி வட்டம்.

மேற்காண் அ1 விளம்பரத்தை மொரட்டுப்பாளையம் கிராம மக்களிடையே விளம்புகை செய்து பொது மக்களிடம் கையொப்பம் பெற்று மீள சமர்ப்பிக்குமாறு மொரட்டுப்பாளையம் கிராம நிர்வாக அலுவலர் கேட்டுக் கொள்ளப்படுகிறார்.

நிலவருவாய் ஆய்வாளர்,  
ஊத்துக்குளி உள்வட்டம்,

பெறுநர்:

கிராம நிர்வாக அலுவலர்,  
மொரட்டுப்பாளையம் கிராமம்.

N. K.

## பொதுமக்கள் வாக்குமூலம்

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் புல எண். 382/2Aபகுதி 2.48.5 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலைக்கவுண்டர் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பிக்க கோரி விண்ணப்பம் செய்ததைத் தொடர்ந்து, மேற்படி மனுதாரருக்கு கல்குவாரி உரிமம் புதுப்பித்து வழங்க உத்தேசிக்கப்பட்டுள்ளது என்பதை தெரிந்துகொண்டோம். மேற்படி திரு.எஸ்.ராஜசேகர் த/பெ சேமலைக்கவுண்டர் என்பவர்க்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் புதுப்பித்து வழங்குவது குறித்து ஊர் பொதுமக்களாகிய எங்களுக்கு எந்தவிதமான ஆட்சேபனையும் இல்லை என்பதை இதன் மூலம் தெரிவித்துக்கொள்கிறோம்.

> N. சிவசுந்தரன்

> சிவசுந்தரன்

> K. சிவசுந்தரன்

> K. சிவசுந்தரன்



அனுப்புநர்

திரு.ஸ்ரீகுஞ்செய் நாராயணன், இ.ஆ.ப.,  
சார் ஆட்சியர்,  
திருப்பூர்.

பெறுநர்

மாவட்ட ஆட்சியர்,  
திருப்பூர்.

ந.க.எண்:6207/2022/அ3, நாள்:05.05.2023

**பொருள்:** கனிமங்களும் சுரங்கங்களும்-திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் -மொரட்டுப்பாளையம் - புல எண்.382/2ஏ நெ.காலையில் பு.ஹெ 2.48.50 ஹெக்டர் பரப்பளவில் சாதாரண கற்கள்/கிராவல் மண் வெட்டியெடுக்க 5 வருடங்களுக்கு திரு.எஸ்.ராஜசேகர்,த/பெ(லேட்)சேமலை என்பவர் குவாரி குத்தகை உரிமம் கோரியது - அறிக்கை அனுப்பதல் - தொடர்பாக.

**பார்வை:** 1. திருப்பூர், புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநரின் கடிதம் ந.க.761/2022/கனிமம், நாள்:08.12.2022.  
2. ஊத்துக்குளி வட்டாட்சியரின் ந.க.எண்.3273/2022/அ2, நாள்:31.01.2023.

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திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம்-கிராமம், புல எண்.382/2A(பகுதி), பு.ஹெக்.2.48.50 விஸ்தீரணமுள்ள பூமியில் திரு.எஸ்.ராஜசேகர், த/பெசேமலைக்கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு ஊத்துக்குளி வட்டாட்சியர் பார்வை 2-ல் காண்கடிதத்தில் பின்வருமாறு அறிக்கை சமர்ப்பித்துள்ளதன் பேரில் புலத்தணிக்கை மேற்கொண்டு எனத்தறிக்கையினை பின்வருமாறு சமர்ப்பித்துக்கொள்கிறேன்.

2)திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், திரு.எஸ்.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புல எண்.382/2ஏ -ல் பகுதி பு.ஹெ.5.19.5 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999-ன்படி கூட்டாக பாத்தியப்பட்டுள்ளது.

3)திருப்பூர் மாவட்ட ஆட்சியரின் செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள்:25.09.2018-ன் படி 25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு சாதாரணகல் மற்றும் கிராவல் மண் வெட்டியெடுக்க கல் குவாரி குத்தகை உரிமம் திரு.எஸ்.ராஜசேகர், த/பெ(லேட்) சேமலைக்கவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவது தொடர்பாக மாணுதாரர் பூமியின் உள்ள கூட்டுப்பாடதாரர்களான

மொரட்டுப்பாளையம் கிராமம், புல எண். 382/ஏ ராமசாமி மனைவி பழனியம்மாள் மகன்கள் ஆர்.ஹரிபிரசாத்(2), ஆர்.ஹரிசங்கர்(3) குமாரசாமி மகன் திருமூர்த்தி(4) ஆகியோர் மேற்படி காலையில் திரு.எஸ்.ராஜசேகர்,த/பெ.சேமலைக்கவுண்டர் என்பவருக்கு மரபு ஆட்சியர் அனுமதி வழங்கிய நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரி குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபணையின்மை அளித்துள்ளனர்.

மனுதாரர் கல்குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான சரிமை (Surface right) விண்ணப்பதாரருக்கு உண்டு மேற்காணும் புலத்துடன் அரக புறம்போக்கு நிலம் ஏதும் இணையவில்லை.
2. குத்தகை வழங்கக் கோரும் புலத்திலிருந்து 300 மீ சுற்றளவில் அங்கீகரிக்கப்பட்ட மணையிடங்கள்/ குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பி பாதைகள், நீர் நிலைகள், மாநில மற்றும் தோசிய நெடுஞ்சாலைகள், ஒரு கிலோ மீட்டர் தூரத்தில் இரயில்வே பாதைகள், காடுகள், வனவிலங்கு சரணாலயங்கள், மயானங்கள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திலிருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியல் துறைக் கட்டுப்பாட்டிலுள்ள புராதானச்சின்னங்கள் ஏதுமில்லை.
4. குவாரி குத்தகை வழங்க கோரும் புலத்திற்கு செல்வதற்கான வழித்தடங்கள் உள்ளது.
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டு மஞ்சள், சிகப்பு பெயிண்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டள்ளது. கம்பி வேலி அமைக்கப்பட்டு கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்திற்கு ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
7. குவாரி குத்தகை உரிமம் வழங்க கோரும் புலம் தொடர்பாக வழக்குகள் ஏதுமில்லை.
8. குவாரி குத்தகை வழங்க கோரும் புலத்திலிருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் 10 மீட்டர் தொலைவில் புல எண்.382/2A-ல் சிவசக்தி கல்குவாரி உள்ளது. கிழக்கு திசையில் 300 மீட்டர் தொலைவில் புல எண்.392(பகுதி) -ல் ஐய்யாத்துரை கல்குவாரி உள்ளது. வடக்கு திசையில் 20 மீட்டர் தொலைவில்

209/1A, 209/1B, 209/2(பகுதி) சிதம்பரம் கல்குவாரி உள்ளது. மேற்கு திசையில் குவாரிகள் ஏதுமில்லை.

9. குவாரி குத்தகை வழங்க கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதி ஆணையத்தின் கட்டுப்பாட்டில் இல்லை.

10. குவாரி குத்தகை கோரும் புலத்திலிருந்து 1 கி.மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி, உயிர் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வனவிலங்கு சரணாலயம், புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

4) எனவே பார்வை-2ல் காணும் ஊத்துக்குளி வட்டாட்சியரின் பரிந்துரையின் அடிப்படையில், திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் புல எண்.382/2A(ப) 2.48.50 ஹெக்டேர் பட்டா நிலப்பரப்பில் கிராவல் மண் மற்றும் சாதாரண கற்கள் வெட்டியெடுக்க 5 வருடங்களுக்கு திரு.ராஜசேகர், த/பெ.சேமலைகவுண்டர் என்பவருக்கு, 1959 - ஆம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகைவிதி -19(1) மற்றும் 33 ன் படி குவாரி குத்தகை உரிமம் வழங்க பரிந்துரை செய்யலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு: மேற்சொன்னவாறு.

ஓம்/-ஸ்ருதஞ்ஜெய் நாராயணன்,  
சார் ஆட்சியர்  
திருப்பூர்

//உண்மை நகல்/உத்தரவுப்படி//

நேர்முக உதவி

5/5/23

அனுப்பநர்:

திரு.பி.தங்கவேலு,எம்.காம்.,  
வட்டாட்சியர்,  
ஊத்துக்குளி.

பெறுநர்:

சார் ஆட்சியர்,  
திருப்பூர்.

ந.க.3273/2022/அ2 நாள்:31.01.2023.

அய்யா,

பொருள்:- கனிமங்களும் குவாரிகளும் - திருப்பூர் மாவட்டம் - ஊத்துக்குளி வட்டம் - ஊத்துக்குளி உள்வட்டம் - மொரட்டுப்பாளையம் கிராமம் - புலஎண். 382/ 2A பகுதி பு.ஹெ 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலை கவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்கக் கோரி வரபெற்ற மனு மீது புலத்தணிக்கை மற்றும் விசாரணை செய்து அறிக்கை அனுப்பதல் - தொடர்பாக

பார்வை :- 1. திருப்பூர் சார் ஆட்சியர் அவர்களின் அலுவலக ந.க.761/2022/கனிமம் நாள்: 08.12.2022  
2. ஊத்துக்குளி வட்டாட்சியர் அலுவலக ந.க.3273/2022/அ2 நாள்:- 02.01.2023  
3. ஊத்துக்குளி நில வருவாய் ஆய்வாளர் அறிக்கை நாள்:25.01.2023.

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திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/ 2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க கேட்டு மனு செய்ததின் பேரில் புலத்தணிக்கை மற்றும் விசாரணை செய்து கீழ்க்கண்டவாறு எனது அறிக்கை சமர்ப்பித்துக்கொள்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A-ல் பகுதி பு.ஹெ.2.48.50 பட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியபட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி மனைவி பழனியம்மாள்-1, (லேட்) ராமசாமி மகன்கள் ஆர்.ஹரியிரசாத்- 2, ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குயாரசாமி மகன் கே.திருமூர்த்தி-4 ஆகியவர்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபணை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.



மனுதாரர் மேற்படி புலத்தில் கல் குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பாராருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலையோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் எனும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300மீ. சுற்றளவில் அங்கீகரிக்கப்பட்ட மணையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சரணாலயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதுமில்லை.
3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுக்காட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை.
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைகற்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமாளர்கள். கிழக்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் - 28.09.2018 முதல் 27.09.2023 வரை), வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல் 19.06.2027 வரை உள்ளது. மேற்குதிசையில் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின (HACA) கட்டுப்பாட்டில் இல்லை.
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யானை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2A பகுதி பு.ஹெ.2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ சேமலை கவுண்டர் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகணிமங்கள் சலுகை விதி 19(1) மற்றும் 33-ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என்பதை பணிவுடன் தெரிவித்துக்கொள்கிறேன்.

இணைப்பு : ஆவணங்கள்.

தங்கள் உண்மையுள்ள,

வட்டாட்சியர்,  
ஊத்துக்குளி.)



புலத்தணிக்கைக்குறிப்பு

தணிக்கை அலுவலர்:	வட்டாட்சியர், ஊத்துக்குளி.
கிராமம்:	மொரட்டுப்பாளையம்.
புல எண்:	382/2A.
தணிக்கை நாள்:	31.01.2023.

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2A பகுதி 2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு ஐந்தாண்டுகளுக்கு கல்குவாரி உரிமம் வழங்க மனு செய்ததின் பேரில் 01.2023 அன்று புலத்தணிக்கை மற்றும் விசாரணை மேற்கொண்டு எனது அறிக்கையினை கீழ்க்கண்டவாறு சமர்ப்பிக்கிறேன்.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம் திரு.S.ராஜசேகர் என்பவருக்கு மொரட்டுப்பாளையம் கிராமம் புலஎண் 382/2A-ல் பகுதி பு.ஹெ.2.48.50 மட்டா எண்.421 பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண். 1184/1999, நாள்:15.12.1999-ன்படி கூட்டான பாத்தியப்பட்டதாகும்.

திருப்பூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை ந.க.105/கனிமம்/2017 நாள் 25.09.2018-ன்படி நாள்:25.09.2018 முதல் 24.09.2023 வரை 5 ஆண்டுகளுக்கு கல்குவாரி குத்தகை சாதாரண கல் மற்றும் கிராவல் மண் வெட்டி எடுக்க குவாரி உரிமம் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு வழங்கப்பட்டுள்ளது. மேற்படி குத்தகை உரிமம் புதுப்பித்து வழங்குவதற்கு மொட்டுப்பாளையம் கிராமம் வசிக்கும் (லேட்) ராமசாமி மணவி பழனிமம்மாள்-1, (லேட்) ராமசாமி மகன்கள் ஆர்.ஹரிபிரசாத்- 2, ஆர்.ஹரிசங்கா - 3 மற்றும் சர்க்கார் கத்தாங்கண்ணி கிராமத்தில் வசிக்கும் திரு.குமாரசாமி மகன் கே.திருமூர்த்தி-4 ஆகியவர்கள் மேற்படி காலையில் 2.48.50 ஹெக்டேர் பப்பளவுள்ள பூமியில் திரு.எஸ்.ராஜசேகர் த/பெ.சேமலைகவுண்டர் என்பவருக்கு மாவட்ட ஆட்சியர் அனுமதி வழங்கும் நாளிலிருந்து 5 ஆண்டுகளுக்கு கல்குவாரிக் குத்தகை உரிமம் பெற சம்மதம் தெரிவித்து ஆட்சேபனை இன்மை சான்று வழங்கப்பட்டுள்ளனர்.

மனுதாரர் மேற்படி புலத்தில் கல்குவாரி குத்தகை உரிமம் வழங்க கோரும் புலத்தில்,

1. குவாரி குத்தகை உரிமம் வழங்கக் கோரும் நிலத்தின் மீதான உரிமை (Surface right) விண்ணப்பாராருக்கு இல்லை, மேற்கண்ட நிலத்தில் அரசு புறபோக்கு நிலமோ அல்லது அரசினால் நிலம் எடுப்பு செய்யப்பட்டுள்ள நிலம் ஏதும் இணையவில்லை.
2. உரிமம் கோரும் பூமியைச் சுற்றி 300மீ. சுற்றளவில் அங்கீகரிக்கப்பட்ட மணையிடங்கள், குடியிருப்புகள், கட்டிடங்கள், பொது இடங்கள், மின் கம்பிபாதைகள், நீர் நிலைகள், மயானங்கள், மாநில நெடுஞ்சாலைகள் மற்றும் ஒரு கிலோ மீட்டர் தூரத்தில் இரயில் பாதைகள், காடுகள், வன விலங்கு சுரணாவயங்கள் மற்றும் தேசிய நெடுஞ்சாலைகள் ஏதும் இல்லை.

3. குவாரி குத்தகை கோரும் புலத்திருந்து 500 மீட்டர் தொலைவிற்குள் அமைந்துள்ள தொல்லியியல் துறை கட்டுப்பாட்டில் உள்ள புராதான சின்னங்கள் ஏதுமில்லை.
4. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு செல்லுவதற்காக வழித்தடங்கள் உள்ளது.
5. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் எல்லைகள் வரையறுக்கப்பட்டு எல்லைகர்கள் நடப்பட்டு மஞ்சள் சிவப்பு பெயின்ட் அடிக்கப்பட்டு கற்கள் நடப்பட்டுள்ளது, கம்பி வேலி அமைக்கப்பட்டுள்ளது கிராம ஆவணங்கள் சான்றிட்டு இணைக்கப்பட்டுள்ளது.
6. குவாரி குத்தகை வழங்கக் கோரும் புலத்திற்கு அ1 விளம்பரம் செய்யப்பட்டது. ஆட்சேபணை ஏதும் வரப்பெறவில்லை.
7. குவாரி குத்தகை வழங்கக் கோரும் புலத்தின் மீது வழக்குகள் ஏதுமில்லை.
8. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து 500 மீட்டர் சுற்றளவிற்குள் தெற்கு திசையில் க.ச.389/1B1A, 1B, 1B, (உரிமம்-09.11.2022 முதல் 08.11.2027 வரை மற்றும் க.ச.எண்.289/1A, உரிமம் - 09.11.2022 முதல் 08.11.2027 வரை) டி.தங்கவேல் மற்றும் எம்.தங்கவேல் உரிமையாளர்கள். கீழ்க்கு திசையில் க.ச.எண்.392, அய்யாதுரை உரிமம் - 28.09.2018 முதல் 27.09.2023 வரை), வடக்குதிசையில் 209/1A சிதம்பரம் கல்குவாரி (உரிமம் தேதி : 20.06.2022 முதல் 19.06.2027 வரை உள்ளது. மேற்குதிசையில் ஏதுமில்லை.
9. குவாரி குத்தகை வழங்கக் கோரும் புலம் பாதுகாக்கப்பட்ட மலைப்பகுதியின் ஆணையத்தின (HACA) கட்டுப்பாட்டில் இல்லை.
10. குவாரி குத்தகை வழங்கக் கோரும் புலத்திருந்து ஒரு கிலோ மீட்டர் சுற்றளவில் பாதுகாக்கப்பட்ட வனப்பகுதி உயில் சூழலியல் பாதுகாக்கப்பட்ட பகுதி, தேசிய பூங்கா, வன விலங்கு சரணாலயம் மற்றும் புலிகள் காப்பகம், யாணை வழித்தடங்கள் ஏதுமில்லை.

ஊத்துக்குளி வட்டம், ஊத்துக்குளி உள்வட்டம், மொரட்டுப்பாளையம் கிராமம், புலஎண்.382/2A பகுதி பு.ஹெ.2.48.50 ஹெக்டேர் பரப்பு பூமியில் திரு.எஸ்.ராஜசேகர் த/வெ சேமலை கவுண்டர் என்பவருக்கு 1959 ஆம் ஆண்டு தமிழ்நாடு சிறுகணிமங்கள் சலுகை விதி 19(1) மற்றும் 33-ன் படி குவாரி குத்தகை உரிமம் 5 ஆண்டுகளுக்கு வழங்க பரிந்துரைக்கலாம் என திருப்பூர் சார் ஆட்சியர் அவர்களுக்கு முன்மொழிவுகள் தயார் செய்து வைக்கவும்.

வட்டாட்சியர்,  
ஊத்துக்குளி

அனுப்புநர்  
திரு.நா.சுரேஷ்குமார்.,  
வட்டார வளர்ச்சி அலுவலர்(வ.ஊ),  
ஊத்துக்குளி வட்டாரம்.

பெறுநர்  
துணை இயக்குநர்,  
புவியியல் மற்றும் சுரங்கத்துறை,  
திருப்பூர்.

ந.க.எண் : 2115/2023/அ2

நாள்: 18.05.2023.

ஐயா,

பொருள் : விசாரணை அறிக்கை கனிமங்களும் சுரங்கங்களும் - திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண் 382/2A(part) ல் ஆகியவற்றில் மொத்தம் 2.48.5 ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.எஸ் ராஜசேகர் த/பெ சேமலைக்கவுண்டர் 71, திம்மநாயக்கன்பாளையம் மொரட்டுப்பாளையம் (அஞ்சல்) ஊத்துக்குளி வட்டாரம் என்பவர் மனு செய்துள்ளார் குவாரி உரிமம் கோரியது- விசாரணை அறிக்கை அனுப்பிவைத்தல் - தொடர்பாக.

பார்வை : துணை இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, திருப்பூர் அவர்களின் ந.க.எண்: 761/2022/கனிமம், நாள்:05.12.2022.

\*\*\*\*\*

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண் 382/2A(part) ல் ஆகியவற்றில் மொத்தம் 2.48.5 ஹெக்டர் பட்டா நிலப் பரப்பில் சாதாரணகற்கள்/கிராவல் மண் வெட்டிஎடுக்க 5 வருடங்களுக்கு குவாரி குத்தகை உரிமம் கோரி திரு.எஸ் ராஜசேகர் த/பெ சேமலைக்கவுண்டர் 71, திம்மநாயக்கன்பாளையம் மொரட்டுப்பாளையம் (அஞ்சல்) ஊத்துக்குளி வட்டாரம் என்பவர் மனு செய்துள்ளார் குவாரி உரிமம் கோரி விண்ணப்பித்ததையடுத்து, பார்வையில் காணும் துணை இயக்குநர் புவியியல் மற்றும் சுரங்கத்துறை அவர்களின் கடிதத்தில் மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்புமனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் உள்ளதா என அறிக்கை கோரப்பட்டுள்ளது.

மேற்படி பிரஸ்தாப புலங்களிலிருந்து 300 மீட்டர் சுற்றளவிற்குள் அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் (Layout) மற்றும் அங்கீகரிக்கப்பட்ட கட்டுமானங்கள் ஏதும் இல்லை என்ற விவரமும், புலத் தணிக்கை மற்றும் விசாரணையின் மூலமாக தெரியவருகிறது என்பதை தெரிவித்துக் கொள்கிறேன்

வட்டார வளர்ச்சி அலுவலர்(வ.ஊ),  
ஊத்துக்குளி.

சிம்மா  
18/05/2023

# SENTHAMARAI EXPLOSIVES

Form 22 Licence No: E/SC/TN/22/66 (E-10217)

5/247, Pettikadai, Morattupalayam(P.O), Uthukuli R.S - 638752

Uthukuli(TK) Tiruppur(DT)

Magazine at Edayapalayam , Kunnathur

Mobile : 9443361609

Date:14/12/2023

To

S.Rajasekar,  
71,Thimmanaicken palayam,  
Morattupalayam,  
Uthukuli.RS,  
Tiruppur(Dt).

SUB: Regarding Blasting work using explosives in your proposed quarry.

Sir,

We are having exploives licensce in form 22 holding E/SC/TN22/66(E10217) Situated in survey SF.NO.103,V.No.5.Edayapalayam village, Uthukuli taluk, Tiruppur district. Our office functioning at Door No 5/247,Pettikadai, Moratupalayam post, Uthukuli taluk, Tiruppur District.

We are enacting 2 explosive vans for transporting detonators and class 2 separately from our magazine to our work site and well experienced and licensed blasters and short firer for safe blasting works since 22 years without untoward incident

We are willing to undertake blasting work on contract basis at your SF.NO.382/2A, Measuring about 1.98.5 hectares in Morattupalayam village, Uthukuli Taluk, Tiruppur District, Tamilnadu.

Thank You,

Enclousre:

1.Licence Copy

Yours Faithfully,  
**For Senthamarai Explosives**  
*S. G. Soman Velazhan*  
**Proprietor**



अनुमति स्वरूप पत्र (LICENSURE FORM)
विस्फोटक पदार्थ (Explosives) के लिए अनुमति स्वरूप पत्र (Licence)
के लिए आवेदन करने के लिए प्रयोग करने के लिए अनुमति स्वरूप पत्र (Licence)
के लिए आवेदन करने के लिए प्रयोग करने के लिए अनुमति स्वरूप पत्र (Licence)



अनुमति नं. (Licence No.) LIC/IN/2019/1121/1
दिनांक: 2019-08-28

1. आवेदनकर्ता का नाम (Applicant's Name):

SHRI S. H. MADHULEXPLOSIVES (प्रा.सं.) (SHRI S. H. MADHULEXPLOSIVES)
पता: (Address) (SHRI S. H. MADHULEXPLOSIVES)
पता: (Address) (SHRI S. H. MADHULEXPLOSIVES)

आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)
आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)

2. आवेदनकर्ता का पता (Applicant's Address):

पता: (Address) (SHRI S. H. MADHULEXPLOSIVES)
पता: (Address) (SHRI S. H. MADHULEXPLOSIVES)

3. आवेदनकर्ता का व्यवसाय (Applicant's Business):

Table with 5 columns: क्र. (Sl. No.), आवेदनकर्ता का नाम (Applicant's Name), आवेदनकर्ता का पता (Applicant's Address), आवेदनकर्ता का व्यवसाय (Applicant's Business), आवेदनकर्ता का पता (Applicant's Address). Rows include details for Explosives, Ammunition, and other related items.

आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)
आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)

4. आवेदनकर्ता का व्यवसाय (Applicant's Business):

आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)
आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)

5. आवेदनकर्ता का व्यवसाय (Applicant's Business):

आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)
आवृत्ति (Frequency): (SHRI S. H. MADHULEXPLOSIVES)

6. आवेदनकर्ता का व्यवसाय (Applicant's Business):

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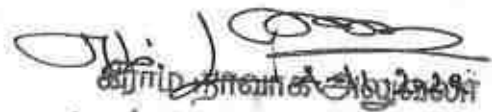
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## சான்று

திருப்பூர் மாவட்டம் ஊத்துக்குளி வட்டம் ஊத்துக்குளி  
உள்வட்டம் மொரட்டுப்பாளையம் கிராமம் மஜரா  
திம்மநாயக்கன்பாளையம் வசிக்கும் திரு (லேட்) சேமலைக்கவுண்டர்  
மக்கள் S.ராஜசேகர் .1 S.ராமசாமி 2 என்பவருக்கு  
மொரட்டுப்பாளையம் கிராமம் ரீ.ச.எண் 382/2A-ல் பு.ஹெக் 5.07.56  
பூமியானது ஊத்துக்குளி சார்பதிவாளர் ஆவண எண் 1184/1999-ன்  
நாள் 15/12/1999-ந் படி பாத்தியப்பட்டதாகும். மேற்படி ராமசாமி  
என்பவர் கடந்த 19/9/2006 அன்று காலமாகி விட்டார் அவருக்கு  
பெருந்துறை வட்டாட்சியர் அலுவலகம் வாரிசு சான்று எண்  
ப.மு.என்17148/2006/A8-ன் நாள் 16/12/2006-ன் படி ராமசாமி மனைவி  
பழனியம்மாள்.1 ராமசாமி மக்கள் ஹரிபிரசாத்.2 ஹரிசங்கர்.3  
ஆகியோருக்கு மேற்படி பூமியானது கூட்டாக பாத்தியப்பட்டதாகும்.

மேற்படி புல எண் 382/2A சுற்றியுள்ள 300 மீட்டர் சுற்றளவில்  
மொரட்டுப்பாளையம் கிராமத்தின் ஊர்நத்தம் அங்கீகரிக்கப்பட்ட  
DTCP வீட்டுமனைப்பிரிவுகள் உயர் அழுத்த மின்பாதை, கோவில்,  
மததி, தேவாலயம் போன்ற வழிபாட்டுத்தளங்கள்  
புரதானச்சின்னங்கள் தேசிய நெடுஞ்சாலைகள் போன்றவை  
எதுவும் இல்லை. மேலும் கல்குவாரி புலத்தின் நான்கு புறமும்  
எல்லைக்கற்கள் நடப்பட்டுள்ளன என பணிவுடன்  
தெரிவித்துக்கொள்கிறேன்.

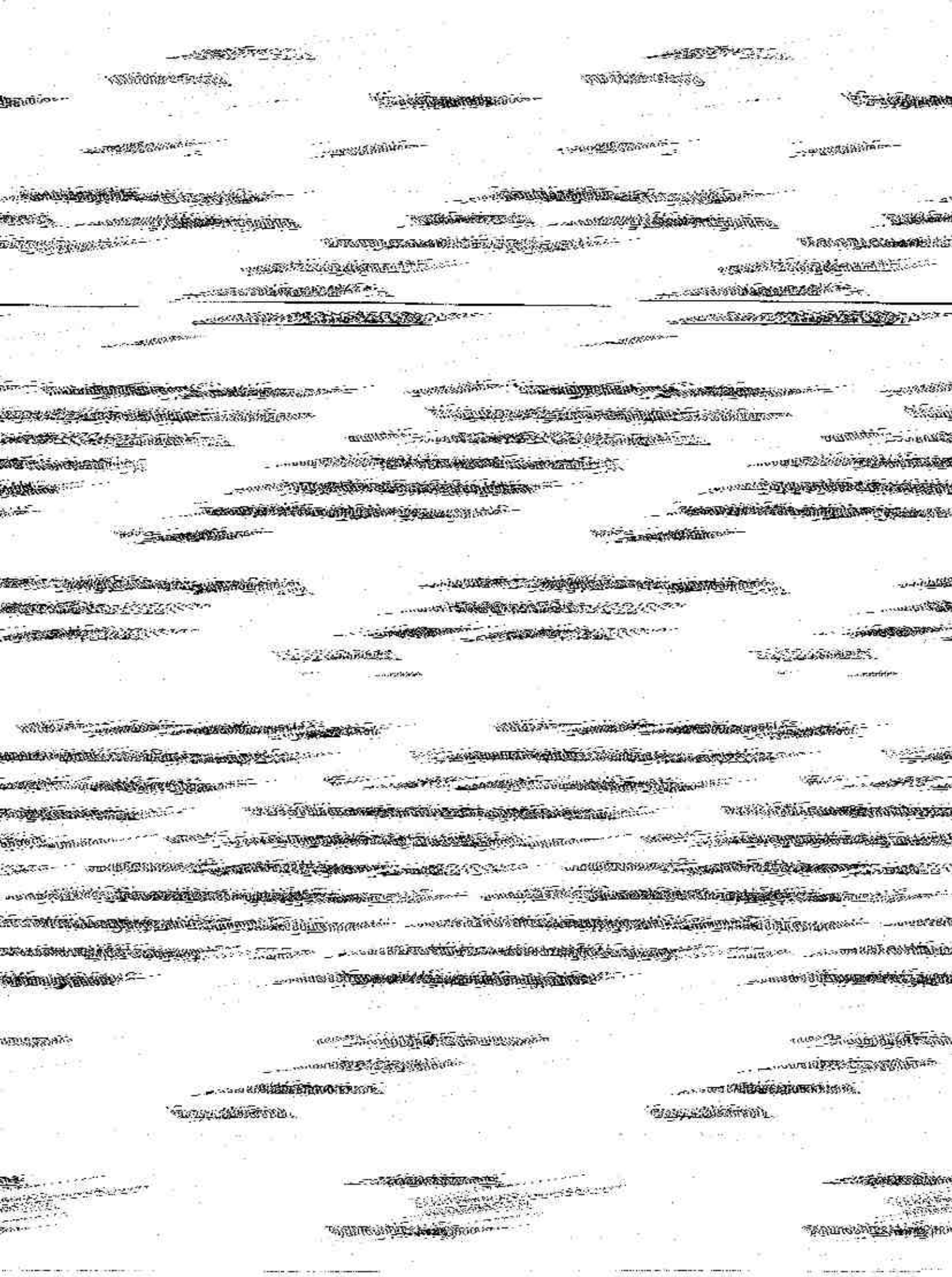
  
கிராம தாவாக அலுவலர்

மற்றும் பிறப்பு இறப்பு பதிவாளர்  
மொரட்டுப்பாளையம் குருப். ஊத்துக்குளி வட்டம்  
திருப்பூர் மாவட்டம்











Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Tamil Nadu)

To,

The owner  
THANGARAJ M RSG TIRUPPUR  
Morattupalayam Village Uthukuli TK tiruppur DT -638751

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/55413/2020 dated 20 Apr 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |   |
|--|---|
| 1. EC Identification No.                   | EC22B001TN192401  |
| 2. File No.                                | 7740  |
| 3. Project Type                            | New   |
| 4. Category                                | B1  |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals   |
| 6. Name of Project                         | M. Thangaraj, New Rough Stone and Gravel Quarry Project over an Extent of 0.84.5 ha |
| 7. Name of Company/Organization            | THANGARAJ M RSG TIRUPPUR  |
| 8. Location of Project                     | Tamil Nadu  |
| 9. TOR Date                                | 16 Mar 2021   |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 08/06/2022

(e-signed)  
Tmt.P.RAJESWARI,IFS  
Member Secretary  
SEIAA - (Tamil Nadu)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*





TMT. P. RAJESWARI, I.F.S.,  
MEMBER SECRETARY

**STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY – TAMIL NADU**

3rd Floor, Panagal Maaligal,  
No.1 Jeenis Road, Saidapet,  
Chennai-15.  
Phone No.044-24359973  
Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

**Lr.No.SEIAA-TN/F.No.7740/1(a)/EC.No:5068/2021 dated:23.05.2022**

Sir/Madam


**Sub:** SEIAA, TN – Proposed Rough stone and Gravel quarry over an extent of 0.845Ha in S.F.No. 383/2B2 (P) at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru. M. Thangaraj under project category – “B1” and Schedule S.No. 1(a)-Issue of Environmental Clearance – Regarding.

- Ref:** 1. Lr.No.SEIAA-TN/F.No.7740/SEAC/ToR-909/2020 dated 16.03.2021  
2. Public Hearing conducted on 23.08.2021  
3. Online Proposal No. SIA/TN/MIN/55413/2020 dated 25.09.2021  
4. Application seeking Environmental Clearance dated: 18.08.2020  
5. Minutes of the 265<sup>th</sup> Meeting of SEAC held on 21.04.2022  
6. Minutes of the 510<sup>th</sup> Meeting of SEIAA held on 23.05.2022

**Details of Minor Mineral Activity:-**

This has reference to your application cited, the proposal for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

SL No.	Details of the proposal	Data furnished
I.	Name of the Owner/Firm	Thiru.M.Thangaraj S/o.M.P.Marimuthu No.18, Bharathi Nagar Kaspa Parappu Thottam

  
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		Uthukuli taluk Tiruppur District - 638 751
2.	Type of quarrying (Savudu/Rough Stone/Sand/Granite)	Rough Stone and Gravel quarry
3.	S.F No. Of the quarry site with area break-up	S.F.No. 383/2B2(P)
4.	Village in which situated	Morattupalayam Village,
5.	Taluk in which situated	Uthukuli Taluk
6.	District in which situated	Tiruppur District
7.	Extent of quarry (in ha.)	0.84.5Ha patta land
8.	Period of quarrying proposed	Five Years
9.	Type of mining	Opencast Mechanized method
10.	Production (Quantity in m <sup>3</sup> )	34,526cu.m of Rough stone, 640 cu.m of Gravel
11.	Latitude & Longitude of all corners of the quarry site	11 <sup>o</sup> 08'00.42"N to 11 <sup>o</sup> 08'03.16"N 77 <sup>o</sup> 25'09.13"E to 77 <sup>o</sup> 25'15.38"E
12.	Topo Sheet No.	58 - E/08
13.	Man Power requirement per day:	15 Employees
14.	Precise area communication approved by the District Collector with date	Re.No. 305/2019/Mines, Dated:19.06.2020
15.	Mining Plan approved by the Deputy Director of Geology and Mining Tiruppur with date	Re.No. 305/2019/Mines, Dated:10.07.2020
16.	500m Cluster letter issued by AD/DD mines	Re.No. 305/2019/Mines, Dated:10.07.2020
17.	Water requirement:	3.5 KLD
	1. Drinking & domestic purposes (in KLD)	2.0 KLD
	2. Dust suppression & Green Belt (in KLD)	1.0 KLD 0.5 KLD

  
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18.	Power requirement: a. Domestic Purpose b. Machinery Works	TNEB 500 Liters of HSD
19.	Depth of Mining	26m(1m-25m)
20.	Depth of water table	58 – 62m bgl
21.	Whether any habitation within 300m distance	No.
22.	Project Cost (excluding EMP cost)	22.92 lakhs
23.	EMP cost	42.41 lakhs (5 years)
24.	CER cost	Revised CER Rs.5 lakhs as per SEAC minutes
25.	VAO letter dated	Letter dated 13.07.2020
26.	TOR Issued.	Lr.No.SEIAA-TN/F.No.7740/SEAC/ToR-909/2020 dated 16.03.2021.
27.	Public Hearing	23.08.2021
28.		

**Validity:**

**This Environmental Clearance is granted for the production in 34,526cu.m of Rough stone, 640 cu.m of Gravel for the period of 5 Years from the date of execution of the mining lease.**

**Affidavit**

The Proponent has furnished affidavit in Hundred Rupees stamp paper dated 13.07.2020 attested by the Notary stating that

I, M. Thangaraj,S/o. M.P. Marimuthu,No. 18, Bharathi Nagar, Kaspap Parappu Thottam, Uthukuli Taluk, Tiruppur District, Tamil Nadu State – 638 751, solemnly declare and sincerely affirm that:

I have apply for getting Environment Clearance to Appropriate Authorities, Tamil Nadu for quarry lease for quarrying of Rough stone and Gravel Quarry over an extent of 0.84.5 Hectares of patta land in S.F.No. 383/2B2(Part) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

  
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1. I swear to state and confirm that within 10km area of the quarry site, I have applied for environment clearance, none of the following is situated.
- Protected areas notified under the wild life (Protection) Act, 1972,
  - Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act, 1974,
  - Eco-Sensitive areas as notified,
  - Interstate boundaries within 10km radius from the boundary of the proposed site.
2. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

CER Activity	Project Cost (Rs. In Lakh)	CER Cost 2.0% of project cost (Rs in Lakh)
1. Water purifier Cot and Bed facility to the Morattupalayam Dispensary etc., 2. If we are instructed by PWD/ Competent bodies to desilt the water bodies nearby. I assure to spend out CER Cost for desilting/ strengthening the bunds of the nearby water bodies	22.92	0.46
<b>Total Cost Allocation</b>	<b>22.92</b>	<b>0.46</b>

3. The following quarries are located within the radius of 500m from the periphery of my quarry.

**Existing Quarry**

S. No.	Name of the lessee	Village	S.F. No's.	Extent (in Hects)	Collectors Proceeding No. & Date	Lease Period
1	N.Ayyadurai	Morattu palayam	392 Part.	3.52.0	182/Mines/2015 Dated 23.9.2016	23.09.2016 to 22.09.2021
2	T.S.Udhaya kumar	Morattu palayam	389/1C	0.89.0	195/mines/2014 Dated 23.5.2015	28.05.2015- 27.05.2020
3	S.Raju	Morattu palayam	389/1B1	1.62.0	292/ mines /2014 Dated 19.06.2015	24.06.2015- 23.06.2020
4	P.ThangaMuth usamy	Morattu palayam	383/2A1 382/2B	3.24.0	301/mines/2015 Dated 15.01.2016	19.01.2016- 18.01.2021

  
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5	T.Sumathi	Morattu palayam	383/2A23	0.89.5	299/mines/2015 Dated 13.01.2016	20.01.2016- 19.01.2021
6	M.Palanisamy	Morattu palayam	385/2 (Part)	0.59.5	300/mines/2015 Dated 13.01.2016	21.01.2016- 20.01.2021
7	M.Thangaraj	Morattu palayam	389/1B1A 389/1B1B 389/1B2	2.19.5	357/mines/2015 dated 15.01.2016	21.01.2016- 20.01.2021
8	K.Karuppusamy	Morattu palayam	383/1(P), 383/2A2A1 (P)	0.71.5	529/mines/2015 Dated 21.09.2016	21.09.2016- 20.09.2021
9	S.Raja Sekar	Morattu palayam	382/2A(P)	1.98.5	105/mines/2017 dated 25.09.2018	25.09.2018- 24.09.2023

**Abandoned/expired quarries**

S. No.	Name of the Owner	Village	S.F. No's.	Extent (in Hects)	Expired on
Nil					

**Proposed Quarry**

S. No.	Name of the Lessee	Village	S.F. No.	Extent (in Hects)	Collectors Proceeding No. & Date	Classification of land
1	M.Thangaraj	Morattu palayam	383/2B2 (Part)	0.84.5	---	Proposed area

4. There will not be hindrance or disturbance to the people living during quarrying and transportation.
5. There is no approved habitation within 300m radius from the periphery of my quarry.
6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
7. The required insurance will be taken in the name of the laborers working in my quarry site.
8. The approach road from the main road to quarry is already exists and same will be maintained in a good condition for the haulage of quarry materials and machineries.
9. I will not engage any child labor in my quarry site and I aware that engaging child labor is punishable under the law.
10. All types of safety/ protective equipment will be provided to all the laborers working in my quarry.

  
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11. No permanent structures, temples etc., are located within 300m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge.

**Details of Quarries located within 500M radius from the proposed quarry:**

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director Department of Geology & Mining, Tiruppur District in his letter Rc.No. 305/2019/Mines, Dated: 10.07.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

S. No.	Name of the lessee	Village	S.F. No's.	Extent (in Hects)	Collectors Proceeding No. & Date	Lease Period
1	N.Ayyadurai	Morattu palayam	392 Part	3.52.0	182/Mines/2015 Dated 23.9.2016	23.09.2016 to 22.09.2021
2	T.S.Udhaya kumar	Morattu palayam	389/1C	0.89.0	195/mines/2014 Dated 23.5.2015	28.05.2015- 27.05.2020
3	S.Raju	Morattu palayam	389/1B1	1.62.0	292/ mines /2014 Dated 19.06.2015	24.06.2015- 23.06.2020
4	P.ThangaMuth usamy	Morattu palayam	383/2A1 382/2B	3.24.0	301/mines/2015 Dated 15.01.2016	19.01.2016- 18.01.2021
5	T.Sumathi	Morattu palayam	383/2A23	0.89.5	299/mines/2015 Dated 13.01.2016	20.01.2016- 19.01.2021
6	M.Palanisamy	Morattu palayam	385/2 (Part)	0.59.5	300/mines/2015 Dated 13.01.2016	21.01.2016- 20.01.2021
7	M.Thangaraj	Morattu palayam	389/1B1A 389/1B1B 389/1B2	2.19.5	357/mines/2015 dated 15.01.2016	21.01.2016- 20.01.2021
8	K.Karuppusamy	Morattu palayam	383/1(P), 383/2A2A1 (P)	0.71.5	529/mines/2015 Dated 21.09.2016	21.09.2016- 20.09.2021
9	S.Raja Sekar	Morattu palayam	382/2A(P)	1.98.5	105/mines/2017 dated 25.09.2018	25.09.2018- 24.09.2023

**Abandoned/expired quarries**

S. No.	Name of the Owner	Village	S.F. No's.	Extent (in Hects)	Expired on
Nil					

**Proposed Quarry**

  
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S. No.	Name of the Lessee	Village	S.F. No.	Extent (in Hects)	Collectors Proceeding No. & Date	Classification of land
1	M.Thangaraj	Morattupalayam	383/2B2 (Part)	0.84.5	---	Proposed area

**Appraisal by SEAC:-**

**Proposed Rough stone and Gravel quarry over an extent of 0.84.5Ha in S.F.No. 383/2B2 (P) at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru. M. Thangaraj - For Environmental Clearance.**

**(SIA/TN/MIN/ 55413/ 2020 dated: 25.09.2021)**

**The SEAC noted the following:**

1. The project proponent, Thiru. M. Thangaraj has applied for Environmental Clearance for the proposed Rough stone and Gravel quarry over an extent of 0.84.5 Ha at S.F.No. 383/2B2 (P), Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006.
3. As per mining plan the the lease period is for 5 years. The production for the five years states that the total quantity of recoverable should not exceed 37,931cu.m of Rough stone, 640 cu.m of Gravel with an ultimate depth of mining is 26m (1m Gravel + 25m Rough Stone) below ground level. The Annual peak production as per mining plan is 26,150cu.m of rough stone.
4. ToR issued vide Lr.No.SEIAA-TN/F.No.7740/SEAC/ToR-909/2020 dated 16.03.2021.
5. Public hearing conducted on 23.08.2021.

Based on the presentation and document furnished by the project proponent, SEAC decided to **recommend the proposal for the grant of Environmental Clearance**, subject to the standard conditions as per the **Annexure** of this minutes & normal conditions stipulated by MOEF&CC, in addition to the following specific conditions:

1. **The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier.**
2. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere the EMP as committed.


  
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3. As accepted by the Project Proponent the revised CER cost is Rs. 5 lakhs and the amount shall be spent for the following activities in Panchayat union primary school, Kodyyam Palayam Village, Tiruppur District before obtaining CTO from TNPCB.

Sl. No.	Description
1	Painting compound wall with environment awareness slogans
2	Construction of water tank
2	Construction of hand washing units at 2 locations
3	Providing Environmental related books to the school library
4	Carrying out avenue plantation and gardening school class rooms entrance

#### ANNEXURE

1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued

  
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by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.

  
**MEMBER SECRETARY**  
**SEIAA-TN**

13. **Noise and Vibration Related:** (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.

  
MEMBER SECRETARY  
SEIAA-TN



18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.

  
**MEMBER SECRETARY**  
**SEIAA-TN**

28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road, about the project information as shown in the **Appendix -II** of this minute.
29. The recommendation for the issue of environmental clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A.No.186 of 2016 (M.A.No.350/2016) and O.A.No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A.No.843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016(M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).

### Appendix - I

#### List of Native Trees for Planting

1. *Aegle marmelos* – Vilvam
2. *Adenaanthera pavonina* - Manjadi
3. *Albizia lebbek* – Vaagai
4. *Albizia amara* - Usil
5. *Bauhinia purpurea* - Mantharai
6. *Bauhinia racemosa* - Aathi
7. *Bauhinia tomentosa* – Iruvathi
8. *Buchananla allaris* - Kattuma
9. *Borassus flabellifer* - Panai
10. *Butea monosperma* - Murukka maram
11. *Bobax ceiba* – Ilavu, Sevvilavu
12. *Calophyllum inophyllum* - Punnai
13. *Cassia fistula* - Sarakondrai
14. *Cassia roxburghii*- Sengondrai
15. *Chloroxylon sweitenia* - Purasa maram
16. *Cochlospermum religiosum* – Kongu, Manjal Ilavu
17. *Cordia dichotoma* – Mookuchali maram
18. *Creteva adansonii* – Mavalingum
19. *Dillenia indica* – Uva, Uzha
20. *Dillenia pentagyna* – Siru Uva, Sitruzha

  
MEMBER SECRETARY  
SEIAA-TN

21. *Diospyros ebenum* - Karungali
22. *Diospyros chloroxylon* - Vaganai
23. *Ficus amplissima* - Kal Itchi
24. *Hibiscus tiliaceus* - Aatru poovarasu
25. *Hardwickia binata* - Aacha
26. *Holoptelia integrifolia* - Aayili
27. *Lamnea coromandelica* - Odhiam
28. *Lagerstroemia speciosa* - Poo Marudhu
29. *Lepisanthus tetraphylla* - Neikottai maram
30. *Limonia acidissima* - Vila maram
31. *Litsea glutinosa* - Pisin pattai
32. *Madhuca longifolia* - Iluppai
33. *Manilkara hexandra* - Ulakkai Paalai
34. *Mimusops elengi* - Magizha maram
35. *Mitragyna parvifolia* - Kadambu
36. *Morinda pubescens* - Nuna
37. *Morinda citrifolia* - Vellai Nuna
38. *Phoenix sylvestre* - Eachai
39. *Pongamia pinnata* - Pungam
40. *Premna mollissima* - Munnai
41. *Premna serratifolia* - Narumunnai
42. *Premna tomentosa* - Purangai Naari, Pudanga Naari
43. *Prosopis cinerea* - Vanni maram
44. *Pterocarpus marsupium* - Vengai
45. *Pterospermum canescens* - Vennangu, Tada
46. *Pterospermum xylocarpum* - Polavu
47. *Puthranjiva roxburghii* - Puthranjivi
48. *Salvadora persica* - Uгаа Maram
49. *Sapindus emarginatus* - Manipungan, Soapu kai
50. *Saraca asoca* - Asoca
51. *Streblus asper* - Piraya maram
52. *Strychnos nuxvomica* - Yetti

  
**MEMBER SECRETARY**  
**SEIAA-TN**

- 53. *Strychnos potatorum* - Therthang Kottai
- 54. *Syzygium cumini* - Naval
- 55. *Terminalia bellerica* - Thandri
- 56. *Terminalia arjuna* - Ven marudhu
- 57. *Toona ciliate* - Sandhana vembu
- 58. *Thespesia populnea* - Puvarasu
- 59. *Walsura trifoliata* - valsura
- 60. *Wrightia tinctoria* - Vep

**Appendix-II  
Display Board**

(Size 6' x5' with Blue Background and White Letters)

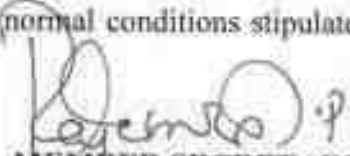
கருங்காம்பம்

கருங்காம்பம் குவாரி செயல்பாடுகளுக்கான சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.

பணியின் பற்றிய விவரம்	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.
பணியின் திட்டமிடல்	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.
பணியின் நோக்கம்	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.
பணியின் காலம்	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.
பணியின் செலவு	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.
பணியின் முடிவு	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.
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பணியின் முடிவு	கருங்காம்பம் கருங்காம்பம் சுற்றுச்சூழல் அழிவற்ற சீரமைப்பு திட்டத்திற்கான கட்டிட வடிவமைப்பு மற்றும் கட்டுமானப் பணிகளை மேற்கொள்ளும் பற்றிய விவரம் கீழ்க்கண்ட அட்டைகளில் உள்ளது.

**Discussion by SEIAA and the Remarks:-**


The proposal was placed in the 510<sup>th</sup> Authority meeting held on 23.05.2022. The Authority after detailed discussion with reference to specific condition (1) of SEAC, SEIAA decided to grant Environmental Clearance for a period of 5 years confining to the depth and the quantity upto 26m BGL only as per approved mining plan issued by the Department of Geology & Mining subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated

  
**MEMBER SECRETARY**  
**SEIAA-TN**



by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions.

1. As per the MoEF& CC office memorandum F.No.22-65/2017-1A.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent the revised CER cost is Rs.5 Lakhs and the amount shall be spent for the following activities in Panchayat union primary school, Kodyam Palayam Village, Tiruppur District before obtaining CTO from TNPCB.
2. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone.
3. The proponent shall ensure that the activities should in no way result in disturbance to forest and trees in vicinity.
4. The proponent shall ensure that the operations shall not result in loss of soil biological properties and nutrients.
5. The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.
6. The mining closure plan should be strictly adhered with appropriate soil rehabilitation measures to ensure ecological stability of the area.
7. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
8. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife.
9. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem.
10. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
11. The proponent shall ensure that the activities undertaken should not result in carbon emission, and temperature rise, in the area.
12. The proponent shall ensure that the mine closure plan are followed as per mining plan and the mine restoration should be done with native species, and site restored to near original status.
13. The proponent shall ensure that Monitoring be carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

  
MEMBER SECRETARY  
SEIAA-TN

14. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
15. The proponent shall ensure that the activities shall not disturb the agro biodiversity and agro farms.
16. The proponent shall ensure that the activity shall not result in invasion by invasive alien species.
17. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
18. The proponent shall ensure that activity shall not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soils and water.
19. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health.
20. Bio remediation using an microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
21. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
22. The proponent shall ensure that the activities should not impact the water bodies/wells in the neighbouring open wells and bore wells.
23. The proponent shall ensure that the activities should not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity, nor impact the water table and levels.
24. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
25. The proponent shall ensure that the activities should not disturb the resident and migratory birds.
26. The proponent shall ensure the area should be restored and rehabilitated with native trees as recommended SEAC Minutes (in Appendix).
27. The proponent shall ensure that the mine restoration should be done using mycorrhizal VAM, vermicasting, Biofertilizers to ensure soil health and, biodiversity conservation.
28. The proponent shall ensure that the topsoil should be protected and used in planting activities in the area.

  
MEMBER SECRETARY  
SEIAA-TN

29. The proponent shall ensure that the activities should not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
30. The proponent shall ensure that the activities should not disturb the vegetation and wildlife in the adjoin reserve forests and areas around.
31. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
32. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt along within the proposed area.
33. The proponent shall ensure that activities should not impact greenlands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattles.

**Part-A: Conditions to be Complied before commencing mining operations:-**

1. **The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that**
  - I. **The project has been accorded Environmental Clearance.**
  - II. **Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.**
  - III. **Environmental Clearance may also be seen on the website of the SEIAA.**
  - IV. **The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.**

2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. **A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations,**

  
**MEMBER SECRETARY**  
**SEIAA-TN**

if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.

6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.

  
MEMBER SECRETARY  
SEIAA-TN

20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
- i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
- i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF&CC, GoI to control noise to the prescribed levels.
23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps:-
- i. Retention/ toe walls shall be provided at the foot of the dumps.
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.

  
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28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoFF& CC, GOI.

  
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37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
42. The Project Proponent shall provide solar lighting system to the nearby villages.
43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.

  
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52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.
56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, O.A.No.404/ 2016 ( M.A.No. 758/2016, M.A. No. 920 /2016, M.A.No.1122/2016, M.A.No. 12/2017 & M.A.No.843/2017), O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).
58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
59. The company shall stress upon the preventive aspects of occupational health.
60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.

  
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65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
70. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
71. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
75. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
76. All the recommendations made in the EIA report of the project shall be effectively implemented.
77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.

  
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78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO<sub>2</sub>, NO<sub>x</sub> or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

**Part B: General Conditions:**

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


  
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7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities

  
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**SEIAA-TN**

would be considering the project on merits and be taking decisions independently of the Environmental Clearance

18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

  
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**Copy to:**

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai - 32.
7. The District Collector, Tiruppur District.
8. The Commissioner of Geology and Mines, Guindy, Chennai - 32.
9. El Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Spare.



**Signature Not Verified**

Digitally signed by  
Tmt.P.RAJESWARI, IFS  
Member Secretary  
Date: 6/8/2022 1:39:55 PM  
Page 28 of 28



Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Tamil Nadu)

To,

The Proprietor  
CHIDAMBARAM N  
Morattupalayam Village -638752

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/35051/2019 dated 23 Mar 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |  |
|--|--|
| 1. EC Identification No.                   | EC22B001TN174381   |
| 2. File No.                                | 6799/2019  |
| 3. Project Type                            | New  |
| 4. Category                                | B1   |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals  |
| 6. Name of Project                         | N.Chidambaram, Rough stone and Gravel quarry from over an Extent of 0.79.0ha |
| 7. Name of Company/Organization            | CHIDAMBARAM N  |
| 8. Location of Project                     | Tamil Nadu   |
| 9. TOR Date                                | 15 Sep 2020  |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 18/05/2022

(e-signed)  
Tmt.P.RAJESWARI,IFS  
Member Secretary  
SEIAA - (Tamil Nadu)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*

PARIVESH

(Pro-Active and Responsive Facilitation by Interactive,  
and Virtuous Environmental Single-Window Hub)







TMT. P. RAJESWARI, I.F.S.,  
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY – TAMIL NADU  
3rd Floor, Panagal Maaligai,  
No.1 Jeenis Road, Saidapet,  
Chennai-15.  
Phone No.044-24359973  
Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

**Lr.No.SEIAA-TN/F.No.6799/1(a)/EC.No:5034/2021 dated:20.04.2022**

Sir/Madam

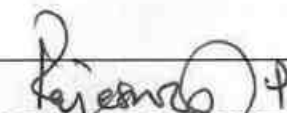
**Sub:** SEIAA, TN – Proposed Rough Stone & Gravel Quarry over an extent of 0.79.0 Ha located at S.F. No, 209/1A (P) Morattupalyam Village, Uthukuli Taluk, Tiruppur District by Thiru. N. Chidambaram under project category – “B1” and Schedule S.No. 1(a) – Issue of Environmental Clearance – Regarding.

- Ref:** 1. Lr. No.SEIAA-TN/T.No.6799/SEAC/ToR-749/2020 Dated: 15.09.2020  
2. Public Hearing conducted on 23.08.2021  
3. Online Proposal No. SIA/TN/MIN/ 35051/2019 dated 23.03.2022  
4. Application seeking Environmental Clearance dated: 13.02.2022  
5. Minutes of the 256<sup>th</sup> Meeting of SEAC held on 24.03.2022  
6. Minutes of 500<sup>th</sup> Meeting of SEIAA held on 18.04.2022

**Details of Minor Mineral Activity:-**

This has reference to your application cited, the proposal for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

Sl. No.	Details of the proposal	Data furnished
1.	Name of the Owner/Firm	Thiru. N. Chidambaram S/o. Nachimuthu Gounder No.2/197,

  
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		Senapathy Chettipalayam Uthukuli Tiruppur - 638 812
2.	Type of quarrying (Savudu/Rough Stone/Sand/Granite)	Rough Stone & Gravel
3.	S.F No. Of the quarry site with area break-up	209/1A(P)
4.	Village in which situated	Morattupalyam
5.	Taluk in which situated	Uthukuli
6.	District in which situated	Tiruppur
7.	Extent of quarry (in ha.)	0.79.0ha
8.	Period of quarrying proposed	5 years
9.	Type of mining	Open cast Mechanized mining
10.	Production (Quantity in m <sup>3</sup> )	61,850 m <sup>3</sup> of Rough stone and 10,384 m <sup>3</sup> of Gravel
11.	Depth of quarrying	32m below ground level
12.	Depth of water table	45m-50m
13.	Latitude & Longitude of all corners of the quarry site	11°08'23.65"N to 11°08'27.26"N 77°25'10.44"E to 77°25'13.66"E
14.	Topo Sheet No.	57 E/08
15.	Man Power requirement per day:	15 Nos..
16.	Precise area communication issued by the District Collector with date	Na.Ka.No1391/Kanimam/2018, dated: 06.03.2019
17.	Mining Plan approved by Joint Director, Department of Geology and mining with date	Rc.No.1391/Mines/2018, dated 22.03.2019
18.	500m cluster letter issued by Assistant Director Department of Geology & Mining,	Rc.No.1391/Mines/2018, dated 31.01.2020
19.	Water requirement: Drinking & domestic purposes (in	3.5 KLD 1.0 KLD

  
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	KLD) Dust suppression , Green Belt (in KLD)	1.2 KLD 0.8 KLD
20.	Power requirement Domestic Purpose Industrial Purpose	TNEB -
21.	Whether any habitation within 300m distance	VAO letter dated: 14.04.2019
22.	Project Cost	Rs. 22.307 Lakh
23.	EMP cost	Capital Cost-Rs. 14.61 Lakh Recurring cost-Rs. 13.44 Lakh/Annum
24.	CER cost	Rs. 6.0 lakh as per SEAC minutes
<b><u>Validity:</u></b> <b>This Environmental Clearance is granted for the production in 61,850 m3 of Rough stone and 10,384 m3 of Gravel for the period of 5 Years from the date of execution of the mining lease.</b>		

**Affidavit**

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that

I Thiru. N. Chidambaram S/o. Nachimuthu Gounder No.2/197, Senapathy Chettipalayam Uthukuli Tiruppur - 638 812. Do hereby solemnly declare and sincerely affirm that,

I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone & Gravel Quarry over an extent of 0.79.0 Ha located at S.F. No, 209/1A (P) Morattupalyam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State,

1. I swear to state and confirm that within 10km area of the quarry site, we have applied for environmental clearance, none of the following is situated
  - a. Protected areas notified under the wild life (Protection) Act, 1972
  - b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act 1974.
  - c. Eco-Sensitive areas as notified

  
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**SEIAA-TN**

- d. Interstate boundary within 10km radius from the boundary of the proposed site
2. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

Government Higher Secondary School, Morattupalayam, Tiruppur

CER Activity	Project cost (Rs) lakh	CER cost (Rs) lakh
Re construction of School Kitchen.	22.307	1,50,000/-
Re construction of Boys Toilet		2,00,000/-
Re construction of Girls Toilet		2,00,000/-
Avenue Plantation along the School Boundary @ 100 trees		50,000/-
<b>Total cost Allocation</b>	<b>22.307</b>	<b>Rs. 6,00,000/-</b>

**3 . Details of quarry within 500m radius from the applied area:**

S. No	Name of the Lessee	Village & S.F. No	Extent (Ha)	Distance from this proposed quarry
<b>Existing Quarries:</b>				
1	S. Rajasekar	Morattupalayam Village 382/2A	5.19.5	--
2	P.K.Krishnasamy Muthusamy	Morattupalayam Village 209/1A(P), 2A(P)	2.25.30	--
3	N. Ayyasurai	Morattupalayam Village 392(P)	3.52.0	--
<b>Abandoned Quarries:</b>				
-----Nil-----				
<b>Present Proposed quarries:</b>				
1	N. Chidambaram	Morattupalayam Village 209/1A part	0.79.0	----
<b>Expired Quarries:</b>				
-----Nil-----				

4. There will not be any hindrance or disturbance to the people living on enrout / nearby my quarry site while transporting the minded out material and due to mining / quarrying activities.
5. No habitations are located within 500m radius from the periphery of my applied quarry.
6. We swear that afforestation will be carried with native species along the periphery of the project boundary during the course of quarrying operation and will be maintained properly.
7. The required insurance will be taken in the name of laborers working in the quarry site.

  
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8. The Approach road is belongs to local panchayath only and no other private patta roads encountered.
9. I will not engage any child labor in the quarry and I aware that engaging child labor is punishable under the law.
10. All types of safety/protective equipment will be provided to all the laborers in the proposed quarry.
11. No permanent structures, temples etc., are located within 500m radius from the periphery of our quarry.

We ensure to do all the Social and Environmental Commitment as mentioned in the mining plan to the best of our knowledge.

**Details of Quarries located within 500M radius from the proposed quarry:**

The Project Proponent has submitted a copy of the letter obtained from the Assistant Director Department of Geology & Mining, Tiruppur District in his letter Rc.No.1391/Mines/2018, dated 31.01.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

S. No	Name of the Lessee	Village & S.F. No	Extent (Ha)	Distance from this proposed quarry
<b>Existing Quarries:</b>				
1	S. Rajasekar	Morattupalayam Village 382/2A	5.19.5	--
2	P.K.Krishnasamy Muthusamy	Morattupalayam Village 209/1A(P), 2A(P)	2.25.30	--
3	N. Ayyasurai	Morattupalayam Village 392(P)	3.52.0	--
<b>Abandoned Quarries:</b>				
-----Nil-----				
<b>Present Proposed quarries:</b>				
1	N. Chidambaram	Morattupalayam Village 209/1A part	0.79.0	-----
<b>Expired Quarries:</b>				
-----Nil-----				

**Appraisal by SEAC:-**

The proposal was placed in 256<sup>th</sup> SEAC meeting held on 24.03.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

  
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**SEIAA-TN**

1. The Project Proponent, Thiru.N.Chidambaram has applied for Environmental Clearance for the proposed Rough Stone and Gravel Quarry lease over an extent of 0.79.0 Ha at S.F.No.209/1A(P) of Morattupalayam village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. The production for the five years should not exceed 61,850 m<sup>3</sup> of rough stone & 10,384 m<sup>3</sup> of gravel with a ultimate depth of mining is 32m below ground level, as per the mining plan.
4. ToR issued vide Lr No.SEIAA-TN/T.No.6799/SEAC/ToR-749/2020 Dated: 15.09.2020.
5. Public hearing was conducted on 23.08.2021.

After examining the documents & project proposals furnished by the project proponent and based on the presentations & detailed deliberations, SEAC decided to **recommend the proposal for the grant of Environmental Clearance** for the total Production for the period of five years states that total quantity should not exceed Rough Stone of 61850m<sup>3</sup> and Gravel of 10384m<sup>3</sup> with the ultimate depth of 32 m BGL , subject to the conditions mentioned in the Annexure of this minutes and standard conditions stipulated by MOEF &CC, in addition to the following specific conditions,

1. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere the EMP as committed.

Sl.No.	Description	Item	Capital cost (Rs. In Lakhs)	Recurring cost per annum (Rs. in Lakhs)
1	Occupational health & safety	Dust Mask, Safety Shoes, Helmets Ear Plugs, Gloves, Goggle, Safety Belt	0.00	0.63
2	Environmental Monitoring	Air, Water, Noise & Vibration, Soil Parameters	0.00	0.76
3	Water & Soil erosion	Garland drains & Settling tanks, check dam/gully plugs, etc	2.00	0.30
4	Drinking Water Facilities and Sanitation Facilities		1.00	0.25
5	Fixed Water Sprinkling Arrangements + Two times a day water sprinkling by water tankers @ 100 Rs. per tanker with own water tanker		8.00	0.50

  
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SEIAA-TN

6	Haul Road Maintenance	0.00	0.50
7	Green belt Development & Plantation @ 500 Trees proposed for plantation and maintenance includes Fertilizer, Manure, Manpower, etc	2.50	1.00
8	Environmental Awareness Programme	0.00	0.25
9	Boundary Fencing (Barbe wire fencing / chain link fencing)	1.11	0.25
10	Adopting new blasting technology like NONEL Blasting and Controlled Blasting Method will reduce the impacts due to blasting @ Rs 3000/- per blasting session	0.00	9.00
<b>Total</b>		<b>14.61</b>	<b>13.44</b>

2. As accepted by the Project Proponent the revised CER cost is Rs. 6 lakhs and the amount shall be spent for the benefit of Government Higher Secondary School, Morattupalayam, Tiruppur before obtaining CTO from TNPCB.

Sl.No.	Description	CER Cost INR
1	Re construction of School Kitchen.	1,50,000/-
2	Re construction of Boys Toilet	2,00,000/-
3	Re construction of Girls Toilet	2,00,000/-
4	Avenue Plantation along the School Boundary @ 100 trees	50,000/-
<b>TOTAL</b>		<b>Rs. 6,00,000/-</b>

All the commitments made by the proponent during the Public Hearing, as per the minutes of Public Hearing should be implemented in total.

#### ANNEXURE

1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.

  
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**SEIAA-TN**



3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures

  
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undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.

10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.
13. **Noise and Vibration Related:** (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.

  
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14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.

  
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SEIAA-TN



23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
28. The recommendation for the issue of environmental clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A.No.186 of 2016 (M.A.No.350/2016) and O.A.No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A.No.843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016(M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).

### Appendix

#### List of Native Trees for Planting

1. *Aegle marmelos* – Vilvam
2. *Adenaanthera pavonina* - Manjadi
3. *Albizia lebbek* – Vaagai
4. *Albizia amara* - Usil
5. *Bauhinia purpurea* - Mantharai
6. *Bauhinia racemosa* - Aathi
7. *Bauhinia tomentosa* – Iruvathi
8. *Buchanania aillaris* - Kattuma

  
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9. *Borassus flabellifer* - Panai
10. *Butea monosperma* - Murukka maram
11. *Bobax ceiba* – Ilavu, Sevvilavu
12. *Calophyllum inophyllum* - Punnai
13. *Cassia fistula* - Sarakondrai
14. *Cassia roxburghii*- Sengondrai
15. *Chloroxylon sweitenia* - Purasa maram
16. *Cochlospermum religiosum* – Kongu, Manjal Ilavu
17. *Cordia dichotoma* – Mookuchali maram
18. *Creteva adansonii* – Mavalingum
19. *Dillenia indica* – Uva, Uzha
20. *Dillenia pentagyna* – Siru Uva, Sitruzha
21. *Diospyros ebenum* - Karungali
22. *Diospyros chloroxylon* – Vaganai
23. *Ficus amplissima* – Kal Itchi
24. *Hibiscus tiliaceous* – Aattru poovarasu
25. *Hardwickia binata* – Aacha
26. *Holoptelia integrifolia* - Aayili
27. *Lannea coromandelica* - Odhiam
28. *Lagerstroemia speciosa* - Poo Marudhu
29. *Lepisanthus tetraphylla* - Neikottai maram
30. *Limonia acidissima* - Vila maram
31. *Litsea glutinosa* –Pisin pattai
32. *Madhuca longifolia* - Illuppai
33. *Manilkara hexandra* – Ulakkai Paalai
34. *Mimusops elengi* - Magizha maram
35. *Mitragyna parvifolia* - Kadambu
36. *Morinda pubescens* – Nuna
37. *Morinda citrifolia* – Vellai Nuna
38. *Phoenix sylvestre* - Eachai
39. *Pongamia pinnata* – Pungam
40. *Premna mollissima* – Munnai

  
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SEIAA-TN

41. *Premna serratifolia* – Narumunnai
42. *Premna tomentosa* - Purangai Naari, Pudanga Naari
43. *Prosopis cinerea* - Vanni maram
44. *Pterocarpus marsupium* - Vengai
45. *Pterospermum canescens* – Vennangu, Tada
46. *Pterospermum xylocarpum* - Polavu
47. *Puthranjiva roxburghii* – Puthranjivi
48. *Salvadora persica* – Uгаа Maram
49. *Sapindus emarginatus* - Manipungan, Soapu kai
50. *Saraca asoca* - Asoca
51. *Streblus asper* - Piraya maram
52. *Strychnos nuxvomica* – Yetti
53. *Strychnos potatorum* - Therthang Kottai
54. *Syzygium cumini* - Naval
55. *Terminalia bellerica* - Thandri
56. *Terminalia arjuna* - Ven marudhu
57. *Toona ciliate* – Sandhana vembu
58. *Thespesia populnea* - Puvarasu
59. *Walsura trifoliata* – valsura
60. *Wrightia tinctoria* - Vep

**Discussion by SEIAA and the Remarks:-**

The proposal was placed in the 500<sup>th</sup> meeting of Authority held on 18.04.2022. After detailed discussion, the Authority accepts the recommendation of SEAC and decided to grant Environmental Clearance subject to the conditions as recommended by SEAC meeting in addition to the following condition.

1. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed come quarry site the trees may be transplanted in the Greenbelt zone.
2. The proponent shall ensure that the activities should in no way result in disturbance to forest and trees in vicinity.
3. The proponent shall ensure that the operations shall not result in loss of soil biological properties and nutrients.

  
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**SEIAA-TN**


4. The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.
5. The mining closure plan should be strictly adhered with appropriate soil rehabilitation measures to ensure ecological stability of the area.
6. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
7. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife.
8. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem.
9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
10. The proponent shall ensure that the activities undertaken should not result in carbon emission, and temperature rise, in the area.
11. The proponent shall ensure that the mine closure plan are followed as per mining plan and the mine restoration should be done with native species, and site restored to near original status.
12. The proponent shall ensure that Monitoring be carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.
13. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
14. The proponent shall ensure that the activities shall not disturb the agro biodiversity and agro farms.
15. The proponent shall ensure that the activity shall not result in invasion by invasive alien species.
16. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
17. The proponent shall ensure that activity shall not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soils and water.

  
**MEMBER SECRETARY**  
**SEIAA-TN**

18. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health
19. Bio remediation using an microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
20. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
21. The proponent shall ensure that the activities should not impact the water bodies/wells in the neighbouring open wells and bore wells.
22. The proponent shall ensure that the activities should not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity, nor impact the water table and levels.
23. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
24. The proponent shall ensure that the activities should not disturb the resident and migratory birds.
25. The proponent shall ensure the area should be restored and rehabilitated with native trees as recommended SEAC Minutes (in Appendix).
26. The proponent shall ensure that the mine restoration should be done using mycorrhizal VAM, vermicasting, Biofertilizers to ensure soil health and, biodiversity conservation.
27. The proponent shall ensure that the topsoil should be protected and used in planting activities in the area.
28. The proponent shall ensure that the activities should not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
29. The proponent shall ensure that the activities should not disturb the vegetation and wildlife in the adjoin reserve forests and areas around.
30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.

**Part-A: Conditions to be Complied before commencing mining operations:-**

1. The project proponent shall advertise in at least two local newspapers widely

  
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**SEIAA-TN**




circulated in the region, one of which shall be in the vernacular language informing the public that

- I. The project has been accorded Environmental Clearance.
- II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
- III. Environmental Clearance may also be seen on the website of the SEIAA.
- IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.

2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.

  
MEMBER SECRETARY  
SEIAA-TN

13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.
20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
  - i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.

  
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**SEIAA-TN**

22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF&CC, GoI to control noise to the prescribed levels.
23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps:-
  - i. Retention/ toe walls shall be provided at the foot of the dumps.
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out

  
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around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.

32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
42. The Project Proponent shall provide solar lighting system to the nearby villages.
43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai

  
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**SEIAA-TN**

46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.
56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, O.A.No.404/ 2016 ( M.A.No. 758/2016, M.A. No. 920 /2016, M.A.No.1122/2016, M.A.No. 12/2017 &

  
**MEMBER SECRETARY**  
**SEIAA-TN**

M.A.No.843/2017), O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).

58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
59. The company shall stress upon the preventive aspects of occupational health.
60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
70. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.

  
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71. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
75. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
76. All the recommendations made in the EIA report of the project shall be effectively implemented.
77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO<sub>2</sub>, NO<sub>x</sub> or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

**Part B: General Conditions:**

  
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1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be

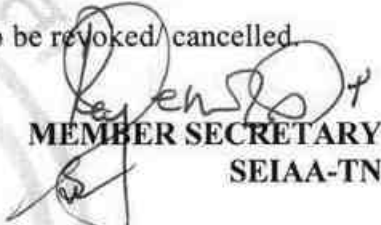
  
**MEMBER SECRETARY**  
**SEIAA-TN**

- drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
  14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
  15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
  16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
  17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
  18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
  19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tpe Environmental Clearance.
  20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
  21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules,

  
**MEMBER SECRETARY**  
**SEIAA-TN**

2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.

22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/cancelled.

  
**MEMBER SECRETARY**  
**SEIAA-TN**

**Copy to:**

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai - 32.
7. The District Collector, Tirppur District.
8. The Commissioner of Geology and Mines, Guindy, Chennai - 32.
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Spare.

**Signature Not Verified**

Digitally signed by  
Tmt.P.RAJESWARI, IFS  
Member Secretary  
Date: 5/18/2022 12:58:29 PM  
Page 26 of 26



மாவட்ட ஆட்சியர் அலுவலகம்,  
திருப்பூர் மாவட்டம், திருப்பூர்.

ந.க. 341 / கனிமம் / 2017

நாள்: 09.02.2018.

குறிப்பாணை

**பொருள்:** கனிமங்களும் குவாரிகளும் - சாதாரண கற்கள் - ஊத்துக்குளி வட்டம் - மொரட்டுப்பாளையம் கிராமம் - பட்டா புல எண். 392 (பகுதி)-ல் 2.02.5 ஹெக்டாரிலிருந்து சாதாரண கற்கள் மற்றும் கிராவல் மண் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு குவாரிக் குத்தகை உரிமம் கோரிய திரு. என். அய்யாத்துரை, த/பெ. நஞ்சப்பண்ணாடி என்பவர் மனு - அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச் சூழல் ஒப்புதல் பெற்று அளிக்க கோருதல் - தொடர்பாக.

- பார்வை:**
1. திரு. என். அய்யாத்துரை, த/பெ. நஞ்சப்பண்ணாடி என்பவரின் குவாரிக் குத்தகை உரிமம் கோரிய விண்ணப்பம் நாள்: 18.04.2017.
  2. திரு. வெங்கடாசலம், மாவட்ட செயலாளர் சட்ட உரிமைகள் கழகம், திருப்பூர் மனு நாள்: 2.5.2017.
  3. திருப்பூர் சார் ஆட்சியர் அவர்களின் அறிக்கை ந.க. 1802 / 2017 / அ3 நாள்: 04.08.2017.
  4. திருப்பூர் புவியியல் மற்றும் சுரங்கத்துறை துணை இயக்குநர் அவர்களின் இடப்பார்வை அறிக்கை நாள்: 08.11.2017.
  5. அரசாணை எண். Ms. No. 79, தொழில் (எம்.எம்.சி-1) துறை நாள்: 6.4.2015.

திருப்பூர் மாவட்டம், ஊத்துக்குளி வட்டம், மொரட்டுப்பாளையம் கிராமம், பட்டா புல எண். 392 (பகுதி)-ல் 2.02.5 ஹெக்டார் பரப்பில் சாதாரண கற்கள் வெட்டியெடுக்க ஐந்தாண்டுகளுக்கு திரு. என். அய்யாத்துரை, த/பெ. நஞ்சப்பண்ணாடி என்பவர் விண்ணப்பித்ததன் பேரில் குவாரிக் குத்தகை உரிமம் வழங்குவது தொடர்பாக, திருப்பூர் சார் ஆட்சியர் மற்றும் துணை இயக்குநர் (கனிமம்) ஆகியோர் மேற்காணும் விண்ணப்பப் புலத்தில் 2.02.5 ஹெக்டாரில் ஐந்து ஆண்டுகளுக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள், 1959ன் விதி எண். 19 (1), 20, 33 ஆகியவற்றின் கீழ் சாதாரண கற்கள் மட்டும் குவாரிக் குத்தகை உரிம அனுமதி கீழ்க்கண்ட நிபந்தனைக்குட்பட்டு வழங்கலாம் என பரிந்துரை செய்துள்ளனர்.

1. அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டத்தை (Approved Mining Plan) ஐந்து மாதத்திற்குள் மாவட்ட ஆட்சியர் முன்பு சமர்ப்பிக்க வேண்டும்.



2. மேற்காணும் விண்ணப்பப் புல எண். 392 (பகுதி)-ல் 2.02.5 ஹெக்டாரில் சாதாரண கற்கள் வெட்டியெடுக்க அனுமதி வழங்குவது தொடர்பாக சுற்றுச் சூழல் ஒப்புதல் பெற்று சமர்ப்பிக்க வேண்டும்.
3. விண்ணப்பப் புலத்தின் கீழ்க்கு எல்லையில் வட தென் மடலாகச் செல்லும் உயர் மின் அழுத்த கம்பிப் பாதைக்கும், புலஎண் 391-ல் அமைந்துள்ள மின் மாற்றிக்கும் 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு குவாரிப் பணி செய்யப்படவேண்டும்.

(ஓம்)... கே.எஸ். பழனிசாமி,  
மாவட்ட ஆட்சியர்,  
திருப்பூர்.

// உண்மை நகல் / உத்தரவுப்படி //

  
மாவட்ட ஆட்சியருக்காக,  
திருப்பூர்.

பெறுநர்

திரு. என். அய்யாதுரை,  
த/பெ. நஞ்சப் பண்ணைடி,  
செல்லாங்காட்டுத் தோட்டம்,  
எஸ். பெரிய பாளையம்,  
ஊத்துக்குளி வட்டம்,  
திருப்பூர் மாவட்டம்.

From

Thiru. L. Sattanathan Sankar, M.Sc.,  
Deputy Director,  
Geology and Mining,  
Tiruppur

To

Thiru. T.S. Udhayakumar  
S/o. Subramani,  
6/85, Thimmanaickenpalayam,  
Morattupalayam post,  
Uthukuli Taluk.

**R.c. No. 174 / Mines / 2017 Dated : 03.07.2017.**

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough Stone permission in S.F. No. 388 (P) (Bit-A) (Old Pit D) of Morattupalayam Village – Uthukuli Taluk - total Extent 1.26.5 Hectares – **Thiru. T.S. Udhayakumar, S/o. Subramani** - Precise area communicated - Submission of Mining Plan – submitted - Approved - regarding.

- Ref: 1. Tiruppur District Gazette (Extra-ordinary) Issue No. 6 dated 20.10.2016.
2. Tiruppur District Gazette (Extra-ordinary) Issue No. 1 dated 3.2.2017.
3. G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.
4. The District Collector's, Tiruppur letter R.C. No. 174 / Mines / 2017 dated 24.3.2017.
5. Mining Plan submitted by **Thiru. T.S. Udhayakumar, S/o. Subramani** in letter dated 23.5.2017.

\*\*\*\*\*

As directed in the reference 4<sup>th</sup> cited, the applicant **Thiru. T.S. Udhayakumar, S/o. Subramani** has submitted three copies of Mining Plan prepared by RQP for approval in connection with the grant of Rough Stone Quarry permission in Poramboke land in S.F. No. 388 (P) (Bit-A) (Old Pit D) over an extent of 1.26.5 Hectare of Morattupalayam Village of Uthukuli Taluk in Tiruppur District.

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.

Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, read with G.O. (Ms). No.79 / Industries (MMC 1) Department dated 06.04.2015, the mining plan is hereby approved, subject to the following conditions:

**Part-I:-**


- (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 and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (vi) If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

**Part-II**


- (a) There are five minor mineral quarries and three stone quarry proposals are situated within a radial distance of 500 meters from the applied fields.

S. No	Name of the lessee	S.F. No.	Extent	Status
1.	T.S. Raju	388 (P) (Bit-B) (old Bit B & C)	1.58.0	Applied
2.	N. Ayyadurai	392 (Part)	3.52.0	Applied
3.	T.S. Udhayakumar	389/1C	0.89.0	Existing
4.	S. Raju	389/1B1	1.62.0	Existing
5.	P. Thangamuthusamy	383/2A1, 382/2B	3.24.0	Existing
6.	T. Sumathi	383/2A2B	0.89.5	Existing
7.	M. Palanisamy	385/2	0.59.5	Existing
8.	R. Chinnasamy	389/1A	1.29.0	Applied
		Total	13.63.0	

Encl.: One copy of Approved Mining Plan.

  
Deputy Director,  
Geology and Mining,  
Tiruppur

Copy to

- 
1. Thiru. C. Natarajan, M.SC., M.Phil,  
Recognized Qualified Person,  
93/36-E2, Subramaniyar Koil Street,  
Omalur Taluk, Salem District.
  2. The Commissioner,  
Geology and Mining, Chennai -32.

From

Thiru. L. Sattanathan Sankar, M.Sc.,  
Deputy Director,  
Geology and Mining,  
Tiruppur

To

Thiru. S. Raju,  
S/o. Subramani,  
6/136, Thimmanaickenpalayam,  
Morattupalayam post,  
Uthukuli Taluk.

R.c. No. 175 / Mines / 2017 Dated : 03.07.2017.

Sir,

Sub: Mines and Minerals – Minor Mineral – Rough Stone permission in S.F. No. 388 (P) (Bit-B) (Old Pit B & C) of Morattupalayam Village – Uthukuli Taluk - total Extent 1.58.0 Hectares – **Thiru. S. Raju, S/o. Subramani** - Precise area communicated - Submission of Mining Plan – submitted - Approved - regarding.

- Ref: 1. Tiruppur District Gazette (Extra-ordinary) Issue No. 6 dated 20.10.2016.
2. Tiruppur District Gazette (Extra-ordinary) Issue No. 1 dated 3.2.2017.
3. G.O. Ms. No. 79 / Industries (MMC 1) Department dated 06.04.2015.
4. The District Collector's, Tiruppur letter R.C. No. 175 / Mines / 2017 dated 24.3.2017.
5. Mining Plan submitted by **Thiru. S. Raju, S/o. Subramani** in letter dated 22.5.2017.

\*\*\*\*\*

As directed in the reference 4<sup>th</sup> cited, the applicant **Thiru. S. Raju, S/o. Subramani** has submitted three copies of Mining Plan prepared by RQP for approval in connection with the grant of Rough Stone Quarry permission in Poramboke land in S.F. No. 388 (P) (Bit-B) (Old Pit B & C) over an extent of **1.58.0 Hectare** of **Morattupalayam Village** of **Uthukuli Taluk** in **Tiruppur District**.

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.

Therefore in exercise of the powers conferred under Rule 41(2) of Tamil Nadu Minor Mineral Concession Rules, 1959, read with G.O. (Ms). No.79 / Industries (MMC 1) Department dated 06.04.2015, the mining plan is hereby approved, subject to the following conditions:

**Part-I:-**

- (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 and that the mining plan is approved without prejudice to any other law applicable to the quarry lease from time to time whether such laws are made by the Central Government, State Government or any other authority.
- (vi) If anything is found to be concealed as required by the Mines Act in the contents of the Mining Plan and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.

**Part-II**

- (a) There are five minor mineral quarries and three stone quarry proposals are situated within a radial distance of 500 meters from the applied fields.

S. No	Name of the lessee	S.F. No.	Extent	Status
1.	T.S. Udhayakumar	388 (P) (Bit-A) (old Bit D)	1.26.5	Proposed
2.	N. Ayyadurai	392 (Part)	3.52.0	Proposed
3.	T.S. Udhayakumar	389/1C	0.89.0	Existing
4.	S. Raju	389/1B1	1.62.0	Existing
5.	P. Thangamuthusamy	383/2A1, 382/2B	3.24.0	Existing
6.	T. Sumathi	383/2A2B	0.89.5	Existing
7.	M. Palanisamy	385/2	0.59.5	Existing
8.	R. Chinnasamy	389/1A	1.29.0	Proposed
		Total	13.31.5	

Encl.: One copy of Approved Mining Plan.

  
Deputy Director,  
Geology and Mining,  
Tiruppur

Copy to

1. Thiru. C. Natarajan, M.SC., M.Phil,  
Recognized Qualified Person,  
93/36-E2, Subramaniyar Koil Street,  
Omalur Taluk, Salem District.
2. The Commissioner,  
Geology and Mining, Chennai -32.

  
5/3/2019





Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Tamil Nadu)

To,

The Proprietor  
MORATTUPALAYAM VILLAGE QUARRY  
Morattupalayam Village, Uthululi Tk, Tiruppur Dt -638752

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/59860/2021 dated 18 Aug 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |   |
|--|---|
| 1. EC Identification No.                   | EC23B001TN174422  |
| 2. File No.                                | 8243  |
| 3. Project Type                            | New   |
| 4. Category                                | B1  |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals   |
| 6. Name of Project                         | K.Senthilkumar, Morattupalayam Rough stone and Gravel Quarry Project over an Extent of 0.71.5ha |
| 7. Name of Company/Organization            | MORATTUPALAYAM VILLAGE QUARRY   |
| 8. Location of Project                     | Tamil Nadu  |
| 9. TOR Date                                | 16 Mar 2021   |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 17/03/2023

(e-signed)  
Thiru.Deepak S.Bilgi  
Member Secretary  
SEIAA - (Tamil Nadu)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*







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

**STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY-TAMILNADU**  
3<sup>rd</sup> Floor, PanagalMaaligai,  
No.1, Jeenis Road, Saidapet,  
Chennai - 600 015.  
Phone No. 044-24359973  
Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

**Lr. No. SEIAA-TN/F.No.8243/E.C.No: 5559/2023, dated: 17.02.2023**

**Sir/Madam,**

**Sub:** SEIAA-TN –Proposed Rough Stone & Gravel quarry lease over an extent of 0.71.5 Ha at S.F.Nos. 383/1(P) & 383/2A2A1 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.K.Senthilkumar – under Category “B1” of Item 1(a) “Mining of Minerals Projects” of the Schedule to the EIA Notification, -issue of Environmental Clearance Regarding.

- Ref:**
1. TOR Issued vide letter No.SEIAA.TN/F.No.8243/SEAC/ToR-918/2020, Dated: 16.03.2021
  2. Public Hearing conducted on 23.08.2021
  3. Online Proposal No. SIA/TN/MIN/59860/2022, dated: 27.09.2021
  4. Project proponent submitted EIA Report to SEIAA-TN on 30.09.2021
  5. Minutes of the 303<sup>rd</sup> SEAC Meeting held on 18.08.2022.
  6. Minutes of the 548<sup>th</sup> SEIAA Meeting held on 01.09.2022.
  7. Proponent Reply Dated: 20.10.2022
  8. Minutes of the 575<sup>th</sup> SEIAA meeting held on 06.12.2022.
  9. Minutes of the 348<sup>th</sup> SEAC meeting held on 19.01.2023.
  10. Minutes of the 593<sup>rd</sup> SEIAA meeting held on 17.02.2023.

**Details of Minor Mineral Activity: -**

This has reference to your application 3<sup>rd</sup> & 4<sup>th</sup> cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.

  
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SEIAA-TN**

Sl. No	Details of the proposal	Data furnished
1	Name of the Owner/Firm	Thiru.K.Senthilkumar Anna Street Uthukuli Taluk Tiruppur District - 638752
2	Type of quarrying	Rough stone & Gravel
3	S.F No. Of the quarry site	383/1 (P) & 383/2A2A1(P)
4	Village in which situated	Morattupalayam
5	Taluk in which situated	Uthukuli
6	District in which situated	Tiruppur
7	Extent of quarry (in ha.)	0.71.5Ha
8	Latitude & Longitude of all corners of the quarry site	11°08'07.70"N to 11°08'11.35"N 77°25'03.46"E to 77°25'06.97"E
9	Topo Sheet No.	58 - E/08
10	Type of mining	Opencast Mechanized Mining
11	Period of quarrying proposed	5years
12	Production (Quantity in m <sup>3</sup> )	15,300 m <sup>3</sup> of Rough stone
13	Depth of quarrying	32m BGL
14	Depth of water table	62m in summer and 58m in rainy season
15	Man Power requirement per day:	13Nos.
16	Water requirement:	4.5 KLD
	1. Drinking & domestic purposes	0.5KLD
	2. Dust suppression	3.0 KLD
	3. Green Belt	1.0KLD
17	Power requirement	
	a. Domestic Purpose	TNEB
	b. Industrial Purpose	500 Liters of HSD/ day
18	Precise area communication approved by the Assistant Director, with date	Na.Ka.No.992/Kanimam/2020, dated:26.11.2020
19	Mining Plan approved by the Deputy Director,	Re.No.992/2020/Mines,

MEMBER SECRETARY  
SEIAA-TN

	Department of Geology and Mining with date	dated:16.12.2020
20	Deputy Director, Department of Geology and Mining 500m cluster letter	Rc.No.992/2020/Mines, dated: 16.12.2020
21	VAO certificate regarding 300m radius cluster	Letter dated: 11.12.2020
22	Project Cost (excluding EMP cost)	Rs.13,72,000
23	EMP cost	Capital Cost - Rs.10,70,000 Recurring Cost – Rs. 17,20,000
24	CER cost	5 lakhs As per SEAC Minutes.
25	TOR Issued	Lr.No,SEIAA- TN/F.No.8243/SEAC/ToR-918/2020 Dated: 16.03.2021
26	Public Hearing	23.08.2021
27	EIA Report Received	30.09.2021
28	<b>Validity:</b> <b>This Environmental Clearance is granted for the production quantity of 15,300 m<sup>3</sup> of Rough stone upto depth of 32m BGL as per the approved mining plan and is valid for the approved mining plan period.</b>	

The Proponent has furnished affidavit in One Hundred Rupees stamp paper attested by the Notary stating that

**I, K.Senthilkumar, S/o. Karuppusamy, Anna Street, Uthukuli Taluk, Tiruppur District – 638 752, Tamil Nadu State, solemnly declare and sincerely affirm that:**

I have apply for getting Environment Clearance to Appropriate Authorities, Tamil Nadu for quarry lease for quarrying of **Rough stone and Gravel Quarry over an extent 0.71.5ha of Patta lands in S.F.Nos.383/1 (P) & 383/2A2A1 (P) of Morattupalayam Village, Uthukuli Taluk, Tiruppur District.**

1. I swear to state and confirm that within 10km area of the quarry site, I have applied for environment clearance, none of the following is situated.
  - a. Protected areas notified under the wild life (Protection) Act, 1972,
  - b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act, 1974,

**MEMBER SECRETARY  
SEIAA-TN**

808

- c. Eco-Sensitive areas as notified,
- d. Interstate boundaries within 10km radius from the boundary of the proposed site.

2. I will spend the amount of Rs.5 Lakhs towards Corporate Environment Responsibility (Revised CER) for the following activities to the Panchayat Union Middle School, Neelagoundapalayam, Tiruppur before commencement of quarrying activities.

Sl. No.	Description	CER Cost INR
1	Renovation of Existing toilets	Rs.5,00,000/-
2	Painting of classrooms	
3	Renovation of School Ground (filling and leveling of low-lying areas)	
4	Plantation along the School Boundary	
5	Providing book shelves to class rooms	

3. The following quarries are located within the radius of 500m from the periphery of my quarry.

**I. Existing Quarries**

SL. No	Name of the Lessee	Village	S.F.No.	Extent Hect	Collector's Proceedings No & Date	Lease Period
1.	P.Thangamuthusamy	Morattupalaym	383/2A1, 382/2B	3.24.0	301/Mines/2015 Dated; 13.01.2016	19.01.2016 To 18.01.2021
2.	T.Sumathi	Morattupalaym	383/2A2 B	0.89.5	299/Mines/2015 Dated; 13.01.2016	20.01.2016 To 19.01.2021
3.	M.Palanisamy	Morattupalaym	385/2 (P)	0.59.5	300/Mines/2015 Dated; 13.01.2016	21.01.2016 To 20.01.2021
4.	S.Rajasekar	Morattupalaym	382/2A (P)	1.98.5	105/Mines/2015 Dated; 25.09.2018	25.09.2018 To 24.09.2023

5.	M.Thangaraj	Morattupalaym	389/1B1 A, 389/1B1 B, 389/1B2	2.19.5	357/Mines/2015 Dated; 15.01.2016	21.01.2016 To 20.01.2021
6.	T.S.Udayakumar	Morattupalaym	388 Part	1.26.5	174/Mines/2017 Dated; 06.04.2018	06.04.2018 To 05.04.2023
7.	S.Raju	Morattupalaym	388 Part	1.58.0	175/Mines/2017 Dated; 09.04.2018	09.04.2018 To 08.04.2023

### II. Abandoned / Expired Quarries

SL. No.	Name of the Owner	Village and S.F.No.	Extent Hect	Lease Period
1.	T.S.Udhaya Kumar	Morattupalaym 389/1C	0.89.0	27.05.2020

### III. Present Proposed Quarries

Sl. No.	Name of the Lessee	Village	S.F.No.	Extent Hect	Collector's Proceedings No & Date	Lease Period
1.	M.Thangaraj	Morattupalaym	383/2B	1.51.0	-	Nearby Applied area
2.	S.Raju	Morattupalaym	389/1C1	1.61.9	-	Nearby Applied area
3.	K.Senthilkumar	Morattupalaym	383/1(P), 383/2A2A1(P)	0.71.5	-	Proposed area

- There will not be hindrance or disturbance to the people living during quarrying activities and transportation of the mineral.
- There is no approved habitation within 300m radius from the periphery of my quarry.

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SEIAA-TN

6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
7. The required insurance will be taken in the name of the laborers working in my quarry site.
8. The approach road from the main road to quarry area is already existence and same will be maintained in a good condition for the haulage of quarry materials.
9. I will not engage any child labor in our quarry site and I aware that engaging child labor is punishable under the law.
10. All types of safety / protective equipment will be provided to all the laborers working in my quarry.
11. No permanent structures, temples etc., are located within 500m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge

**Details of Quarries located within 500M radius from the proposed quarry:**

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director, Geology & Mining, Tiruppur District. In his letter Rc.No.992/2020/Mines, dated: 16.12.2020 has stated the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

**a. Existing quarries**

Sl. No.	Name of the Lessee	Village	S.F. No.	Extent Hect.	Collector's proceedings No. & Date	Lease Period
1	P. Thangamuthusamy	Morattupalayam	383/2A1 382/2B	3.24.0	301/Mines/2015 dated 15.01.2016	19.01.2016- 18.01.2021
2	T. Sumathi	Morattupalayam	383/2A2B	0.89.5	299/Mines/2015 dated 13.01.2016	20.01.2016 - 19.01.2021
3	M. Palanisamy	Morattupalayam	385/2(Part)	0.59.5	300/ Mines /2015 dated 13.01.2016	21.01.2016 - 20.01.2021
4	S. Raja sekar	Morattupalayam	382/2A(P)	1.98.5	105/ Mine/2017 dated	25.09.2018



					25.09.2018	- 24.09.2023
5	M. Thangaraj	Morattupalayam	389/1B1A 389/1B1B 389/1B2	2.19.5	357/Mines/2015 dated 15.01.2016	21.01.2016 - 20.01.2021
6	T.S. Udhayakumar	Morattupalayam	388 Part	1.26.5	174/mines/2017 Dated 6.4.2018	06.04.2018 - 05.04.2023
7	S. Raju	Morattupalayam	388 Part	1.58.0	175/mines/2017 Dated 9.4.2018	09.04.2018 - 08.04.2023

**b. Abandoned / Expired quarries Area:**

Sl. No.	Name of the Owner	Village and S.F. No.	Extent in Hects	Expired on
1	T.S. Udhayakumar	Morattupalayam 389/1C	0.89.0	27.05.2020

**c. Present proposed quarries**

Sl. No.	Name of the Lessee	Village	S.F. No.	Extent Hect.	Collector's proceedings No. & Date	Lease Period
1	M. Thangaraj	Morattupalayam	383/2B2	1.51.0	--	Nearby applied area
2	S. Raju	Morattupalayam	389/1B1	1.61.9	--	Nearby applied area
3	K. Senthil Kumar	Morattupalayam	383/1(P), 383/2A2A1(P)	0.71.5	--	Proposed area.

**Appraisal by SEAC: -**

**The SEAC noted the following:**

1. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006.

  
MEMBER SECRETARY  
SEIAA-TN

2. TOR was issued vide Lr No. SEIAA-TN/F.No.8243/SEAC/ToR-918/2020 Dated: **16.03.2021.**
3. Public Hearing was conducted on 23.08.2021.
4. EIA report was submitted on 30.09.2021.

Based on the presentation made by the proponent, SEAC recommended to grant of Environmental Clearance for the production quantity of 15,300 m<sup>3</sup> of rough stone with Annual Peak Production Capacity of 4950 m<sup>3</sup> (4<sup>th</sup> year) of Rough stone keeping an ultimate depth of 32m as per the mining plan, subject to the standard conditions as per Annexure -I of this minutes & normal conditions stipulated by MOEF &CC, in addition to the following specific conditions:

1. The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier, vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.
2. The PP shall furnish the affidavit to the concerned AD (Geology & Mines) before obtaining the CTO from TNPCB stating that the blasting operation in the proposed quarry is carried out by the statutory competent person as per the MMR 1961 such as blaster, mining mate, mine foreman, III Class mines manager appointed by the proponent.
3. **The PP shall carry out the shallow depth Jack hammer drilled holes (of 32-34 mm dia & 1.5 m depth) & NONEL initiation based controlled blasting operation involving line drilling and muffle blasting in the proposed quarry such that the blast-induced ground vibrations are controlled within the permissible limits as stipulated by the DGMS as well as no fly rock travel beyond 20 m from the blast site.**
4. **Since the quarry lies in a cluster situation, the PP shall submit a Standard Operating Procedure to the concerned AD (Geology & Mines) before obtaining the CTO from TNPCB for carrying out the safe blasting operation while considering the adjacent quarries lies in a radial distance of 500 m from their quarry.**
5. Since Effluent Treatment plant is located at a distance of 360m from the proposed lease area, 'Cumulative Blast-induced Vibration Study from the cluster of mines' shall be carried out within one year of commencement of mining operations by involving reputed



academic/research institution such as Anna University-CEG Campus, IIT Madras, NITK Surathkal – Dept of Mining Engg, NIRM and other CSIR labs such that the blasts are designed to be conducted by achieving the PPV triggered value at the aforesaid Treatment Plant is not exceeding 2 mm/s and the copy of the above study report shall be submitted to the SEIAA, the concerned AD (Geology & Mines), the concerned DEE/TNPCB, MoEF-IRO, Chennai and the DMS, Chennai.

6. In the case of proposed lease in an existing (or old) quarry where the benches are nonexistent (or) partially formed critical of the bench geometry approved in the Mining Plan, the Project Proponent (PP) shall prepare and submit an 'Action Plan' for carrying out the realignment of the 'highwall' benches to ensure slope stability in the proposed quarry lease which shall be vetted by the concerned Asst. Director of Geology and Mining, to the concerned DEE/TNPCB before for obtaining the CTO.
7. As a part of EMP, the PP shall carry out the scientific studies during 3<sup>rd</sup> year of quarrying operations to assess the slope stability of the proposed working benches / quarry wall, by involving a reputed Research and Academic Institution such as NIRM, IITs, NITK-Dept of Mining Engg, Surathkal, Anna University Chennai-CEG Campus, and any CSIR Laboratories etc. A copy of such scientific study report shall be submitted to the SEIAA, the concerned AD (Geology & Mines), the concerned DEE/TNPCB, MoEF-IRO, Chennai and the DMS, Chennai.
8. All the commitments made by the proponent during the Public Hearing, as per the minutes of Public Hearing should be implemented in total.
9. As per the MoEF & CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere EMP furnished.
10. As accepted by the Project proponent the CER cost is Rs. 5 lakhs and the amount shall be spent for the committed activities in Panchayat Union Middle School, Neelagoundapalayam, Tiruppur as committed, before obtaining CTO from TNPCB.

Subsequently, the proposal was placed in the 548<sup>th</sup> Authority meeting held on 01.09.2022 and the Authority after detailed deliberation decided to call for additional details from the proponent.

1. The proponent is requested to furnish the certified compliance report for the quarrying activity carried out earlier in the proposed mine lease area.

  
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**SEIAA-TN**

Again, the proposal was placed in the 575<sup>th</sup> Authority meeting held on 06.12.2022. The proponent had submitted the Certified Compliance Report to the O/o SEIAA on 20.10.2022. On the receipt of CCR, SEIAA noted that certain conditions have not been complied. Hence, SEIAA decided that SEAC shall examine the above submitted Certified Compliance Report for grant of Environmental Clearance and furnish the remarks to SEIAA.

Now the proposal was placed for reappraisal in this 348<sup>th</sup> meeting of SEAC held on 19.01.2023. The PP has furnished a detailed reply covering the points raised by SEIAA. Based on the presentation and documents furnished by the project proponent, SEAC decided to confirm the recommendation already made in 303<sup>rd</sup> meeting of SEAC held on 18.08.2022. All other conditions stipulated in the earlier minutes will remain unaltered.

#### ANNEXURE - I

1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.
2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width

  
MEMBER SECRETARY  
SEIAA-TN

and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent

  
MEMBER SECRETARY  
SEIAA-TN

shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.

13. **Noise and Vibration Related:** (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to

  
MEMBER SECRETARY  
SEIAA-TN

transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.

18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.

  
MEMBER SECRETARY  
SEIAA-TN



26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road, about the project information as shown in the **Appendix - II** of this minute.

**Appendix - I**  
**List of Native Trees Suggested for Planting**

No	Scientific Name	Tamil Name	Tamil Name
1	<i>Acacia marmaleos</i>	Vilvam	விவம்
2	<i>Adonanthera pavonina</i>	Manjadi	மனாஜி
3	<i>Albizia lebbek</i>	Vaagai	வாகை
4	<i>Albizia amara</i>	Ural	உரல்
5	<i>Bauhinia purpurea</i>	Martharas	மர்தாரச
6	<i>Bauhinia racemosa</i>	Aathu	ஆது
7	<i>Bauhinia tomentosa</i>	Iruvathi	இருவதி
8	<i>Buchanania axillaris</i>	Kattuna	கட்டூ
9	<i>Borassus flabellifer</i>	Panai	பனை
10	<i>Butea monosperma</i>	Murakkamaram	முரக்காமம்
11	<i>Bobax corda</i>	Bavu, Sevvilavu	பவூ
12	<i>Calophyllum inophyllum</i>	Purnai	புர்னை
13	<i>Cassia fistula</i>	Sarakondrai	சரகண்டரை
14	<i>Cassia roxburghii</i>	Sengondrai	செங்கண்டரை
15	<i>Chloroxylon swietenia</i>	Purazamaram	புராசாமம்
16	<i>Cochlospermum religiosum</i>	Kongu, Manjallavu	கொங்கு, மனாஜலூ
17	<i>Cordia dichotoma</i>	Naruvu	நரூ
18	<i>Crotos adansonii</i>	Mavalingum	மாவலிங்கம்
19	<i>Dillenia indica</i>	Uva, Ucha	உவா
20	<i>Dillenia pentagyna</i>	SiruUva, SiruUcha	சீரூஉவா
21	<i>Diospyro seboum</i>	Karungali	கரூங்கலி
22	<i>Diospyro chloroxylon</i>	Vaganai	வாகனை
23	<i>Ficus amplissima</i>	Kalbhchi	கல்பச்சி
24	<i>Hibiscus tiliaceo</i>	Aatrupoovaram	ஆத்ரூபூவாரம்
25	<i>Hardwickia binata</i>	Aacha	ஆச்சா
26	<i>Holoptelia integrifolia</i>	Aayili	ஆயிலி
27	<i>Lamnia coromandelica</i>	Odhiam	ஒடியம்
28	<i>Lagerstroemia speciosa</i>	Poo Marudhu	பூ மரூது
29	<i>Lepisanthus tetraphylla</i>	Nekkottaimaram	நெககோட்டைமரம்
30	<i>Limonia acidissima</i>	Vila maram	வில்லாமரம்
31	<i>Litsea glutinosa</i>	Pimpattai	பிம்பட்டை
32	<i>Madhuca longifolia</i>	Iluppai	இலூப்பை
33	<i>Mimuslura hexandra</i>	UlakkaiPaalai	உலக்கைபாலை
34	<i>Mimusops elonga</i>	Magizhamaram	மகிழாமரம்
35	<i>Nitragyna parvifolia</i>	Kadambu	கடம்பு
36	<i>Morinda pubescens</i>	Nura	நூர்
37	<i>Morinda citrifolia</i>	Vellai Nura	வெலை நூர்
38	<i>Phoenix sylvestra</i>	Echai	ஏச்சா
39	<i>Pongamia pinnat</i>	Pungam	புங்கம்



**Discussion by SEIAA and the Remarks: -**

The proposal was placed in the 593<sup>rd</sup> Authority meeting held on 17.02.2023. The authority noted that the subject was appraised in 348<sup>th</sup> SEAC meeting held on 19.01.2023. SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.

After detailed discussions, the Authority taking into account the safety aspects and to ensure sustainable, scientific and systematic mining, decided to grant Environmental Clearance for the quantity of 15300m<sup>3</sup> of Rough stone and depth restricted up to 32m BGL as per the mine plan approved by the Department of Geology & Mining. This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.

1. Keeping in view of MoEF& CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period.
2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.
3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF& CC while seeking a renewal of the mining plan to cover the project life.
4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
5. The project proponent shall store/dump Top soil, Weathered Rock & Granite Waste generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan

**Annexure 'A'**

**EC Compliance**

1. The Environmental Clearance is accorded based on the assurance from the project proponent that there will be full and effective implementation of all the undertakings given in the Application Form, Pre-feasibility Report, mitigation measures as assured in the Environmental Impact Assessment/ Environment

  
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**SEIAA-TN**



Management Plan and the mining features including Progressive Mine Closure Plan as submitted with the application.

2. All the conditions as presented by the proponent in the PPT during SEAC appraisal should be addressed in Full.
3. The proponent shall submit Compliance Reports on the status of compliance of the stipulated EC conditions including results of monitored data. It shall be sent to the respective Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India and also to the Office of State Environment Impact Assessment Authority (SEIAA).
4. Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

#### **Applicable Regulatory Frameworks**

5. The project proponent shall strictly adhere to the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter

#### **Safe mining Practices**

6. The AD/DD, Dept. of Geology & Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
7. The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/

  
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SEIAA-TN

action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.

8. A minimum buffer distance specified as per existing rules and statutory orders shall be maintained from the boundary of the quarry to the nearest dwelling unit or other structures, and from forest boundaries or any other ecologically sensitive and archeologically important areas or the specific distance specified by SEIAA in EC as per the recommendations of SEAC depending on specific local conditions.

**Water Environment – Protection and mitigation measures**

9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and groundwater, nor cause any pollution, to water sources in the area.
10. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
11. Water level in the nearest dug well in the downstream side of the quarry should be monitored regularly and included in the Compliance Report.
12. Quality of water discharged from the quarry should be monitored regularly as per the norms of State Pollution Control Board and included in the Compliance Report.
13. Rain Water Harvesting facility should be installed as per the prevailing provisions of TNMBR/TNCDBR, unless otherwise specified. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.
14. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the compliance reports to SEIAA.
15. Regular monitoring of ground water level and water quality shall be carried out around the mine area during mining operation. At any stage, if it is observed that

ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.

16. Garland drains and silt traps are to be provided in the slopes around the core area to channelize storm water. De-silting of Garland canal and silt traps have to be attended on a daily basis. A labour has to be specifically assigned for the purpose. The proponent shall ensure the quality of the discharging storm water as per the General Effluent Discharge Standards of CPCB.

**Air Environment – Protection and mitigation measures**

17. The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.
18. The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.
19. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

**Soil Environment – Protection and mitigation measures**

20. The proponent shall ensure that the operations do not result in loss of soil biological properties and nutrients.
21. The proponent shall ensure that activity does not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
22. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health.
23. Bio remediation using microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
24. The proponent shall ensure that the mine restoration is done using mycorrhizal VAM, vermin-composting, Biofertilizers to ensure soil health and biodiversity conservation.
25. The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
26. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.

  
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SEIAA-TN



27. The top soil shall be temporarily stored at earmarked place (s) and used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. At critical points, use of geotextile shall be undertaken for stabilization of the dump. Protective wall or gabions should be made around the dump to prevent erosion / flow of sediments during rains. The entire excavated area shall be backfilled.

**Noise Environment – Protection and mitigation measures**

28. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
29. The sound at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Hence, the PP shall ensure that the biological clock of the villages are not disturbed because of the mining activity.

**Biodiversity - Protection and mitigation measures**

30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
31. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoining reserve forests and areas around.

32. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
33. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
34. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.

#### **Climate Change**

35. The project activity should not in any way impact the climate and lead to a rise in temperature.
36. There should be least disturbance to landscape resulting in land use change, contamination and alteration of soil profiles leading to Climate Change.
37. Intensive mining activity should not add to temperature rise and global warming.
38. Operations should not result in GHG releases and extra power consumption leading to Climate Change.
39. Mining through operational efficiency, better electrification, energy use, solar usage, use of renewable energy should try to decarbonize the operations.
40. Mining Operation should not result in droughts, floods and water stress, and shortages, affecting water security both on site and in the vicinity.
41. Mining should not result in water loss from evaporation, leaks and wastage and should support to improve the ground water.
42. Mining activity should be flood proof with designs and the drainage, pumping techniques shall ensure climate-proofing and socio-economic wellbeing in the area and vicinity.

#### **Green Belt Development**

43. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) are planted.
44. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).

#### **Workers and their protection**

45. The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time to quarrying/Mining operations. The workers on

  
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**SEIAA-TN**





the site should be provided with on-site accommodation or facilities at a suitable boarding place, protective equipment such as ear muffs, helmet, etc.

46. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
47. The workers shall be employed for working in the mines and the working hours and the wages shall be implemented/enforced as per the Mines Act, 1952.

#### **Transportation**

48. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a bypass road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
49. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

**Storage of wastes**

50. The project proponent shall store/dump the waste generated within the earmarked area of the project site for mine closure as per the approved mining plan.

**CER/EMP**

51. The CER Should be fully Implemented and fact reflected in the Half-yearly compliance report.

52. The EMP Shall also be implemented in consultation with local self-government institutions.

53. The follow-up action on the implementation of CER Shall be included in the compliance report.

**Directions for Reclamation of mine sites**


54. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.

55. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.

56. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un palatable for cattle's/ goats and should have proven capacity to add leaf-litter to soil and decompose. The species planted should be adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pit and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.

  
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**SEIAA-TN**

57. For mining area reclamation plot culture experiments to be done to identify/determine suitable species for the site.
58. Top soil with a mix of beneficial microbes (Bacteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
59. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
60. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
61. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering spices should be collected, preserved and used in restoring the site.
62. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self- sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
63. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemicals, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broad casted after topsoil and treated overburden are spread.
64. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic carbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for re-establishing the site to pre-mining conditions. Effective steps should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly.

  
MEMBER SECRETARY



Integration of rehabilitation strategies with mining plan will enable speedy restoration.

65. Efforts should be taken to aesthetically improve the mine site. Generally, there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following the succession process allowing pioneer species to establish. The other approach i.e plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humus and mycorrhiza.
66. Action taken for restoration of the site should be specifically mentioned in the EC compliances.


**Part-A: Conditions to be Complied before commencing mining operations: -**

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - I. The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.

  
MEMBER SECRETARY  
SEIAA-TN

**The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.**

6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.

  
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20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
- i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
- i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.
23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps: -
- i. Retention/ toe walls shall be provided at the foot of the dumps.
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.

  
MEMBER SECRETARY  
SEIAA-TN

28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500-meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
35. It shall be ensured that there is no habitation is located within 300-meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.

  
MEMBER SECRETARY  
SEIAA-TN

36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
42. The Project Proponent shall provide solar lighting system to the nearby villages.
43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.

  
**MEMBER SECRETARY**  
**SEIAA-TN**





51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.
56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
58. The company shall stress upon the preventive aspects of occupational health.
59. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
60. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
61. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
62. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.

  
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63. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
64. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
65. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
66. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
67. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
68. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
69. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
70. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
71. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
72. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
73. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
74. Green belt shall be provided as per norms of MoEF& CC, GOI, in consultation with local DFO.
75. All the recommendations made in the EIA report of the project shall be effectively implemented.

76. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
77. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
78. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
79. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
80. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely, RSPM, SO<sub>2</sub>, NO<sub>x</sub> or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

**Part B: General Conditions:**

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

  
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parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.

16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied
23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

  
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24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

  
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**Copy to:**

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Additional Chief Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Additional Chief Secretary to Government, Industries Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai – 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai-32
7. The District Collector, Tiruppur District
8. The Commissioner of Geology and Mines, Guindy, Chennai-32
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. File Copy

Signature Not Verified

Digitally signed by Thiru. Deepak S. Bilgi  
Member Secretary  
Date: 3/17/2023 6:56:23 PM  
Page 36 of 36



Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Tamil Nadu)

To,

The owner  
THANGAMUTHUSAMY P RSG TIRUPPUR  
Morattupalayam tiruppur -641602

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/55451/2020 dated 18 Aug 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |  |
|--|--|
| 1. EC Identification No.                   | EC23B001TN163085   |
| 2. File No.                                | 7762   |
| 3. Project Type                            | New  |
| 4. Category                                | B1   |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals  |
| 6. Name of Project                         | P. Thangamuthusamy, Rough Stone and Gravel Quarry Project over an Extent of 2.63.0Ha |
| 7. Name of Company/Organization            | THANGAMUTHUSAMY P RSG<br>TIRUPPUR  |
| 8. Location of Project                     | Tamil Nadu   |
| 9. TOR Date                                | 12 Mar 2021  |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 14/03/2023

(e-signed)  
Thiru.Deepak S.Bilgi  
Member Secretary  
SEIAA - (Tamil Nadu)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH. Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*





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

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY-TAMILNADU  
3<sup>rd</sup> Floor, Panagal Maaligai,  
No.1, Jeenis Road, Saidapet,  
Chennai - 600 015.  
Phone No. 044-24359973  
Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

**Lr.No.SEIAA-TN/F.No.7762/1(a)/EC.No:5531/2020 dated:18.02.2023**

**Sub:** SEIAA, TN – Proposed Rough Stone and Gravel quarry project over an extent of 2.63.0 Ha in S.F.No. 383/2A1(PART) & 382/2B at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.P.Thangamuthusamy – under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006 issue of Environmental Clearance – Regarding.

- Ref:**
1. Your application submitted Terms of Reference dated: 24.08.2020.
  2. TOR Issued vide letter No.SEIAA.TN/F.No.7762/SEAC/ToR-865/2020 dated 12.03.2021.
  3. Public Hearing conducted on 23.08.2021.
  4. Online Proposal No. SIA/TN/MIN/ 55451/2020 Dt. 24.09.2021.
  5. Project proponent submitted EIA Report to SEIAA-TN on 27.09.2021
  6. Minutes of the 303<sup>rd</sup> SEAC meeting held on 18.08.2022.
  7. Minutes of the 349<sup>th</sup> SEAC meeting held on 20.01.2023.
  8. Minutes of the 594<sup>th</sup> SEIAA meeting held on 18.02.2023.

**Details of Minor Mineral Activity:-**

This has reference to your application 4<sup>th</sup> & 5<sup>th</sup> cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.

  
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Sl. No.	Details of the proposal	Data furnished
1.	Name of the Owner/Firm	Thiru.P.Thangamuthusamy No.104, Komali Thottam Pichamapalayam Pudur Thottipalayam Tiruppur - 641 602
2.	Type of quarrying	Rough stone & Gravel quarry
3.	S.F No. Of the quarry site with area break-up	383/2A1(PART) & 382/2B
4.	Village in which situated	Morattupalayam
5.	Taluk in which situated	Uthukuli
6.	District in which situated	Tiruppur
7.	Extent of quarry (in ha.)	2.63.0ha
8.	Period of quarrying proposed	5 years
9.	Type of mining	Opencast Mechanized Mining
10.	Production (Quantity in m <sup>3</sup> )	As per the mining plan, the lease period is for 5 years and the total quantity of recoverable should not exceed 1,86,290 m <sup>3</sup> of Rough stone & 2,352 m <sup>3</sup> of gravel with an ultimate depth of mining is 37m BGL (2m Gravel + 35m Rough stone). The annual peak production shall not exceed 47,530cu.m of Rough stone and 2352 cu.m of Gravel As per ToR.
11.	Latitude & Longitude of all corners of the quarry site	11°08'05.49"N to 11°08'12.66"N 77°25'14.04"E to 77°25'20.06"E
12.	Topo Sheet No.	58 E/08
13.	Man Power requirement per day:	23 Employees
14.	Precise area communication approved by the District Collector Tiruppur District with date	Na.Ka.No.170/2020/Kannimam dated: 16.07.2020.

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15.	Mining Plan approved by the Deputy Director of Geology and Mining with date	Re. No. 170/2020/Mines dated: 29.07.2020.
16.	AD mines 500m cluster letter Deputy Director of Geology and Mining with date	Re. No. 170/2020/Mines dated: 29.07.2020.
17.	Water requirement: 1. Drinking & domestic purposes (in KLD) 2. Dust suppression 3. Green Belt (in KLD)	<b>2.5 KLD</b> 0.5 KLD 1.0 KLD 1.0 KLD
18.	Power requirement: a. Domestic Purpose b. Machinery Works	TNEB 1,84,454 Liters of HSD
19.	Depth of Mining	37m (2m Gravel + 35m Rough Stone) As per ToR
20.	Depth of water table	62m -58m
21.	Whether any habitation within 300m distance	No
22.	Project Cost	Rs.57.50 Lakhs
23.	EMP cost	Rs.125.24 lakhs
24.	CER cost	Rs.5 lakhs
25.	VAO letter dated	24.07.2020
26.	ToR issued	Lr.No.SEIAA-TN/F.No.7762/SEAC/TOR-865/2020 Dated 12.03.2021.
27.	Public Hearing Details	Public hearing conducted on Dated:23.08.2021.
28.	EIA Report Received	EIA received on : <b>27.09.2021</b>
29.	<p><b><u>Validity:</u></b> This Environmental Clearance is accorded for the quantity 1,86,290 m<sup>3</sup> of Rough stone &amp; 2,352 m<sup>3</sup> of Gravel up to depth of 37m BGL as per the approved mining plan and is valid for the approved mine plan period.</p>	

*cy*  
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**SEIAA-TN**

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that **I, P. Thangamuthusamy, S/o. Palanisamy Gounder, No. 104, Komali Thottam, Pichamapalayam Pudur, Thottipalayam, Tiruppur District, Tamil Nadu State – 641 602,** solemnly declare and sincerely affirm that:

I have apply for getting Environment Clearance to Appropriate Authorities, Tamil Nadu for quarry lease for quarrying of **Rough stone and Gravel Quarry** over an extent of **2.63.0** Hectares of patta land in **S.F.Nos. 383/2A1(Part) and 382/2B** of **Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.**

1. I swear to state and confirm that within 10km area of the quarry site, I have applied for environment clearance, none of the following is situated.
  - a. Protected areas notified under the wild life (Protection) Act, 1972,
  - b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act, 1974,
  - c. Eco-Sensitive areas as notified,
  - d. Interstate boundaries within 10km radius from the boundary of the proposed site.
2. I will spend the amount of Rs.5 Lakhs towards Corporate Environment Responsibility (Revised CER) for the following activities to the Government Higher Secondary School, Morattupalayam, Tiruppur District before commencement of quarrying activities.

Sl No.	Description	CER Cost INR
1	Renovation of Existing toilet	Rs.5,00,000/-
2	Providing Environmental related books to school library	
3	Plantation in school ground	
4	Construction of drinking water tank	
5	Repair works to school furniture and benches	

3. The following quarries are located within the radius of 500m from the periphery of my quarry.

  
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**Existing Quarries**

Sl. No.	Name of the Lessee	Village	S.F.No.	Extent Hect	Collector's Proceedings No & Date	Lease Period
1.	N.Ayyadurai	Morattupalayam	392 Part	3.52.0	182/Mines/2015 Dated: 23.09.2016	23.09.2016 To 22.09.2021
2.	T.Thangaraj	Morattupalayam	383/2A2B	0.89.5	299/Mines/2015 Dated: 13.01.2016	20.01.2016 To 19.01.2021
3.	M.Thangaraj	Morattupalayam	389/1B1A, 389/1B1B 389/1B2	2.19.5	357/Mines/2015 Dated: 15.01.2016	21.01.2016 To 20.01.2021
4.	M.Palanisamy	Morattupalayam	385/2 (Part)	0.57.5	300/Mines/2015 Dated: 13.01.2016	21.06.2016 To 20.01.2021
5.	K.Karuppusamy	Morattupalayam	383/1(P), 383/2A2A1(P)	0.71.5	529/Mines/2015 Dated: 21.09.2016	21.09.2016 To 20.09.2021
6.	S.Raja	Morattupalayam	382/2A(P)	1.98.5	105/Mines/2017 Dated: 25.09.2018	25.09.2018 To 24.09.2023

**Abandoned / Expired Quarries**

Sl. No.	Name of the Lessee	Village	S.F. No.	Extent Hect	Expired on
1.	T.S.Udhaya Kumar	Morattupalayam	389/1C	0.89.0	25.05.2020
2.	S.Raju	Morattupalayam	389/1B1	1.62.0	23.06.2020

**Present Proposed Quarries**

Sl. No.	Name of the Lessee	Village	S.F. No.	Extent Hect	Expired on
1.	M.Thangaraj	Morattupalayam	383/2B2	1.51.0	Nearby Applied Area
2.	P.Thangamuthusamy	Morattupalayam	383/2A1(P), 382/2B	2.63.0	Proposed Area

  
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4. There will not be hindrance or disturbance to the people living during quarrying activities and transportation of the mineral.
5. There is no approved habitation within 300m radius from the periphery of my quarry.
6. I swear that afforestation will be carried out during the course of quarrying operation and maintained.
7. The required insurance will be taken in the name of the laborers working in my quarry site.
8. The approach road from the main road to quarry area is already existence and same will be maintained in a good condition for the haulage of quarry materials.
9. I will not engage any child labor in our quarry site and I aware that engaging child labor is punishable under the law.
10. All types of safety / protective equipment will be provided to all the laborers working in my quarry.
11. No permanent structures, temples etc., are located within 500m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge

**Details of Quarries located within 500M radius from the proposed quarry:**

The Project Proponent has submitted a copy of the letter obtained from the Deputy Director Department of Geology & Mining, Tiruppur District in his letter Re.No.170/2020/Mines dated 29.07.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

**a. Existing Quarries**

Sl. No.	Name of the Lessee	Village	S.F.No.	Extent Hect	Collector's Proceedings No & Date	Lease Period
1.	N.Ayyadurai	Morattupalayam	392 Part	3.52.0	182/Mines/2015 Dated: 23.09.2016	23.09.2016 To 22.09.2021
2.	T.Thangaraj	Morattupalayam	383/2A2B	0.89.5	299/Mines/2015 Dated: 13.01.2016	20.01.2016 To 19.01.2021

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3.	M.Thangaraj	Morattupalayam	389/1B1A, 389/1B1B 389/1B2	2.19.5	357/Mines/2015 Dated: 15.01.2016	21.01.2016 To 20.01.2021
4.	M.Palanisamy	Morattupalayam	385/2 (Part)	0.57.5	300/Mines/2015 Dated: 13.01.2016	21.06.2016 To 20.01.2021
5.	K.Karuppusamy	Morattupalayam	383/1(P), 383/2A2A1(P)	0.71.5	529/Mines/2015 Dated: 21.09.2016	21.09.2016 To 20.09.2021
6.	S.Raja	Morattupalayam	382/2A(P)	1.98.5	105/Mines/2017 Dated: 25.09.2018	25.09.2018 To 24.09.2023

**b. Abandoned / Expired Quarries**

Sl. No.	Name of the Lessee	Village	S.F. No.	Extent Hect	Expired on
1.	T.S.Udhaya Kumar	Morattupalayam	389/1C	0.89.0	25.05.2020
2.	S.Raju	Morattupalayam	389/1B1	1.62.0	23.06.2020

**c. Present Proposed Quarries**

Sl. No.	Name of the Lessee	Village	S.F. No.	Extent Hect	Expired on
1.	M.Thangaraj	Morattupalayam	383/2B2	1.51.0	Nearby Applied Area
2.	P.Thangamuthusamy	Morattupalayam	383/2A1(P), 382/2B	2.63.0	Proposed Area

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**Appraisal by SEAC:-**

Proposed Rough Stone and Gravel quarry project over an extent of 2.63.0 Ha in S.F.No. 383/2A1(PART) & 382/2B at Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.P.Thangamuthusamy - For Environmental Clearance.  
(SIA/TN/MIN/55451/2020 dated: 24.09.2021)

The project proposal was placed in the 303<sup>rd</sup> SEAC meeting held on 18.08.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

**The SEAC noted the following:**

1. The project proponent, Thiru.P.Thangamuthusamy has applied for Environmental Clearance for the proposed Rough Stone and Gravel quarry lease over an extent of 2.63.0 ha at S.F.No.383/2A1(P) & 382/2B of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006.
3. As per the mining plan, the lease period is for 5 years and the total quantity of recoverable should not exceed 1,86,290m<sup>3</sup> of Rough stone & 2,352m<sup>3</sup> of gravel with an ultimate depth of mining is 37m BGL (2m Gravel + 35m Rough stone) [As per ToR issued].
4. ToR issued vide Lr.No.SEIAA-TN/F.No.7762/SEAC/TOR-865/2020 Dated 12.03.2021.
5. Public hearing conducted on 23.08.2021.

Based on the presentation & details furnished by the PP, the SEAC decided to call for the following details.

1. The PP shall furnish the certified compliance report from the MoEF&CC /TNPCCB on the Existing EC issued.

On receipt of the reply, the Committee decided to deliberate further and to decide on future course of action.

Now the project proposal was placed in 349<sup>th</sup> SEAC meeting held on 20.01.2023.

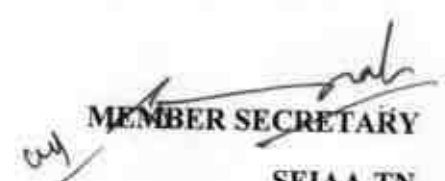
Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Environmental Clearance for total excavation quantity of 1,86,290m<sup>3</sup> of Rough Stone and 2352m<sup>3</sup> of gravel not exceeding the annual peak production of 47530m<sup>3</sup> of Rough Stone and 2352m<sup>3</sup> of gravel with maintaining an ultimate pit depth of 37m bgl subject to the standard conditions as per the Annexure I of this minutes & normal conditions

  
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stipulated by MOEF &CC, in addition to the following specific conditions:

1. **The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.**
2. The PP shall inform the notice of opening of the quarry to the Director of Mines Safety (DMS)/Chennai Region and get the necessary statutory permission under the MMR 1961 before obtaining the CTO.
3. The mine manager and other statutory competent persons such as blaster (or) mine mate shall be appointed as per the provisions of Mines Act 1952 and Metalliferous Mines Regulations, 1961 before the obtaining the CTO from the DEE/TNPCB.
4. The proponent shall maintain the 'S3 (or) G2' type of fencing all around the boundary of the proposed working quarry with gates for entry/exit before the commencement of the operation as recommended in the DGMS Circular, 11/1959 and shall furnish the photographs showing the same before obtaining the CTO from TNPCB.
5. Further, the PP shall maintain the garland drain with proper size, gradient and length along the boundary of the pit leaving behind the mandatory safety zone of 7.5 / 10 m as it is designed to take care of run-off water (size, gradient and length) before obtaining the CTO from TNPCB.
6. The PP shall use the area of excavation shown in section along X1-Y1 & C-D in the 'Year wise Production Plan' of the Mining Plan for the construction of ramp accessibility in the proposed quarry following the DGMS Haul Road guidelines provided under MMR 1961 without deviation.
7. The PP shall ensure that the benches & haul road are properly designed and formed in accordance with the provisions of MMR 1991.
8. The Project Proponent (PP) shall submit a 'Slope stability action plan' incorporating the realignment of benches with adequate design considering the safety of men working for the proposed quarry lease as the depth is exceeding 30 m after having approved by the concerned AD (Geology & Mines) to the DEE/TNPCB before obtaining CTO.
9. No 'Deep-hole large diameter drilling and blasting' is permitted in the proposed quarry.
10. The PP shall use the jack hammer drill machine fitted with the dust extractor for the drilling operations such that the fugitive dust is controlled effectively at the source.

  
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11. The PP shall ensure that the blasting operations are carried out by the blaster/Mine Mate/Mine Foreman employed by him in accordance with the provisions of MMR 1961 and it shall not be carried out by the persons other than the above statutory personnel.
12. The PP shall ensure that the blasting operations shall be carried out during a prescribed time interval with a prior notice to the habitations situated around the proposed quarry after having posted the sentries/guards adequately to confirm the non-exposure of public within the danger zone of 500 m from the boundary of the quarry.
13. Within one year from the commencement of mining operations, the PP shall carry out the scientific studies in coordination with the other quarry owners located in the cluster domain on 'Design of Suitable blast parameters for reducing the cumulative impact of blast-induced ground/air vibrations and fly rock caused due to operation of the quarries in the cluster by adopting appropriate controlled blasting techniques', by involving any of the reputed Research and Academic Institution such as CSIR-Central Institute of Mining and Fuel Research / Dhanbad, NIRM, IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus, etc shall be carried out before the commencement of mining operations. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, and DMS, Chennai as a part of Environmental Compliance
14. The PP shall meticulously carry out the mitigation measures as spelt out in the revised EMP.
15. The Project Proponent shall ensure that the funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year-wise expenditure should be reported to the MoEF& CC Ministry and its Integrated Regional Office (IRO) located in Chennai.
16. The Project Proponent shall send a copy of the clearance letter marked to concerned Panchayat from whom any suggestion/representation has been received while processing the proposal.
17. The PP shall carry out the scientific studies to assess the slope stability of the benches and quarry wall when the depth of the quarry touches 30 m (or) after the completion of 4 years of operation whichever is earlier, by involving any of the reputed Research and Academic Institution such as CSIR-Central Institute of Mining and Fuel Research / Dhanbad, NIRM, IIT-Madras, NIT-Dept of Mining Engg, Surathkal, and Anna University Chennai-CEG Campus, etc shall be carried out before the commencement of mining operations. A copy of such scientific study report shall be

  
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SEIAA-TN

submitted to the SEIAA, MoEF, TNPCB, and DMS, Chennai as a part of Environmental Compliance.

18. As per the MoEF& CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere EMP furnished.
19. As accepted by the Project proponent the CER cost is Rs. 5 lakhs and the amount shall be spent towards the Govt High School, Morattupalayam, Tiruppur for the activities as committed, before obtaining CTO from TNPCB.

#### ANNEXURE - I

1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferous Mines Regulations, 1961.
2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
4. The Project proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

  
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SEIAA-TN

6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
8. The Project proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamil Nadu .
9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
11. The PP shall carryout the plantation as committed within one year after commencement of operation.
12. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
13. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted with proper spacing as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner

  
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14. **Noise and Vibration Related:** (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
15. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
16. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
17. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
18. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.

  
MEMBER SECRETARY

SEIAA-TN

19. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
20. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
21. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
22. The Project proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitans.
23. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamil Nadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
24. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD(Geology and Mining) District Environmental Engineer (TNPCCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
25. The Project proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project proponent liable for legal action in accordance with Environment and Mining Laws.
26. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
27. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road if applicable, about the project as per **Appendix -II** of this Minutes.

  
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SEIAA-TN

**Appendix -I**  
**List of Native Trees Suggested for Planting**

No	Scientific Name	Tamil Name	Tamil Name
1	<i>Apple marmelos</i>	Vilvam	விவம்
2	<i>Adenaanthera pavonina</i>	Marjadi	மஞ்சள், ஆனைக்குன்றிமணி
3	<i>Albizia lebbek</i>	Vaagai	வாகை
4	<i>Albizia amara</i>	Usil	உசில்
5	<i>Bauhinia purpurea</i>	Mantharai	மந்தாரை
6	<i>Bauhinia racemosa</i>	Aathi	ஆத்தி
7	<i>Bauhinia tomentosa</i>	Iruvathi	இருவாத்தி
8	<i>Buchanania axillaris</i>	Kattuma	காட்டுமர
9	<i>Borassus flabellifer</i>	Parai	பனை
10	<i>Butea monosperma</i>	Murikkamaram	முருக்கமரம்
11	<i>Bobax ceda</i>	Ilavu, Sevvilavu	இலவு
12	<i>Calophyllum inophyllum</i>	Punnai	புனை
13	<i>Cassia fistula</i>	Sarakondrai	சர்க்கொண்டை
14	<i>Cassia roxburghii</i>	Sengondrai	செங்கொண்டை
15	<i>Chloroxylon sweetonia</i>	Purasamaram	புரசு மரம்
16	<i>Cochlospermum religiosum</i>	Kongu, Marjallavu	கோங்கு, மஞ்சள் இலவு
17	<i>Cordia dichotoma</i>	Naruvuli	நடுவூதி
18	<i>Creteva adansonii</i>	Mavalingum	மாவினங்குடி
19	<i>Dillema indica</i>	Uva, Uzha	உவா
20	<i>Dillema pentagyna</i>	SiruUva, Sitruzha	சீறு உவா
21	<i>Diospyro sebenum</i>	Karungali	கருங்காளி
22	<i>Diospyro schloroxylon</i>	Vagarai	வாகரை
23	<i>Ficus amplissima</i>	Kallichi	கல் இச்சி
24	<i>Hibiscus tiliaceou</i>	Aatrupoovarasu	ஆற்றுப்பூங்கா
25	<i>Hardwickia binata</i>	Aacha	ஆச்சா
26	<i>Holoptelia integrifolia</i>	Aayili	ஆயில் மரம், ஆயிலி
27	<i>Lannea coronandolica</i>	Odhiam	ஒதியம்
28	<i>Lagerstroemia speciosa</i>	Poo Marudhu	பூ மருது
29	<i>Lepisanthus tetraphylla</i>	Neikottaimaram	நெய் கொட்டை மரம்
30	<i>Limonia acidissima</i>	Vila maram	வில்லா மரம்
31	<i>Litsea glutinos</i>	Pisinpattai	பிளிப்பாட்டை
32	<i>Madhuca lotifolia</i>	Illuppai	இலுப்பை
33	<i>Mankara hexandra</i>	UlakkaiPaalai	உலக்கை பாலை
34	<i>Mimusops elengi</i>	Magizhamaram	மாகிழமரம்
35	<i>Mitragyna parvifolia</i>	Kadambu	கடம்பு
36	<i>Morinda pubescens</i>	Nura	நுரை
37	<i>Morinda citrifolia</i>	Vellai Nura	வெள்ளை நுரை
38	<i>Phoenix sylvestre</i>	Eachai	எச்சை
39	<i>Pongamia pinnat</i>	Pungam	புங்கம்

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SEIAA-TN




**Discussion by SEIAA and the Remarks:-**

The subject was placed in the 594<sup>th</sup> Authority meeting held on 18.02.2023. The Authority noted that the subject was appraised in the 349<sup>th</sup> SEAC meeting held on 20.01.2023 and SEAC has furnished its recommendations for granting Environmental Clearance subject to the conditions stated therein.

After detailed discussions, the Authority decided to grant Environmental Clearance for the quantity of **186290 m<sup>3</sup> of Rough Stone and the 2352 cu.m of Gravel with the depth of mining upto 37m BGL with the annual peak production shall not exceed 47,530cu.m of Rough stone and 2352 cu.m of Gravel as per the mine plan approved by the Department of Geology & Mining.** This is also subject to the standard conditions as per Annexure - (I) of SEAC minutes, other normal conditions stipulated by MOEF&CC & all other specific conditions as recommended by SEAC in addition to the following conditions and the conditions in Annexure 'A' of this minutes.

1. Keeping in view of MoEF & CC's notification S.O.1533(E) dated.14.09.2006 and S.O. 1807(E) dated 12.04.2022, this Environmental Clearance is valid as per the approved mine plan period.
2. The EC granted is subject to review by District Collector, Mines Dept. and TNPCB on completion of every 5 years till the project life. They should also review the EC conditions to ensure that they have all been adhered to and implemented.
3. The project proponent shall furnish a Certified Compliance Report obtained from MoEF&CC while seeking a renewal of the mining plan to cover the project life.
4. The progressive and final mine closure plan including the green belt implementation and environmental norms should be strictly followed as per the EMP.
5. The project proponent shall store/dump generated within the earmarked area of the project site and the utilize the same for mine closure as per the approved mine closure plan.
6. As per the MoEF& CC office memorandum F.No.22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 accepted by the Project proponent, the revised CER cost is Rs. 5.0 lakhs and the amount shall be spent for the activities detailed in the SEAC minutes before obtaining CTO from TNPCB.

  
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SEIAA-TN



**Annexure-'A'**

**EC Compliance**

1. The Environmental Clearance is accorded based on the assurance from the project proponent that there will be full and effective implementation of all the undertakings given in the Application Form, Pre-feasibility Report, mitigation measures as assured in the Environmental Impact Assessment/ Environment Management Plan and the mining features including Progressive Mine Closure Plan as submitted with the application.
2. All the conditions as presented by the proponent in the PPT during SEAC appraisal should be addressed in Full.
3. The proponent shall submit Compliance Reports on the status of compliance of the stipulated EC conditions including results of monitored data. It shall be sent to the respective Regional Office of Ministry of Environment, Forests and Climate Change, Govt. of India and also to the Office of State Environment Impact Assessment Authority (SEIAA).
4. Concealing the factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

**Applicable Regulatory Frameworks**

5. The project proponent shall strictly adhere to the provisions of Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter

  
MEMBER SECRETARY

SEIAA-TN

### Safe mining Practices

6. The AD/DD, Dept. of Geology & Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
7. The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.
8. A minimum buffer distance specified as per existing rules and statutory orders shall be maintained from the boundary of the quarry to the nearest dwelling unit or other structures, and from forest boundaries or any other ecologically sensitive and archeologically important areas or the specific distance specified by SEIAA in EC as per the recommendations of SEAC depending on specific local conditions.

### Water Environment – Protection and mitigation measures

9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and groundwater, nor cause any pollution, to water sources in the area.
10. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
11. Water level in the nearest dug well in the downstream side of the quarry should be monitored regularly and included in the Compliance Report.
12. Quality of water discharged from the quarry should be monitored regularly as per the norms of State Pollution Control Board and included in the Compliance Report.
13. Rain Water Harvesting facility should be installed as per the prevailing provisions of TNMBR/TNCDBR, unless otherwise specified. Maximum possible solar energy generation and utilization shall be ensured as an essential part of the project.

  
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SEIAA-TN

14. Regular monitoring of flow rates and water quality upstream and downstream of the springs and perennial nallahs flowing in and around the mine lease area shall be carried out and reported in the compliance reports to SEIAA.
15. Regular monitoring of ground water level and water quality shall be carried out around the mine area during mining operation. At any stage, if it is observed that ground water table is getting depleted due to the mining activity; necessary corrective measures shall be carried out.
16. Garland drains and silt traps are to be provided in the slopes around the core area to channelize storm water. De-silting of Garland canal and silt traps have to be attended on a daily basis. A labour has to be specifically assigned for the purpose. The proponent shall ensure the quality of the discharging storm water as per the General Effluent Discharge Standards of CPCB.

**Air Environment – Protection and mitigation measures**

17. The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.
18. The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.
19. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

**Soil Environment – Protection and mitigation measures**

20. The proponent shall ensure that the operations do not result in loss of soil biological properties and nutrients.
21. The proponent shall ensure that activity does not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
22. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health.
23. Bio remediation using microorganisms should be carried out to restore the soil environment to enable carbon sequestration.

  
MEMBER SECRETARY

SEIAA-TN



24. The proponent shall ensure that the mine restoration is done using mycorrhizal VAM, vermin-composting, Biofertilizers to ensure soil health and biodiversity conservation.
25. The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
26. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.
27. The top soil shall be temporarily stored at earmarked place (s) and used for land reclamation and plantation. The over burden (OB) generated during the mining operations shall be stacked at earmarked dump site(s) only. The OB dumps should be scientifically vegetated with suitable native species to prevent erosion and surface run off. At critical points, use of geotextile shall be undertaken for stabilization of the dump. Protective wall or gabions should be made around the dump to prevent erosion / flow of sediments during rains. The entire excavated area shall be backfilled.

**Noise Environment – Protection and mitigation measures**

28. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.
29. The sound at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Hence, the PP shall ensure that the biological clock of the villages are not disturbed because of the mining activity.

**Biodiversity - Protection and mitigation measures**

30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
31. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that

  
MEMBER SECRETARY  
SEIAA-TN

- the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoining reserve forests and areas around.
32. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agroforestry, mixed plants to support biodiversity conservation in the mine restoration effort.
  33. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
  34. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.

#### **Climate Change**

35. The project activity should not in any way impact the climate and lead to a rise in temperature.
36. There should be least disturbance to landscape resulting in land use change, contamination and alteration of soil profiles leading to Climate Change.
37. Intensive mining activity should not add to temperature rise and global warming.
38. Operations should not result in GHG releases and extra power consumption leading to Climate Change.
39. Mining through operational efficiency, better electrification, energy use, solar usage, use of renewable energy should try to decarbonize the operations.
40. Mining Operation should not result in droughts, floods and water stress, and shortages, affecting water security both on site and in the vicinity.
41. Mining should not result in water loss from evaporation, leaks and wastage and should support to improve the ground water.
42. Mining activity should be flood proof with designs and the drainage, pumping techniques shall ensure climate-proofing and socio-economic wellbeing in the area and vicinity.

  
MEMBER SECRETARY

SEIAA-TN

### Green Belt Development

43. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) are planted.
44. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).

### Workers and their protection

45. The project proponent is responsible for implementing all the provisions of labour laws applicable from time to time to quarrying /Mining operations. The workers on the site should be provided with on-site accommodation or facilities at a suitable boarding place, protective equipment such as ear muffs, helmet, etc.
46. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
47. The workers shall be employed for working in the mines and the working hours and the wages shall be implemented/enforced as per the Mines Act, 1952.

### Transportation

48. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a bypass road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.
49. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be

  
MEMBER SECRETARY

SEIAA-TN

wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

**Storage of wastes**

50. The project proponent shall store/dump the granite waste generated within the earmarked area of the project site for mine closure as per the approved mining plan.

**CER/EMP**

51. The CER Should be fully Implemented and fact reflected in the Half-yearly compliance report.
52. The EMP Shall also be implemented in consultation with local self-government institutions.
53. The follow-up action on the implementation of CER Shall be included in the compliance report.

**Directions for Reclamation of mine sites**

54. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
55. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
56. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un palatable for cattle's/ goats and should have proven

  
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SEIAA-TN

capacity to add leaf-litter to soil and decompose. The species planted should be adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pH and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.

57. For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
58. Top soil with a mix of beneficial microbes (Bacteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
59. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.
60. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
61. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering species should be collected, preserved and used in restoring the site.
62. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self- sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
63. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemical, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broad casted after topsoil and treated overburden are spread.

  
MEMBER SECRETARY

SEIAA-TN



64. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic carbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for re-establishing the site to pre-mining conditions. Effective steps should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly. Integration of rehabilitation strategies with mining plan will enable speedy restoration.
65. Efforts should to taken to aesthetically improve the mine site. Generally, there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following the succession process allowing pioneer species to establish. The other approach i.e plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humas and mycorrhiza.
66. Action taken for restoration of the site should be specifically mentioned in the EC compliances.

**Part-A: Conditions to be Complied before commencing mining operations:-**

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - I. The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.


  
MEMBER SECRETARY

SEIAA-TN

4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.

  
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SEIAA-TN

18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF& CC, GoI on 16.11.2009.
20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
  - i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.
23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps:-
  - i. Retention/ toe walls shall be provided at the foot of the dumps.

  
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SEIAA-TN



- ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous & other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCCB.
28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.

  
MEMBER SECRETARY

SEIAA-TN

35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
42. The Project Proponent shall provide solar lighting system to the nearby villages.
43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.

  
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50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.
56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, O.A.No.404/ 2016 ( M.A.No. 758/2016, M.A. No. 920 /2016, M.A.No.1122/2016, M.A.No. 12/2017 & M.A.No.843/2017), O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).
58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
59. The company shall stress upon the preventive aspects of occupational health.
60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.

  
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SEIAA-TN

62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
70. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
71. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.

  
MEMBER SECRETARY

SEIAA-TN

75. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
76. All the recommendations made in the EIA report of the project shall be effectively implemented.
77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO<sub>2</sub>, NO<sub>x</sub> or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

**Part B: General Conditions:**

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.

  
MEMBER SECRETARY

SEIAA-TN



5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.

  
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SEIAA-TN

15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.

  
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SEIAA-TN

23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

  
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**Copy to:**

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai - 32.
7. The District Collector, Tiruppur District.
8. The Commissioner of Geology and Mines, Guindy, Chennai - 32.
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Spare.

Signature Not Verified

Digitally signed by Thiru.Deepak S.Bilgi  
Member Secretary  
Date: 3/14/2023 7:28:24 PM  
Page 37 of 37





Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Tamil Nadu)

To,

The owner  
THANGAMUTHUSAMY P RSG TIRUPPUR  
Morattupalayam tiruppur -641602

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/55469/2020 dated 23 Aug 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |  |
|--|--|
| 1. EC Identification No.                   | EC22B001TN198292   |
| 2. File No.                                | 7758   |
| 3. Project Type                            | New  |
| 4. Category                                | B1   |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals  |
| 6. Name of Project                         | T.Thangaraj, Rough Stone and Gravel Quarry Project over an Extent of 1.88.72Ha |
| 7. Name of Company/Organization            | THANGAMUTHUSAMY P RSG TIRUPPUR   |
| 8. Location of Project                     | Tamil Nadu   |
| 9. TOR Date                                | 12 Mar 2021  |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 17/09/2022

(e-signed)  
Thiru.Deepak S.Bilgi  
Member Secretary  
SEIAA - (Tamil Nadu)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.*

*This is a computer generated cover page.*





**THIRU.DEEPAK S.BILGI, L.F.S.  
MEMBER SECRETARY**

**STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY- TAMILNADU**

3<sup>rd</sup> Floor, Panagal Maaligai,  
No.1, Jeemis Road, Saidapet,  
Chennai - 600 015.  
Phone No. 044-24359973  
Fax No. 044-24359973

**ENVIRONMENTAL CLEARANCE**


**Lr.No.SEIAA-TN/E.No.7758/1(a)/EC.No:5233/2020 dated:30.08.2022**

**Sub:** SEIAA, TN – Proposed Rough Stone and Gravel quarry lease over an extent of 1.88.72Ha at S.F. No. 383/2A2B & 383/2A2A2A2of Morattupalayam Village, Uthukuli Taluk, Tiruppar District, Tamil Nadu by Thiru.T. Thangaraj– under Category "B1" of Item 1(a) "Mining of Mineral Projects" of the Schedule to the EIA Notification, 2006 issue of Environmental Clearance – Regarding.

- Ref:**
1. Your application submitted Terms of Reference dated: 21.08.2020.
  2. TOR Issued vide Lr.No.SEIAA-TN/E.No. 7758/SEAC/ToR-864/2020 Dated: 12.03.2021.
  3. Public Hearing conducted on 23.08.2021
  4. Online Proposal No. SIA/TN/MIN/55469/2020dated 11.08.2020
  5. Project proponent submitted EIA Report to SEIAA-TN on 21.08.2020
  6. Minutes of the 302<sup>nd</sup> SEAC meeting held on 17.08.2022.
  7. Minutes of the 547<sup>th</sup> SEIAA meeting held on 30.08.2022

**Details of Minor Mineral Activity:-**

This has reference to your application 4<sup>th</sup> & 5<sup>th</sup> cited. The proposal is for obtaining Environmental Clearance for mining / quarrying of minor minerals based on the particulars furnished in your application as shown below.

  
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Sl. No.	Details of the proposal	Data Furnished
1.	Name of the Owner / Firm:	Thiru.T.Thangaraj, S/o. ThevanaGounder No.20, Ayyampalayam, Uthukuli taluk, Tiruppur District, Tamil Nadu-638172.
2.	Type of quarrying (savudu / Rough stone / Sand / Granite)	Rough Stone and Gravel quarry
3.	S.F No. of the quarry site with area break-up	383/2A2B and 383/2A2A2A2
4.	Village in which situated	Morattupalayam
5.	Taluk in which situated	Uthukuli
6.	District in which situated	Tiruppur
7.	Extent of Quarry (in ha.)	1.88.72 Ha
8.	Period of Quarrying proposed	Five years
9.	Type of Mining	Opencast semi Mechanized Mining.
10.	Production (Quantity in m <sup>3</sup> )	151554m <sup>3</sup> of Rough Stone and 14104 m <sup>3</sup> of gravel
11.	Latitude & Longitude of all corners of the quarry site	11°08'03.11"N to 11°08'06.69"N 77°25'09.67"E to 77°25'17.50"E
12.	Topo sheet No.	58 - E/080
13.	Man power requirement per day.	19 Employees
14.	Precise Area Communication approved by the Assistant Director, G&M, District Collector District with date	Rc.No. 169/2020/mines, dated : 16.07.2020
15.	Mining plan approved by the Assistant Director, dept of Geology and Mining, Collectorate with date	Rc.No. 169/2020/mines, dated : 29.07.2020

  
**MEMBER SECRETARY**  
 2020

16.	500mts letter approved by the Assistant Director, department of Geology and Mining with date	Re.No. 169/2020/mines, dated 29.07.2020
17.	Water requirement: 1. Drinking & domestic purposed (in KLD) 1. Dust Suppression & Green Belt (in KLD)	6.0 KLD 0.5 KLD 3.5 KLD 2.0 KLD
18.	Power requirement: a. Domestic purpose a. Machinery works	TNEB 500 Liters of HSD
19.	Depth of Mining	37m BGL (2m Gravel & 35 m Rough stone)
20.	Depth of Water table	62m in summer & 58m in Rainy season
21.	Whether any habitation within 300m distance	No
22.	Project cost (excluding EMP cost)	41.12 Lakhs
23.	EMP cost	Capital cost- 11.70 Lakhs Recurring cost-18.88 lakhs
24.	CER cost	5 lakhs
25.	VAO letter dated	Furnished
26.	TOR Issued	Lr.No.SEIAA-TN/F.No. 7758/SEAC/ToR-864/2020 Dated: 12.03.2021.
27.	Public Hearing	Public Hearing Conducted, dated: 23.08.2021
28.	EIA Report Received	EIA received on 27.09.2021
29.	<b>Validity:</b> This Environmental Clearance is granted for the production in 151554m <sup>3</sup> Rough stone and 14104m <sup>3</sup> of Gravel for the period of 5 Years from the date	

  
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**SEIAA-TN**

of execution of the mining lease and ultimate depth of mining 37m BGL.(2m Gravel & 35 m Rough stone).

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that

I, T. Thangaraj, S/o. Tevana Gounder, No. 20, Ayyampalayam, Uthukuli Taluk, Tiruppur District Tamil Nadu State -- 638 172, solemnly declare and sincerely affirm that:

I have applied for getting Environment Clearance from SEIAA, Tamil Nadu for quarry lease for quarrying of Rough Stone and Gravel Quarry Project over an Extent of 1.88.72Ha of Patta lands in S.F.Nos. 383/2A2B and 383/2A2A2A2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.

1. I swear to state and confirm that within 10km area of the quarry site, I have applied for environment clearance, none of the following is situated.
  - a. Protected areas notified under the wild life (Protection) Act, 1972.
  - b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act, 1974.
  - c. Eco-Sensitive areas as notified,
  - d. Interstate boundaries within 10km radius from the boundary of the proposed site.
2. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities. The project proponent Revised CER cost is Rs.5 Lakhs amount shall be spent to the Panchayath Union Primary School Karaipalayam Village,

Sl. No.	Description	CER Cost INR
1.	Renovation and repairing works in Toilet	Rs.5,00,000/-
2.	Providing Environmental related books to school library	
3.	Plantation in school ground	
4.	Construction of drinking water tank	
5.	Providing Sports equipment's	

3. The following quarries are located within the radius of 500m from the periphery of my quarry.  
**Existing Quarry**

S. No.	Name of the Lessee	Village	Extent in Hectare	Collector's Proceedings No. & Date	Lease Period

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1.	N.Ayyadurai	Morattupalaym	3.52.0	182/Mines/2015 Date:23.09.2016	23.09.2016 To 22.09.2021
2.	P.Thangamuthusam	Morattupalaym	3.24.0	301/Mines/2015 Date:15.01.2016	23.09.2016 To 22.09.2021
3.	M.Thangaraj	Morattupalaym	2.19.5	357/Mines/2015 Date:15.01.2016	21.01.2016 To 20.01.2021
4.	M.Palanisam	Morattupalaym	0.59.5	300/Mines/2015 Date:15.01.2016	21.01.2016 To 20.01.2021
5.	K.Karppusamy	Morattupalaym	0.71.5	529/Mines/2015 Date:21.09.2016	21.09.2016 To 20.09.2021
6.	S.Rajasekar	Morattupalaym	1.98.5	105/Mine/2017 Date:25.09.2018	25.09.2018 To 24.09.2023

#### Abandoned / Expired Quarries

S. No.	Name of the Lessee	Village	S.F.No.	Extent in Hectare	Lease Period
1.	T.S.Udhayakumar	Morattupalaym	389/1C	0.89.0	27.05.2020
2.	S.Raju	Morattupalaym	389/1B1	1.62.0	23.06.2020

#### Present Proposed Quarries

S. No.	Name of the Lessee	Village	S.F.No.	Extent in Hectare	Lease Period
1.	M.Thangaraj	Morattupalaym	383/2B2	1.51.0	Nearby applied area
2.	T.Thangaraj	Morattupalaym	383/2A2B 383/2A2A2A2	1.88.72	Proposed area

- There will not be hindrance or disturbance to the people living during quarrying and transportation.
- There is no approved habitation within 300m radius from the periphery of my quarry.
- I swear that afforestation will be carried out during the course of quarrying operation and maintained.
- The required insurance will be taken in the name of the laborers working in my quarry site.
- The approach road belongs to us no other patta roads encounter for the haulage of quarry materials and machineries.

  
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**SEIAA-TN**

9. I will not engage any child labor in my quarry site and I aware that engaging child labor is punishable under the law.
10. All types of safety/ protective equipment will be provided to all the laborers working in my quarry.
11. No permanent structures, temples etc., are located within 300m radius from the periphery of my quarry.

I ensure to do all the social and Environment commitment as mentioned in the Mining Plan to the best of my knowledge.

**Details of Quarries located within 500M radius from the proposed quarry:**

The Project Proponent has submitted a copy of the letter obtained from the Assistant Director, department of Geology and Mining, Tiruppur District in his letter Rc.No. 169/2020/mines, dated : 29.07.2020 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

**Existing Quarry**

S. No.	Name of the Lessee	Village	Extent in Hectare	Collector's Proceedings No. & Date	Lease Period
1.	N.Ayyadurai	Morattupalaym	3.52.0	182/Mines/2013 Date:23.09.2016	23.09.2016 To 22.09.2021
2.	P.Thangamuthusam	Morattupalaym	3.24.0	301/Mines/2015 Date:15.01.2016	23.09.2016 To 22.09.2021
3.	M.Thangaraj	Morattupalaym	2.19.5	357/Mines/2015 Date:15.01.2016	21.01.2016 To 20.01.2021
4.	M.Palanisam	Morattupalaym	0.59.5	300/Mines/2015 Date:15.01.2016	21.01.2016 To 20.01.2021
5.	K.Karppusamy	Morattupalaym	0.71.5	529/Mines/2015 Date:21.09.2016	23.09.2016 To 20.09.2021
6.	S.Rajasekar	Morattupalaym	1.98.5	105/Mine/2017 Date:25.09.2018	25.09.2018 To 24.09.2023

**Abandoned / Expired Quarries**

  
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S. No.	Name of the Lessee	Village	S.F.No.	Extent in Hectare	Lease Period
1.	T.S.Udhayakumar	Morattupalaym	389/1C	0.89.0	27.05.2020
2.	S.Raju	Morattupalaym	389/1B1	1.62.0	23.06.2020

**Present Proposed Quarries**

S. No.	Name of the Lessee	Village	S.F.No.	Extent in Hectare	Lease Period
1.	M.Thangaraj	Morattupalaym	383/2B2	1.51.0	Nearby applied area
2.	T.Thangaraj	Morattupalaym	383/2A2B 383/2A2A2A2	1.88.72	Proposed area

**Appraisal by SEAC:-**

**Proposed Rough Stone and Gravel quarry lease over an extent of 1.88.72Ha at S.F. No. 383/2A2B & 383/2A2A2A2 of Morattupalayam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu by Thiru.T. Thangaraj- For Environmental Clearance. (SIA/TN/MIN/55469/2020 dated 11.08.2020)**

The proposal was placed in this 302<sup>nd</sup> Meeting of SEAC held on 17.08.2022. The details of the project furnished by the proponent are available in the website ([www.purivesh.nic.in](http://www.purivesh.nic.in)).

**The SEAC noted the following:**

1. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.

Based on the presentation and documents furnished by the project proponent, SEAC decided to recommend the proposal for the grant of Environmental Clearance for an annual peak production of 34350 cu.m of rough stone & 6536 cu.m of gravel, subject to the standard conditions as per the Annexure-I of this minutes & normal conditions stipulated by MOEF&CC, in addition to the following specific conditions:

1. The prior Environmental Clearance granted for this mining project shall be valid for the project life including production value as laid down in the mining plan approved and renewed by competent authority, from time to time, subject to a maximum of thirty years, whichever is earlier, vide MoEF&CC Notification S.O. 1807(E) dated 12.04.2022.
2. The mine manager and other statutory competent persons such as blaster (or) mine mate shall be appointed before the commencement of mining operations per the provisions of Mines Act 1952 and Metalliferous Mines Regulations, 1961.

  
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**SEIAA-TN**




3. Within one year of the commencement of mining operations, the PP shall carry out the scientific studies on controlled blasting for reducing the impact of blast-induced ground/air vibrations and fly rock, by involving a reputed Research and Academic Institution such as NIRM, IITs, Anna University Chennai-CEG Campus, NIT Surathkal - Dept of Mining Engg, and any other CSIR Laboratories etc. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance.
4. The Project Proponent (PP) shall submit an 'Action Plan' for carrying out the realignment of the benches in the existing quarry and shall also furnish a 'Slope stability action plan' incorporating the haul road ramp keeping the benches intact for the proposed quarry lease as the depth of the proposed quarry is exceeding 40 m to the office of concerned AD (Mines) before obtaining CTO from TNPCB.
5. The PP shall carry out the scientific studies to assess the slope stability of the benches and quarry wall when the depth of the quarry touches 40 m (or) after the completion of 3 years of operation whichever is earlier, by involving a reputed Research and Academic Institution such as NIRM, IITs, NIT-Dept of Mining Engg, Surathkal, Anna University Chennai-CEG Campus, and any CSIR Laboratories etc. A copy of such scientific study report shall be submitted to the SEIAA, MoEF, TNPCB, AD/Mines-DGM and DMS, Chennai as a part of Environmental Compliance without any deviation.
6. As per the MoEF & CC Office Memorandum F.No. 22-65/2017-IA,III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere EMP furnished.
7. As accepted by the Project Proponent the CER cost is Rs. 3 lakhs and the amount shall be spent to the committed activities for Panchayath Union Primary School, Karaipalayam Village before obtaining CTO from TNPCB.

#### ANNEXURE-I

1. The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferous Mines Regulations, 1961.
2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.

  
MEMBER SECRETARY

3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.
9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
10. Proper barriers to reduce noise level and dust pollution should be established by providing

  
MEMBER SECRETARY  
SEIAA-TN



greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.

11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.
13. **Noise and Vibration Related:** (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.
14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.

  
MEMBER SECRETARY

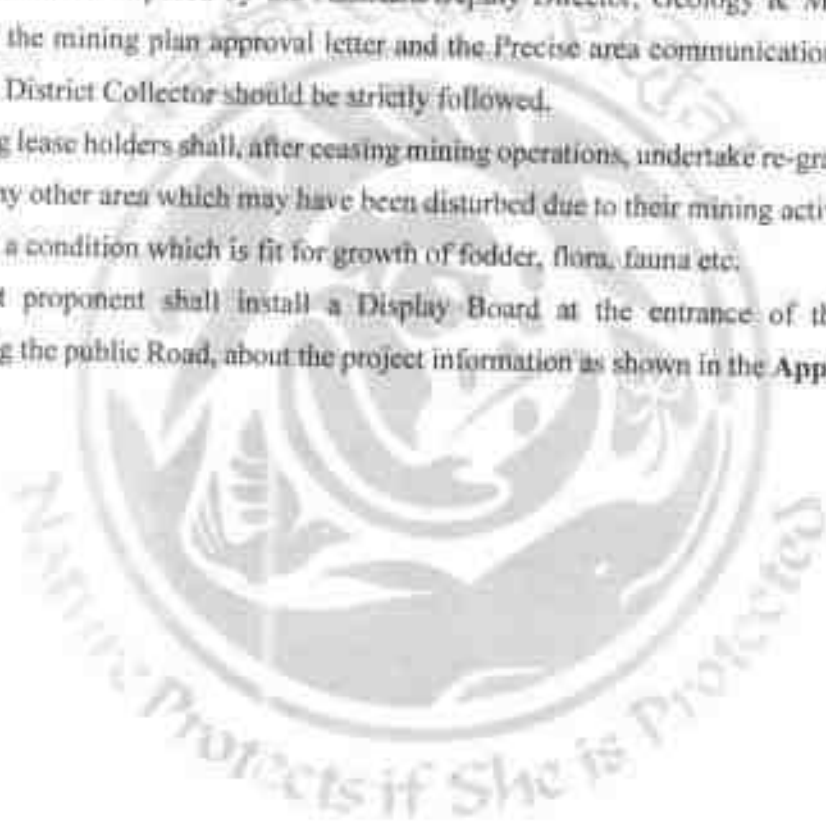
15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.
23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the

  
MEMBER SECRETARY  
SEIAA-TN



District AD/DD (Geology and Mining) District Environmental Engineer (TNPCCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.

24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
28. The Project proponent shall install a Display Board at the entrance of the mining lease area/abutting the public Road, about the project information as shown in the Appendix -II of this minute.



  
MEMBER SECRETARY



**Appendix - I**  
**List of Native Trees Suggested for Planting**

No.	Scientific Name	Tamil Name	Tamil Name
1	<i>Acacia auriculata</i>	Vilvam	விளம்
2	<i>Adiantum species</i>	Manjoti	மண்பூண்டு
3	<i>Albizia lebbek</i>	Vayagu	வையகு
4	<i>Albizia amara</i>	Ural	உரல்
5	<i>Bauhinia purpurata</i>	Mudhuvu	முதுவூ
6	<i>Bauhinia variegata</i>	Kutti	குட்டி
7	<i>Bauhinia variegata</i>	Iravalla	இரவல்லா
8	<i>Eucalyptus acclata</i>	Kattuma	கட்டமா
9	<i>Erannia Etilloyle</i>	Pattu	பட்டு
10	<i>Eulia macrocarpa</i>	Murukkanaman	முருக்காமன்
11	<i>Eulia ovalis</i>	Ilavu, Sevvilavu	இலவு
12	<i>Calophyllum inebriatum</i>	Pattai	பட்டை
13	<i>Cordia Allata</i>	Savakudhu	சவாகுடு
14	<i>Cordia rostrata</i>	Sengudrai	செங்குடிரை
15	<i>Chloroxylon swietenia</i>	Ponnamaram	பொன்னாரம்
16	<i>Cochlospermum religiosum</i>	Kongu, Marpallaru	கொங்கு, மர்பல்லா
17	<i>Cordia dichotoma</i>	Nannoli	நன்னலி
18	<i>Cordia allamoni</i>	Marudingattu	மரடுங்கட்டு
19	<i>Dillenia indica</i>	Ura, Udu	உரா
20	<i>Dillenia pinnatifida</i>	Seri Ura, Senuthu	செரி உரா, சனுது
21	<i>Duranta indica</i>	Karungudi	கரங்குடி
22	<i>Duranta indicum</i>	Vayam	வையம்
23	<i>Ficus religiosa</i>	Kathu	காது
24	<i>Ficus religiosa</i>	Aathiyaravaram	ஆதியாரவரம்
25	<i>Ficus religiosa</i>	Anchi	அங்கி
26	<i>Ficus religiosa</i>	Archi	அர்கி
27	<i>Linnæa racemosa</i>	Othyan	ஓத்யன்
28	<i>Lycopersicon esculentum</i>	Pon Marudhu	பொன் மரடு
29	<i>Lycopersicon esculentum</i>	Nadikottaiyaram	நாடிகுட்டையாரம்
30	<i>Lycopersicon esculentum</i>	Vila maran	வில்லி மரன்
31	<i>Linnæa platyneura</i>	Ponmarai	பொன் மரையி
32	<i>Madhuca longifolia</i>	Iluppai	இலுப்பை
33	<i>Mandhara berandra</i>	UkkadPalai	உக்கட்பலை
34	<i>Mimosa pudica</i>	Magudharatham	மாசூ
35	<i>Mimosa pudica</i>	Kadambu	கடம்பு
36	<i>Mimosa pudica</i>	Nara	நாரை
37	<i>Mimosa pudica</i>	Vellai Nara	வில்லை நாரை
38	<i>Pongamia pinnata</i>	Kathu	காது
39	<i>Pongamia pinnata</i>	Pongam	பொங்கம்

40	<i>Pongamia pinnata</i>	Manna	மணை
41	<i>Pongamia pinnata</i>	Narumanna	நாரும்ணை
42	<i>Pongamia pinnata</i>	Melapuram	மேலூர்
43	<i>Pongamia pinnata</i>	Vayal maran	வையல் மரன்
44	<i>Pongamia pinnata</i>	Vengai	வெங்கை
45	<i>Pongamia pinnata</i>	Venungu, Tadu	வெங்கு, தாடு
46	<i>Pongamia pinnata</i>	Pulera	புலரை
47	<i>Pongamia pinnata</i>	Kattala	கட்டலை
48	<i>Sida cordata</i>	Ura Maran	உரா மரன்
49	<i>Sida cordata</i>	Marupugai, Sarpukal	மரபுழை, சர்புகல்
50	<i>Sida cordata</i>	Anca	அங்கை
51	<i>Sida cordata</i>	Pey maran	பேய் மரன்
52	<i>Sida cordata</i>	Yethi	யேதி
53	<i>Sida cordata</i>	Theethang Kottai	தேத்தங்க கட்டை
54	<i>Sida cordata</i>	Nara	நாரை
55	<i>Sida cordata</i>	Thandi	தாண்டி
56	<i>Sida cordata</i>	Ven maradu	வென் மரடு
57	<i>Sida cordata</i>	Siddhanta vellu	சீட்தாண்டி
58	<i>Thespesia populnea</i>	Puvana	புவனை
59	<i>Wrightia religiosa</i>	Naluru	நாலூர்
60	<i>Wrightia religiosa</i>	Veppala	வேப்பலை
61	<i>Wrightia religiosa</i>	Kudikkapudi	குடிக்கப்படி

  
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the amount shall be spent for the Panchayath Union Primary School, Karaipalayam village as committed, before obtaining CTO from TNPCB.

3. The AD/DD, Dept. of Geology & Mining shall ensure operation of the proposed quarry after the submission slope stability study conducted through the reputed research & Academic Institutions such as NIRM, IITs, NITS Anna University, and any CSIR Laboratories etc.
4. The AD/DD, Dept. of Geology & Mining & Director General of Mine safety shall ensure strict compliance and implementation of bench wise recommendations/action plans as recommended in the scientific slope stability study of the reputed research & Academic Institutions as a safety precautionary measure to avoid untoward accidents during mining operation.
5. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone. The proponent shall ensure that the activities in no way result in disturbance to forest and trees in vicinity. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem. The proponent shall ensure that the activity does not result in invasion by invasive alien species. The proponent shall ensure that the activities do not disturb the resident and migratory birds. The proponent shall ensure that the activities do not disturb the vegetation and wildlife in the adjoining reserve forests and areas around.
6. The proponent shall ensure that the operations do not result in loss of soil biological properties and nutrients.
7. The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.
8. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
9. The proponent shall ensure that the activities undertaken do not result in carbon emission, and temperature rise, in the area.
10. The proponent shall ensure that Monitoring is carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.

  
MEMBER SECRETARY  
SEIAA-TN





11. The proponent shall ensure that the activities do not disturb the agro biodiversity and agro farms. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
12. The proponent shall ensure that activity does not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soil and water.
13. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health
14. Bio remediation using microorganisms should be carried out to restore the soil environment to enable carbon sequestration.
15. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
16. The proponent shall ensure that the activities do not impact the water bodies/wells in the neighboring open wells and bore wells. The proponent shall ensure that the activities do not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity or impact the water table and levels. The proponent shall ensure that the activities do not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
17. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
18. The proponent shall ensure the area is restored and rehabilitated with native trees as recommended in SEAC Minutes (in Appendix).
19. The proponent shall ensure that the mine restoration is done using mycorrhizal VAM, vermin-composting, Biofertilizers to ensure soil health and biodiversity conservation.
20. The proponent shall ensure that the topsoil is protected and used in planting activities in the area.
21. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
22. The proponent shall ensure that topsoil to be utilized for site restoration and Green belt alone within the proposed area.

  
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23. The proponent shall ensure that the activities do not impact green lands/grazing fields of all types surrounding the mine lease area which are food source for the grazing cattle.
24. The project proponent shall store/dump the granite waste generated within the earmarked area of the project site for mine closure as per the approved mining plan.

**Directions for Reclamation of mine sites**

1. The mining closure plan should strictly adhere to appropriate soil rehabilitation measures to ensure ecological stability of the area. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
2. The proponent shall ensure that the mine closure plan is followed as per the mining plan and the mine restoration should be done with native species, and site restored to near original status. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
3. A crucial factor for success of reclamation site is to select sustainable species to enable develop a self-sustaining eco system. Species selected should easily establish, grow rapidly, and possess good crown and preferably be native species. Species to be planted in the boundary of project site should be un palatable for cattle 's/ goats and should have proven capacity to add leaf-litter to soil and decompose. The species planted should be adaptable to the site conditions. Should be preferably pioneer species, deciduous in nature to allow maximum leaf-litter, have deep root system, fix atmospheric nitrogen and improve soil productivity. Species selected should have the ability to tolerate altered pit and toxicity of and site. They should be capable of meeting requirement of local people in regard to fuel fodder and should be able to attract bird, bees and butterflies. The species should be planted in mixed association.
4. For mining area reclamation plot culture experiments to be done to identify/ determine suitable species for the site.
5. Top soil with a mix of beneficial microbes (Bacteria/Fungi) to be used for reclamation of mine spoils. AM Fungi (Arbuscular mycorrhizal fungi), plant growth promoting Rhizo Bacteria and nitrogen fixing bacteria to be utilized.
6. Soil and moisture conservation and water harvesting structures to be used where ever possible for early amelioration and restoration of site.

  
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7. Top soil is most important for successful rehabilitation of mined sites. Topsoil contains majority of seeds and plant propagation, soil microorganism, Organic matter and plant nutrients. Wherever possible the topsoil should be immediately used in the area of the for land form reconstruction, to pre mining conditions.
8. Over burdens may be analyzed and tested for soil characteristics and used in the site for revegetation. Wherever possible seeds, rhizome, bulbs, etc of pioneering species should be collected, preserved and used in restoring the site.
9. Native grasses seeds may be used as colonizers and soil binders, to prevent erosion and allow diverse self-sustaining plant communities to establish. Grasses may offer superior tolerance to drought, and climatic stresses.
10. Reclamation involves planned topographical reconstruction of site. Care to be taken to minimize erosion and runoff. Topsoils should have necessary physical, chemical, ecological, properties and therefore should be stored with precautions and utilized for reclamation process. Stocked topsoil should be stabilized using grasses to protect from wind. Seeds of various indigenous and local species may be broadcast after topsoil and treated overburden are spread.
11. Alkaline soils, acidic soils, Saline soils should be suitably treated/amended using green manure, mulches, farmyard manure to increase organic carbon. The efforts should be taken to landscape and use the land post mining. The EMP and mine closure plan should provide adequate budget for reestablishing the site to pre-mining conditions. Effective steps should be taken for utilization of over burden. Mine waste to be used for backfilling, reclamation, restoration, and rehabilitation of the terrain without affecting the drainage and water regimes. The rate of rehabilitation should be similar to rate of mining. The land disturbed should be reshaped for long term use. Mining should be as far as possible be ecofriendly. Integration of rehabilitation strategies with mining plan will enable speedy restoration.
12. Efforts should to taken to aesthetically improve the mine site. Generally there are two approaches to restoration i.e Ecological approach which allows tolerant species to establish following succession process allowing pioneer species to establish. The other approach i.e plantation approach is with selected native species are planted. A blend of both methods may be resorted to restore the site by adding soil humus and mycorrhiza.
13. Action taken for restoration of the site should be specifically mentioned in the EC compliances.

  
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**Part-A: Conditions to be Complied before commencing mining operations:-**

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that
  - I. The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.

  
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12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.
14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF & CC, Govt on 16.11.2009.
20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
  - i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

  
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- v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF& CC, GoI to control noise to the prescribed levels.
23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps:-
- i. Retention/ toe walls shall be provided at the foot of the dumps.
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.

  
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31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity.
42. The Project Proponent shall provide solar lighting system to the nearby villages.
43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.

  
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44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.
48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc. with respect to the existing activity before execution of mining.
51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.
56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
58. The company shall stress upon the preventive aspects of occupational health.

  
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59. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
60. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
61. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
62. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
63. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
64. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
65. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
66. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
67. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
68. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
69. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
70. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
71. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.

  
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72. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.
73. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
74. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
75. All the recommendations made in the EIA report of the project shall be effectively implemented.
76. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
77. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
78. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
79. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
80. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely: RSPM, SO<sub>2</sub>, NO<sub>x</sub> or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

**Part B: General Conditions:**

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.

  
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3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.

  
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14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.
16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the Environmental Clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.

  
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23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

  
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**Copy to:**

1. The Secretary, Ministry of Mines, Government of India, Shaastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nuttambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai - 32.
7. The District Collector, Tiruppur District.
8. The Commissioner of Geology and Mines, Guindy, Chennai - 32.
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Spare.

Signature Not Verified

Digitally signed by Thiru. Deepak S. Bilgi  
Member Secretary  
Date: 9/17/2022 6:54:19 PM  
Page 29 of 29



Dr. S. KALYANASUNDARAM I.F.S.(Retd.)  
CHAIRMAN



3rd Floor, Panagal Maaligai,  
No.1 Jeetis Road, Saidapet,  
Chennai 15.  
Phone No. 044-24359974  
Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

Lr. No. SEIAA-TN/F.No.4216/EC/1(a)/2434/2015 dated:24.11.2015

To

Thiru. M. Thangaraj  
No.18, Bharathi Nagar  
Punjab Uthukuli  
Uthukuli Taluk  
Tiruppur

Sir,

**Sub:** SEIAA-TN – Proposed Rough Stone & Gravel quarry located at S.F.No 389/1B1A, 1B1B & 1B2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District- Issue of Environmental Clearance – Reg.

**Ref:** 1. Your Application for Environmental Clearance dt: 07.10.2015  
2. Minutes of the 69th SEAG held on 13.11.2015 & 14.11.2015  
3. Minutes of the SEIAA meeting held on 24.11.2015

**Details of Minor Mineral Activity:-**

This has reference to your application first cited. The proposal is for obtaining environmental clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below:

<b>1</b>	<b>Name of Project Proponent and address</b>	Thiru. M. Thangaraj No.18, Bharathi Nagar Punjab Uthukuli Uthukuli Taluk Tiruppur
<b>2</b>	<b>Location of the Proposed Activity</b>	
	Survey Number	389/1B1A, 1B1B & 1B2
	Latitude and Longitude	11°07'59"N to 11°08'07"N 77°25'17"E to 77°25'23"E
	Village	Morattupalayam
	Taluk	Uthukuli
	District	Tiruppur
<b>3</b>	<b>Proposed Activity</b>	
	i. Minor mineral	Rough Stone & Gravel

*S. Kalyanasundaram*  
CHAIRMAN  
SEIAA-TN

STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY – TAMIL NADU

STA

Condi.

ii.	Mining Lease Area	2.19.5 Ha
iii.	Approved quantity	77199 cu.m of Rough Stone & 1013 cu.m of Gravel
iv.	Depth of Mining	32 m
v.	Type of mining	Semi Mechanized Opencast Method
v.	Category(B1/B2)	B2
vii.	Precise area communication	Rc.No. 357/Mines/2015 Dated:20.09.2015
viii.	Mining plan approval	Assistant Director Rc.No. 357/Mines/2015 Dated:01.10.2015
ix.	Mining lease period	5 Years
4	Whether Project area attracts any General conditions specified in the EIA notification, 2006 as amended:-	Not attracted. Affidavit furnished
5	Man Power requirement per day:	11 Employees
6	Utilities	
i.	Source of Water :	Water Vendors/Existing bore hole
ii.	Quantity of Water Requirement in KLD:	
	a. Domestic	0.3KLD
	b. Industrial	} 0.7KLD
	c. Green Belt & Dust Suppression	
iii.	Power Requirement:	
	a. Domestic Purpose	TNEB
	b. Industrial Purpose	
7	Cost	
	i. Project Cost	Rs.49.39 Lakhs
	ii. EMP Cost	Rs.8.60 Lakhs
8	Public Consultation:-	Not required as per O.M. dated 24.12.2013 of MoEF, GoI.
9	Date of Appraisal by SEAC:- Agenda No:	13.11.2015 & 14.11.2015 69-13
10	Date of Review/Discussion by SEIAA and the Remarks:-	The proposal was placed before the SEIAA in its 143 <sup>rd</sup> Meeting held on 24.11.2015 and the Authority after careful consideration, decided to grant environmental clearance to the said project Mining of Rough Stone & Gravel to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.
11	Validity:	The Environmental Clearance will be coterminous with the mine lease period or limited to a maximum period of 5 Years from the date of issue whichever is earlier.

  
CHAIRMAN  
SEIAA-TN

Conditions to be Complied before commencing mining operations:-

1. The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing the public that:
  - I. The project has been accorded Environmental Clearance.
  - II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.
  - III. Environmental Clearance may also be seen on the website of the SEIAA.
  - IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.
2. The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.



14. Depth of quarrying shall be 2m above the ground water table /approved depth of mining whichever is lesser to be considered as a safe guard against Environmental Contamination and over exploitation of resources.
15. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
16. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
17. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
18. The explosives shall be stored at site as per the conditions stipulated in the permits issued by the Licensing Authority.
19. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
20. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
21. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, Govt on 16.11.2009.
22. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust.
23. The following measures are to be implemented to reduce Noise Pollution
  - i. Proper and regular maintenance of vehicles and other equipment.
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.

  
CHAIRMAN  
SEIAA-TN

STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY – TAMIL NADU

24. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt- 11.01.2010 issued by the MoE&F, GoI to control noise to the prescribed levels.
25. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
26. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
27. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
28. The following measures are to be adopted to control erosion of dumps:-
  - i. Retention/ toe walls shall be provided at the foot of the dumps
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
29. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous Wastes (Management, Handling, and trans boundary movement) Rules, 2008 and its amendments thereof to the recyclers authorized by TNPCCB.
30. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
31. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
32. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
33. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that

  
CHAIRMAN  
SEIAA-TN

STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY - TAMIL NADU

- The groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.
34. No tree felling shall be done in the leased area, except only with the permission from competent authority.
  35. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic institution.
  36. It shall be ensured that the total extent of nearby quarries (existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 25 hectares within the mining lease period of the application.
  37. It shall be ensured that there is no habitation is located within 500 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 500m radius from the periphery of the quarry site.
  38. Ground water quality monitoring should be conducted once in 3 Months.
  39. Transportation of the quarried materials shall not cause any hindrance to the village people/Existing Village road.
  40. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
  41. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.
  42. Bunds to be provided at the boundary of the project site.
  43. Ground water quality monitoring should be conducted once in 3 Months.
  44. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
  45. At least 10 Neem trees should be planted around the boundary of the quarry site.
  46. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
  47. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity.
  48. The Project Proponent shall provide solar lighting system to the nearby villages.
  49. The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
  50. Rainwater shall be pumped out Via Settling Tank only.
  51. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
  52. As per MoEF&CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from obtaining committee of the National Board for Wild life as applicable shall be obtained before starting the quarrying operation, if the project site is located within 10KM from National Park and Sanctuaries.
  53. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be monitored by the District Authorities.
  54. Safety equipments to be provided to all the employees.
  55. Safety distance of 50m has to be provided in case of railway, reservoir, canal/canal

  
CHAIRMAN  
SEIAA-TN



STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY - TAMIL NADU

General Conditions:

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.
4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.

  
CHAIRMAN  
SEIAA-TN

STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY – TAMIL NADU

16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA,TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied
23. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

  
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Copy to:

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary, Environment and Forests Department, Government of Tamil Nadu, Tamil Nadu.
3. The Additional Chief Secretary, Industries Department, Government of Tamil Nadu, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110 032.
6. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai-32
7. The District Collector, Tiruppur District
8. The Commissioner of Geology and Mines, Guindy, Chennai-32
9. E1 Division, Ministry of Environment & Forests, Parivaran Bhawan, New Delhi.
10. Spare.



Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Tamil Nadu)

To,

The Owner  
DEVARAJ M  
Morattupalayam Village -638752

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC) in respect of project submitted to the SEIAA vide proposal number SIA/TN/MIN/38568/2019 dated 23 Mar 2022. The particulars of the environmental clearance granted to the project are as below.

- |  |   |
|--|---|
| 1. EC Identification No.                   | EC22B001TN188374  |
| 2. File No.                                | 6945  |
| 3. Project Type                            | New   |
| 4. Category                                | B1  |
| 5. Project/Activity including Schedule No. | 1(a) Mining of minerals                                       |
| 6. Name of Project                         | M.Devaraj, Rough stone quarry from over an Extent of 1.29.0ha |
| 7. Name of Company/Organization            | DEVARAJ M   |
| 8. Location of Project                     | Tamil Nadu  |
| 9. TOR Date                                | 23 Jun 2020   |

The project details along with terms and conditions are appended herewith from page no 2 onwards.

Date: 18/05/2022

(e-signed)  
Tmt.P.RAJESWARI,IFS  
Member Secretary  
SEIAA - (Tamil Nadu)

*Note: A valid environmental clearance shall be one that has EC identification number & E-Sign generated from PARIVESH.Please quote identification number in all future correspondence.*

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TMT. P. RAJESWARI, I.F.S.,  
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT  
ASSESSMENT AUTHORITY – TAMIL NADU

3rd Floor, Panagal Maaligai,  
No.1 Jeenis Road, Saidapet,  
Chennai-15.

Phone No.044-24359973

Fax No. 044-24359975

**ENVIRONMENTAL CLEARANCE**

**Lr.No.SEIAA-TN/F.No.6945/1(a)/EC.No:5033/2021 dated:20.04.2022**

**Sir/Madam**

**Sub:** SEIAA, TN – Proposed Rough Stone Quarry over an extent of 1.29.0Ha located at S.F. No, 389/1A Morattupalyam Village, Uthukuli Taluk, Tiruppur District by Thiru.M.Devaraj under project category – “B1” and Schedule S.No. 1(a) –Issue of Environmental Clearance – Regarding.

- Ref:** 1. Lr No.SEIAA-TN/F.No. 6945/SEAC/ToR-725/2020 Dated: 23.06.2020  
2. Public Hearing conducted on 23.08.2021  
3. Online Proposal No. SIA/TN/MIN/38568/2019 dated 24.09.2021  
4. Application seeking Environmental Clearance dated: 28.09.2021  
5. Minutes of the 256<sup>th</sup> Meeting of SEAC held on 24.03.2022  
6. Minutes of 500<sup>th</sup> Meeting of SEIAA held on 18.04.2022

**Details of Minor Mineral Activity:-**

This has reference to your application cited, the proposal for obtaining Environmental Clearance for mining/quarrying of minor minerals based on the particulars furnished in your application as shown below.

Sl. No.	Details of the proposal	Data furnished
1.	Name of the Owner/Firm	Thiru.M.Devaraj S/o. Muthusamy No. 5/320, E.B.R.Lakshmi Garden

  
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SEIAA-TN



		Thimmanaickenpalayam, Morattupalayam Village Uthukuli Taluk Tiruppur District
2.	Type of quarrying (Savudu/Rough Stone/Sand/Granite)	Rough Stone
3.	S.F No. Of the quarry site with area break-up	389/1A
4.	Village in which situated	Morattupalyam
5.	Taluk in which situated	Uthukuli
6.	District in which situated	Tiruppur
7.	Extent of quarry (in ha.)	1.29.0ha Patta Land
8.	Period of quarrying proposed	5 years
9.	Type of mining	Open cast Mechanized mining
10.	Production (Quantity in m <sup>3</sup> )	1,11,875 m <sup>3</sup> of Rough stone
11.	Depth of quarrying	36m below ground level
12.	Depth of water table	58m-62m
13.	Latitude & Longitude of all corners of the quarry site	11°08'05.49"N to 11°08'12.66"N 77°25'14.04"E to 77°25'20.06"E
14.	Topo Sheet No.	57 E/08
15.	Man Power requirement per day:	21 Nos..
16.	Precise area communication issued by the District Collector with date	Na.Ka.No. 629/Kanimam/2018, dated 21.08.2018
17.	Mining Plan approved by Deputy Director, Tirupur with date	Rc.No.629/Mines/2018, dated: 12.09.2018
18.	500m cluster letter issued by Assistant Director, Department of Geology & Mining,	Rc.No.629/Mines/2018, dated: 02.07.2019
19.	Water requirement:	4.0 KLD
	Drinking & domestic purposes (in KLD)	1.2 KLD
		1.6 KLD
	Dust suppression , Green Belt (in	1.2 KLD

  
MEMBER SECRETARY



	KLD)	
20.	Power requirement Domestic Purpose Industrial Purpose	TNEB -
21.	Whether any habitation within 300m distance	VAO letter dated: 18.04.2018
22.	Project Cost	Rs. 44,14,480
23.	EMP cost	Capital Cost -Rs.15.60 Lakh Recurring Cost- Rs. 13.44 Lakh
24.	CER cost	Rs. 5.0 Lakh as per SEAC minutes
<b><u>Validity:</u></b> <b>This Environmental Clearance is granted for the production in 1,11,875 m3 of Rough stone for the period of 5 Years from the date of execution of the mining lease.</b>		

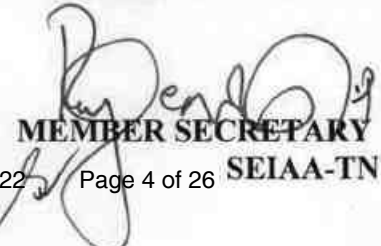
**Affidavit**

The Proponent has furnished affidavit in Hundred Rupees stamp paper attested by the Notary stating that

I Thiru. M.Devaraj S/o. Muthusamy No. 5/320, E.B.R.Lakshmi Garden Thimmanaickenpalayam, Morattupalayam Village Uthukuli Taluk Tiruppur District. Do hereby solemnly declare and sincerely affirm that,

I have applied for getting environment clearance to SEIAA, Tamil Nadu for quarry lease for Rough Stone Quarry over an extent of 1.29.0Ha located at S.F. No, 389/1A Morattupalyam Village, Uthukuli Taluk, Tiruppur District, Tamil Nadu State,

1. I swear to state and confirm that within 10km area of the quarry site, we have applied for environmental clearance, none of the following is situated
  - a. Protected areas notified under the wild life (Protection) Act, 1972
  - b. Critically polluted areas as notified by the central pollution control board constituted under water (Prevention and Control of Pollution) Act 1974.
  - c. Eco-Sensitive areas as notified
  - d. Interstate boundary within 10km radius from the boundary of the proposed site
2. I will complete the following Corporate Environment Responsibility (CER) activities before commencement of the quarrying activities.

  
**MEMBER SECRETARY**  
**SEIAA-TN**

Government Higher Secondary School, Morattupalayam, Tiruppur

CER Activity	Project cost (Rs) lakh	CER cost 2.0% of Project cost (Rs) lakh
Installation of RO Drinking Water Unit	Rs. 44,14,480	50,000/-
Construction of Hand Wash Facilities		1,00,000/-
Terracotta Painting of Entire School with Environmental Awareness Slogan		2,00,000/-
Avenue Plantation along the School Boundary @ 200 Trees		1,00,000/-
Installation of Solar Lights along the School Compound walls		50,000/-
<b>Total cost Allocation</b>		<b>Rs. 44,14,480</b>

3. Details of quarry within 500m radius from the applied area:

S. No	Name of the Owner	Village & S.F. No	Extent (Ha)	Distance from this proposed quarry
<b>Existing Quarry:</b>				
1	P.Raju	Morattupalayam (V) 387/1B1	1.62.0	-
2	T.Udhayakumar	Morattupalayam (V)389/2C	0.89.0	-
3	M.P.Marimuthu	Morattupalayam (V)389/1B1, 1B2	1.75.0	-
4	T.Sumathi	Morattupalayam (V) 383/2A, 2B	0.89	-
5	P. Thangamuthusamy	Morattupalayam (V) 382/2B, 383/2A1	3.24.0	-
6	N.Karupasamy	Morattupalayam (V) 383/1(P), 2A2A(P)	0.74.5	-
7	N. Ayyadurai	Morattupalayam (V) 392	3.52.0	-
<b>Abandoned Quarry:</b>				
-----Nil-----				
<b>Proposed Quarry:</b>				
1	M. Devaraj	Morattupalayam (V) 389/1A	1.29.02	--
<b>Expired Quarries:</b>				
-----Nil-----				

4. There will not be any hindrance or disturbance to the people living on enroute / nearby my quarry site while transporting the mined out material and due to mining / quarrying activities.

MEMBER SECRETARY

5. No habitations are located within 500m radius from the periphery of my applied quarry.
6. We swear that afforestation will be carried with native species along the periphery of the project boundary during the course of quarrying operation and will be maintained properly.
7. The required insurance will be taken in the name of laborers working in the quarry site.
8. The Approach road is belongs to local panchayath only and no other private patta roads encountered.
9. I will not engage any child labor in the quarry and I aware that engaging child labor is punishable under the law.
10. All types of safety/protective equipment will be provided to all the laborers in the proposed quarry.
11. No permanent structures, temples etc., are located within 500m radius from the periphery of our quarry.

We ensure to do all the Social and Environmental Commitment as mentioned in the mining plan to the best of our knowledge.

**Details of Quarries located within 500M radius from the proposed quarry:**

The Project Proponent has submitted a copy of the letter obtained from the Assistant Director Department of Geology & Mining, Tiruppur District in his letter Rc.No.629/Mines/2018, dated: 02.07.2019 has stated that the details of other quarries within a radius 500m from the boundary of the proposed quarry site as follows:

S. No	Name of the Lessee	Quarry/ lease applied area located S.F. No	Extent (Ha)	Status
1	M. Devaraj	389/1A	1.29.02	Proposed
2	P.Raju	387/1B1	1.62.0	Existing
3	T.Udhayakumar	389/2C	0.89.0	Existing
4	M.P.Marimuthu	389/1B1, 1B2	1.75.0	Existing
5	T.Sumathi	383/2A, 2B	0.89	Existing
6	P. Thangamuthusamy	382/2B, 383/2A1	3.24.0	Existing
7	N.Karupasamy	383/1(P), 2A2A(P)	0.74.5	Existing
8	N. Ayyadurai	392	3.52.0	Existing

**Appraisal by SEAC:-**

The proposal was placed in 256<sup>th</sup> SEAC meeting held on 24.03.2022. The details of the project furnished by the proponent are given in the website (parivesh.nic.in).

The SEAC noted the following:

  
MEMBER SECRETARY  
SEIAA-TN

1. The Project Proponent, Thiru.M.Devaraj has applied for Environmental Clearance for the proposed Rough stone quarry lease over an extent of 1.29.0 Ha at S.F.No. 389/1A of Morattupalayam village, Uthukuli Taluk, Tiruppur District, Tamil Nadu.
2. The project/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006.
3. The production for the five years states that total quantity should not exceed 1,11,875 m<sup>3</sup> of rough stone with an ultimate depth of mining is 36m below ground level.
4. ToR issued vide Lr.No.SEIAA-TN/F.No.6945/SEAC/ToR-725/2020 Dated: 23.06.2020.
5. Public hearing was conducted on 23.08.2021.

After examining the documents & project proposals furnished by the project proponent and based on the presentations & detailed deliberations, SEAC decided to **recommend the proposal for the grant of Environmental Clearance** for the total Production for the period of five years states that total quantity should not exceed Rough Stone of 1,11,875 m<sup>3</sup> with an ultimate depth of 36 m BGL, subject to the conditions mentioned in the Annexure of this minutes and standard conditions stipulated by MOEF &CC, in addition to the following specific conditions,

1. As per the MoEF&CC Office Memorandum F.No. 22-65/2017-IA.III dated: 30.09.2020 and 20.10.2020 the proponent shall adhere the EMP as committed.

SI.No.	Description	Item	Capital cost (Rs. In Lakhs)	Recurring cost per annum (Rs. in Lakhs)
1	Occupational health & safety	Dust Mask, Safety Shoes, Helmets Ear Plugs, Gloves, Goggle, Safety Belt	0.00	0.63
2	Environmental Monitoring	Air, Water, Noise & Vibration, Soil Parameters	0.00	0.76
3	Water & Soil erosion	Garland drains & Settling tanks, check dam/gully plugs, etc	2.00	0.30
4	Drinking Water Facilities and Sanitation Facilities		1.00	0.25
5	Fixed Water Sprinkling Arrangements + Two times a day water sprinkling by water tankers @ 100 Rs. per tanker with own water tanker		8.00	0.50
6	Haul Road Maintenance		0.00	0.50
7	Green belt Development & Plantation @ 500 Trees proposed for plantation and maintenance includes Fertilizer, Manure, Manpower, etc		2.50	1.00
8	Environmental Awareness Programme		0.00	0.25
9	Boundary Fencing (Barbe wire fencing / chain link fencing)		2.10	0.25

  
MEMBER SECRETARY

10	Adopting new blasting technology like NONEL Blasting and Controlled Blasting Method will reduce the impacts due to blasting @ Rs 3000/- per blasting session	0.00	9.00
<b>Total</b>		<b>15.60</b>	<b>13.44</b>

#### YEAR WISE BREAK-UP

1 <sup>st</sup> Year	Rs. 26,74,000/-
2 <sup>nd</sup> Year	Rs. 14,11,200/-
3 <sup>rd</sup> Year	Rs. 14,81,760/-
4 <sup>th</sup> Year	Rs. 15,55,848/-
5 <sup>th</sup> Year	Rs. 16,33,640/-

Note: Cost inclusive of 5% cost inflation anticipated every year.

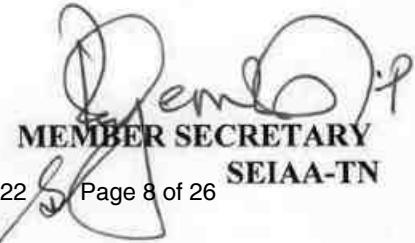
- As accepted by the Project Proponent the revised CER cost is Rs. 5 lakhs and the amount shall be spent for the benefit of Government Higher Secondary School, Morattupalayam, Tiruppur before obtaining CTO from TNPCB.

Sl.No.	Description	CER Cost INR
1	Installation of RO Drinking Water Unit	50,000/-
2	Construction of Hand Wash Facilities	1,00,000/-
3	Terracotta Painting of Entire School with Environmental Awareness Slogan	2,00,000/-
4	Avenue Plantation along the School Boundary @ 200 Trees	1,00,000/-
5	Installation of Solar Lights along the School Compound walls	50,000/-
<b>TOTAL</b>		<b>Rs. 5,00,000/-</b>

All the commitments made by the proponent during the Public Hearing, as per the minutes of Public Hearing should be implemented in total.

#### ANNEXURE

- The proponent shall mandatorily appoint the required number of statutory officials and the competent persons in relevant to the proposed quarry size as per the provisions of Mines Act 1952 and Metalliferrous Mines Regulations, 1961.

  
**MEMBER SECRETARY**  
**SEIAA-TN**



2. The proponent shall erect fencing all around the boundary of the proposed area with gates for entry/exit before the commencement of the operation and shall furnish the photographs/map showing the same before obtaining the CTO from TNPCB.
3. Perennial maintenance of haulage road/village / Panchayat Road shall be done by the project proponent as required in connection with the concerned Govt. Authority.
4. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form of Short Term Permit (STP), Query license or any other name.
5. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.
6. The proponent shall ensure that the slope of dumps is suitably vegetated in scientific manner with the native species to maintain the slope stability, prevent erosion and surface run off. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps.
7. Perennial sprinkling arrangement shall be in place on the haulage road for fugitive dust suppression. Fugitive emission measurements should be carried out during the mining operation at regular intervals and submit the consolidated report to TNPCB once in six months.
8. The Project Proponent shall carry out slope stability study by a reputed academic/research institution such as NIRM, IIT, Anna University for evaluating the safe slope angle if the proposed dump height is more than 30 meters. The slope stability report shall be submitted to concerned Regional office of MoEF&CC, Govt. of India, Chennai as well as SEIAA, Tamilnadu.

  
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9. The Proponent shall ensure that the Noise level is monitored during mining operation at the project site for all the machineries deployed and adequate noise level reduction measures undertaken accordingly. The report on the periodic monitoring shall be submitted to TNPCB once in 6 months.
10. Proper barriers to reduce noise level and dust pollution should be established by providing greenbelt along the boundary of the quarrying site and suitable working methodology to be adopted by considering the wind direction.
11. The purpose of Green belt around the project is to capture the fugitive emissions, carbon sequestration and to attenuate the noise generated, in addition to improving the aesthetics. A wide range of indigenous plant species should be planted as given in the appendix in consultation with the DFO, State Agriculture University and local school/college authorities. The plant species with dense/moderate canopy of native origin should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.
12. Taller/one year old Saplings raised in appropriate size of bags, preferably eco-friendly bags should be planted in proper escapements as per the advice of local forest authorities/botanist/Horticulturist with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the project site with at least 3 meters wide and in between blocks in an organized manner.
13. **Noise and Vibration Related:** (i) The Proponent shall carry out only the Controlled Blasting operation using NONEL shock tube initiation system during daytime. Usage of other initiation systems such as detonating cord/fuse, safety fuse, ordinary detonators, cord relays, should be avoided in the blasting operation. The mitigation measures for control of ground vibrations and to arrest fly rocks should be implemented meticulously under the supervision of statutory competent persons possessing the I / II Class Mines Manager / Foreman / Blaster certificate issued by the DGMS under MMR 1961, appointed in the quarry. No secondary blasting of boulders shall be carried out in any occasions and only the Rock Breakers (or) other suitable non-explosive techniques shall be adopted if such secondary breakage is required. The Project Proponent shall provide required number of the security sentries for guarding the danger zone of 500 m radius from the site of blasting to ensure that no human/animal is present within this danger zone and also no person is allowed to enter into (or) stay in the danger zone during the blasting. (ii) Appropriate measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with

  
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**SEIAA-TN**

ear plugs/muffs, (iii) Noise levels should be monitored regularly (on weekly basis) near the major sources of noise generation within the core zone.

14. Ground water quality monitoring should be conducted once in every six months and the report should be submitted to TNPCB.
15. The operation of the quarry should not affect the agricultural activities & water bodies near the project site and a 50 m safety distance from water body should be maintained without carrying any activity. The proponent shall take appropriate measures for "Silt Management" and prepare a SOP for periodical de-siltation indicating the possible silt content and size in case of any agricultural land exists around the quarry.
16. The proponent shall provide sedimentation tank / settling tank with adequate capacity for runoff management.
17. The proponent shall ensure that the transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village Road and shall take adequate safety precautionary measures while the vehicles are passing through the schools / hospital. The Project Proponent shall ensure that the road may not be damaged due to transportation of the quarried rough stones; and transport of rough stones will be as per IRC Guidelines with respect to complying with traffic congestion and density.
18. To ensure safety measures along the boundary of the quarry site, security guards are to be posted during the entire period of the mining operation.
19. After mining operations are completed, the mine closure activities as indicated in the mine closure plan shall be strictly carried out by the Proponent fulfilling the necessary actions as assured in the Environmental Management Plan.
20. The Project proponent shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition that is fit for the growth of fodder, flora, fauna etc.
21. The Project Proponent shall comply with the provisions of the Mines Act, 1952, MMR 1961 and Mines Rules 1955 for ensuring safety, health and welfare of the people working in the mines and the surrounding habitants.
22. The project proponent shall ensure that the provisions of the MMRD, 1956, the MCDR 2017 and Tamilnadu Minor Mineral Concession Rules 1959 are complied by carrying out the quarrying operations in a skillful, scientific and systematic manner keeping in view proper safety of the labour, structure and the public and public works located in that vicinity of the quarrying area and in a manner to preserve the environment and ecology of the area.

  
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23. The quarrying activity shall be stopped if the entire quantity indicated in the Mining plan is quarried even before the expiry of the quarry lease period and the same shall be informed to the District AD/DD (Geology and Mining) District Environmental Engineer (TNPCB) and the Director of Mines Safety (DMS), Chennai Region by the proponent without fail.
24. The Project Proponent shall abide by the annual production scheduled specified in the approved mining plan and if any deviation is observed, it will render the Project Proponent liable for legal action in accordance with Environment and Mining Laws.
25. Prior clearance from Forestry & Wild Life including clearance from committee of the National Board for Wildlife as applicable shall be obtained before starting the quarrying operation, if the project site attracts the NBWL clearance, as per the existing law from time to time.
26. All the conditions imposed by the Assistant/Deputy Director, Geology & Mining, concerned District in the mining plan approval letter and the Precise area communication letter issued by concerned District Collector should be strictly followed.
27. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
28. The recommendation for the issue of environmental clearance is subject to the outcome of the Hon'ble NGT, Principal Bench, New Delhi in O.A.No.186 of 2016 (M.A.No.350/2016) and O.A.No.200/2016 and O.A.No.580/2016 (M.A.No.1182/2016) and O.A.No.102/2017 and O.A.No.404/2016 (M.A.No. 758/2016, M.A.No.920/2016, M.A.No.1122/2016, M.A.No.12/2017 & M.A.No.843/2017) and O.A.No.405/2016 and O.A.No.520 of 2016(M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).


#### **Appendix**

##### **List of Native Trees for Planting**

1. *Aegle marmelos* – **Vilvam**
2. *Adenaanthera pavonina* - **Manjadi**
3. *Albizia lebbek* – **Vaagai**
4. *Albizia amara* - **Usil**
5. *Bauhinia purpurea* - **Mantharai**
6. *Bauhinia racemosa* - **Aathi**
7. *Bauhinia tomentosa* – **Iruvathi**
8. *Buchanania aillaris* - **Kattuma**

  
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**SEIAA-TN**

9. *Borassus flabellifer* - Panai
10. *Butea monosperma* - Murukka maram
11. *Bobax ceiba* - Ilavu, Sevvilavu
12. *Calophyllum inophyllum* - Punnai
13. *Cassia fistula* - Sarakondrai
14. *Cassia roxburghii*- Sengondrai
15. *Chloroxylon sweitenia* - Purasa maram
16. *Cochlospermum religiosum* - Kongu, Manjal Ilavu
17. *Cordia dichotoma* - Mookuchali maram
18. *Creteva adansonii* - Mavalingum
19. *Dillenia indica* - Uva, Uzha
20. *Dillenia pentagyna* - Siru Uva, Sitruzha
21. *Diospyros ebenum* - Karungali
22. *Diospyros chloroxylon* - Vaganai
23. *Ficus amplissima* - Kal Itchi
24. *Hibiscus tiliaceous* - Aatru poovarasu
25. *Hardwickia binata* - Aacha
26. *Holoptelia integrifolia* - Aayili
27. *Lannea coromandelica* - Odhiam
28. *Lagerstroemia speciosa* - Poo Marudhu
29. *Lepisanthus tetraphylla* - Neikottai maram
30. *Limonia acidissima* - Vila maram
31. *Litsea glutinosa* - Pisin pattai
32. *Madhuca longifolia* - Illuppai
33. *Manilkara hexandra* - Ulakkai Paalai
34. *Mimusops elengi* - Magizha maram
35. *Mitragyna parvifolia* - Kadambu
36. *Morinda pubescens* - Nuna
37. *Morinda citrifolia* - Vellai Nuna
38. *Phoenix sylvestre* - Eachai
39. *Pongamia pinnata* - Pungam
40. *Premna mollissima* - Munnai
41. *Premna serratifolia* - Narumunnai

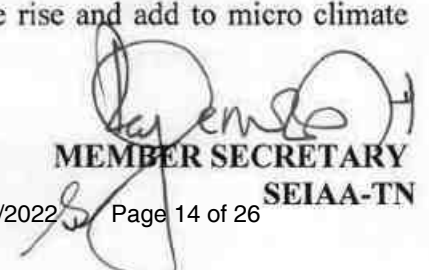
  
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42. *Premna tomentosa* - Purangai Naari, Pudanga Naari
43. *Prosopis cinerea* - Vanni maram
44. *Pterocarpus marsupium* - Vengai
45. *Pterospermum canescens* – Vennangu, Tada
46. *Pterospermum xylocarpum* - Polavu
47. *Puthranjiva roxburghii* – Puthranjivi
48. *Salvadora persica* – Uгаа Maram
49. *Sapindus emarginatus* - Manipungan, Soapu kai
50. *Saraca asoca* - Asoca
51. *Streblus asper* - Piraya maram
52. *Strychnos nuxvomica* – Yetti
53. *Strychnos potatorum* - Therthang Kottai
54. *Syzygium cumini* - Naval
55. *Terminalia bellerica* - Thandri
56. *Terminalia arjuna* - Ven marudhu
57. *Toona ciliate* – Sandhana vembu
58. *Thespesia populnea* - Puvarasu
59. *Walsura trifoliata* – valsura
60. *Wrightia tinctoria* - Vep

**Discussion by SEIAA and the Remarks:-**

The proposal was placed in the 500<sup>th</sup> Authority meeting held on 18.04.2022. After detailed discussion, the Authority accepts the recommendation of SEAC and decided to grant Environmental Clearance subject to the conditions as recommended by SEAC meeting in addition to the following condition.

1. No trees in the area should be removed and all the trees numbered and protected. In case trees fall within the proposed quarry site the trees may be transplanted in the Greenbelt zone.
2. The proponent shall ensure that the activities should in no way result in disturbance to forest and trees in vicinity.
3. The proponent shall ensure that the operations shall not result in loss of soil biological properties and nutrients.
4. The activity should not result in CO<sub>2</sub> release and temperature rise and add to micro climate alternations.

  
MEMBER SECRETARY  
SEIAA-TN

5. The mining closure plan should be strictly adhered with appropriate soil rehabilitation measures to ensure ecological stability of the area.
6. Reclamation/Restoration of the mine site should ensure that the Geotechnical, physical, chemical properties are sustainable that the soil structure composition is buildup, during the process of restoration.
7. The proponent shall ensure that the activity does not disturb the movement of grazing animals and free ranging wildlife.
8. The proponent shall ensure that the activity does not disturb the biodiversity, the flora & fauna in the ecosystem.
9. The proponent shall ensure that the activity does not disturb the water bodies and natural flow of surface and ground water, nor cause any pollution, to water sources in the area.
10. The proponent shall ensure that the activities undertaken should not result in carbon emission, and temperature rise, in the area.
11. The proponent shall ensure that the mine closure plan are followed as per mining plan and the mine restoration should be done with native species, and site restored to near original status.
12. The proponent shall ensure that Monitoring be carried out with reference to the quantum of particulate matter during excavation; blasting; material transport and also from cutting waste dumps and haul roads.
13. The proponent shall ensure that the area is ecologically restored to conserve the ecosystems and ensure flow of goods and services.
14. The proponent shall ensure that the activities shall not disturb the agro biodiversity and agro farms.
15. The proponent shall ensure that the activity shall not result in invasion by invasive alien species.
16. Actions to be taken to promote agro forestry, mixed plants to support biodiversity conservation in the mine restoration effort.
17. The proponent shall ensure that activity shall not deplete the indigenous soil seed bank and disturb the mycorrhizal fungi, soil organism, soil community nor result in eutrophication of soils and water.
18. The activities should not disturb the soil properties and seed and plant growth. Soil amendments as required to be carried out, to improve soil health
19. Bio remediation using an microorganisms should be carried out to restore the soil environment to enable carbon sequestration.

  
**MEMBER SECRETARY**

20. The proponent shall ensure that all mitigation measures listed in the EIA/EMP are taken to protect the biodiversity and natural resources in the area.
21. The proponent shall ensure that the activities should not impact the water bodies/wells in the neighbouring open wells and bore wells.
22. The proponent shall ensure that the activities should not in any way affect the water quantity and quality in the open wells and bore wells in the vicinity, nor impact the water table and levels.
23. The proponent shall ensure that in the green belt development more indigenous trees species (Appendix as per the SEAC Minutes) to be planted.
24. The proponent shall ensure that the activities should not disturb the resident and migratory birds.
25. The proponent shall ensure the area should be restored and rehabilitated with native trees as recommended SEAC Minutes (in Appendix).
26. The proponent shall ensure that the mine restoration should be done using mycorrhizal VAM, vermicasting, Biofertilizers to ensure soil health and, biodiversity conservation.
27. The proponent shall ensure that the topsoil should be protected and used in planting activities in the area.
28. The proponent shall ensure that the activities should not disturb the river flow, nor affect the Odai, Water bodies, Dams in the vicinity.
29. The proponent shall ensure that the activities should not disturb the vegetation and wildlife in the adjoin reserve forests and areas around.
30. The proponent should ensure that there is no disturbance to the agriculture plantations, social forestry plantations, waste lands, forests, sanctuary or national parks. There should be no impact on the land, water, soil and biological environment and other natural resources due to the mining activities.
31. The project proponent shall ensure that no change in land use policy.
32. The project proponent shall ensure that the Environmental policy, EMP should be adhered.
33. The project proponent shall ensure that the Disaster risk management and R& R plan should be implemented.

**Part-A: Conditions to be Complied before commencing mining operations:-**

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

  
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SEIAA-TN



**informing the public that**

- I. The project has been accorded Environmental Clearance.**
- II. Copies of clearance letters are available with the Tamil Nadu Pollution Control Board.**
- III. Environmental Clearance may also be seen on the website of the SEIAA.**
- IV. The advertisement should be made within 7 days from the date of receipt of the clearance letter and a copy of the same shall be forwarded to the SEIAA.**

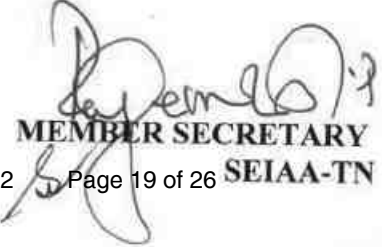
2. Mining activity should be reviewed by the District Collector after three years and decide for further extension.
3. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
4. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
5. **A copy of the Environment Clearance letter shall be sent by the proponent to the concerned Panchayat, Town Panchayat / Panchayat union/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the proponent and also kept at the site, for the general public to see.**
6. Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides with red flags on every pillar shall be erected before commencement of quarrying.
7. The proponent shall ensure that First Aid Box is available at site.
8. The excavation activity shall not alter the natural drainage pattern of the area.
9. The excavated pit shall be restored by the project proponent for useful purposes.
10. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
11. The quarrying operation shall be restricted between 7AM and 5 PM.
12. The proponent shall take necessary measures to ensure that there shall not be any adverse impacts due to quarrying operation on the nearby human habitations, by way of pollution to the environment.
13. A minimum distance of 50mts. from any civil structure shall be kept from the periphery of any excavation area.

  
**MEMBER SECRETARY**

14. The mined out pits should be backfilled where warranted and area should be suitably landscaped to prevent environmental degradation. The mine closure plan as furnished in the proposal shall be strictly followed with back filling and tree plantation.
15. Wet drilling method is to be adopted to control dust emissions. Delay detonators and shock tube initiation system for blasting shall be used so as to reduce vibration and dust.
16. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
17. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
18. A study has to be conducted to assess the optimum blast parameters and blast design to keep the vibration limits less than prescribed levels and only such design and parameters should be implemented while blasting is done. Periodical monitoring of the vibration at specified location to be conducted and records kept for inspection.
19. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF & CC, GoI on 16.11.2009.
20. The following measures are to be implemented to reduce Air Pollution during transportation of mineral
  - i. Roads shall be graded to mitigate the dust emission.
  - ii. Water shall be sprinkled at regular interval on the main road and other service roads to suppress dust
21. The following measures are to be implemented to reduce Noise Pollution
  - i. Proper and regular maintenance of vehicles and other equipment
  - ii. Limiting time exposure of workers to excessive noise.
  - iii. The workers employed shall be provided with protection equipment and earmuffs etc.
  - iv. Speed of trucks entering or leaving the mine is to be limited to moderate speed of 25 kmph to prevent undue noise from empty trucks.
  - v. All noise generating machinery the compressor, generator to be enclosed in acoustic enclosure so as to reduce noise in working area.
22. Measures should be taken to comply with the provisions laid under Noise Pollution (Regulation and Control) (Amendment) Rules, 2010, dt: 11.01.2010 issued by the MoEF & CC, GoI to control noise to the prescribed levels.

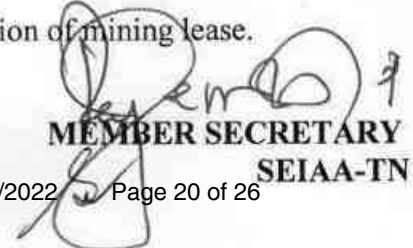
  
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**SEIAA-TN**

23. Suitable conservation measures to augment groundwater resources in the area shall be planned and implemented in consultation with Regional Director, CGWB. Suitable measures should be taken for rainwater harvesting.
24. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
25. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
26. The following measures are to be adopted to control erosion of dumps:-
  - i. Retention/ toe walls shall be provided at the foot of the dumps.
  - ii. Worked out slopes are to be stabilized by planting appropriate shrub/ grass species on the slopes.
27. Waste oils, used oils generated from the EM machines, mining operations, if any, shall be disposed as per the Hazardous& other wastes (Management, and Trans Boundary Movement) Rules, 2016 and its amendments thereof to the recyclers authorized by TNPCB.
28. Concealing the factual data or failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.
29. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
30. Rain water getting accumulated in the quarry floor shall not be discharged directly to the nearby stream or water body. If it is to be let into the nearby water body, it has to be discharged into a silt trap on the surface within the lease area and only the overflow after allowing settling of soil be let into the nearby waterways. The silt trap should be of sufficient dimensions to catch all the silt water being pumped out during one season. The silt trap should be cleaned of all the deposited silt at the end of the season and kept ready for taking care of the silt in the next season.
31. The lease holder shall undertake adequate safeguard measures during extraction of material and ensure that due to this activity, the hydro-geological regime of the surrounding area shall not be affected. Regular monitoring of ground water level and quality shall be carried out around the mine lease area during the mining operation. If at any stage, if it is observed that the groundwater table is getting depleted due to the mining activity; necessary corrective measures shall be carried out. District Collector/mining officer shall ensure this.

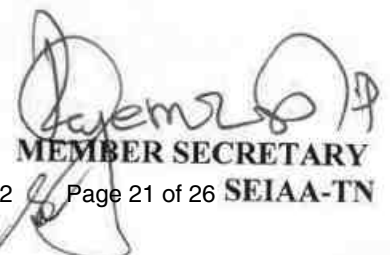
  
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32. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
33. To take up environmental monitoring of the proposed quarry site before, during and after the mining activities including vibration study data, water, air & flora/fauna environment, slurry water generated/disposed and method of disposal, involving a reputed academic Institution.
34. It shall be ensured that the total extent of nearby quarries(existing, abandoned and proposed) located within 500 meter radius from the periphery of this quarry is not exceeding 5 hectares within the mining lease period of this application.
35. It shall be ensured that there is no habitation is located within 300 meter radius from the periphery of the quarry site and also ensure that no hindrance will be caused to the people of the habitation located within 300m radius from the periphery of the quarry site.
36. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
37. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF& CC, GOI.
38. Bunds to be provided at the boundary of the project site.
39. The project proponent shall undertake plantation/afforestation work by planting the native species on all side of the lease area at the rate of 400/Ha. Suitable tall tree saplings should be planted on the bunds and other suitable areas in and around the work place.
40. Floor of excavated pit to be levelled and sides to be sloped with gentle slope (Except for granite quarries) in the mine closure phase.
41. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity
42. The Project Proponent shall provide solar lighting system to the nearby villages.
43. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
44. Safety equipments to be provided to all the employees.
45. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
46. The Assistant/Deputy Director, Department of Geology & mining shall ensure that the proponent has engaged the blaster with valid Blasting license/certificate obtained from the competent authority before execution of mining lease.
47. The proponent shall furnish the Baseline data covering the Air, Water, Noise and land environment quality for the proposed quarry site before execution of mining lease.

  
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**SEIAA-TN**

48. The proponent shall erect the pillars in accordance with the Rules for depicting GPS details in the earmarked boundary of the quarry site to monitor electronically before execution of mining.
49. The proponent has to provide insurance protection to the workers in the case of existing mining or provide the affidavit in case of fresh lease before execution of mining lease.
50. The proponent has to display the name board at the quarry site showing the details of Proponent, lease period, extent, etc., with respect to the existing activity before execution of mining.
51. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
52. The Proponent shall ensure that the project activity including blasting, mining transportation etc should in no way have adverse impact to the other forests, such as reserve forests and social forests, tree plantation and bio diversity, surrounding water bodies etc.
53. The proponent shall provide Green Belt development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 3m height.
54. The fugitive emissions should be monitored during the mining activity and should be reported to TNPCB once in a month and the operation of the quarry should no way impact the agriculture activity & water bodies near the project site.
55. All the commitment made by the project proponent in the proposal shall be strictly followed.
56. The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
57. The Project proponent has to strictly comply the outcome/direction of the Hon'ble NGT, Principle Bench, New Delhi in the O.A No.186 of 2016 (M.A.No.350/2016), O.A. No.200/2016, O.A.No.580/2016 (M.A.No.1182/2016), O.A.No.102/2017, O.A.No.404/ 2016 ( M.A.No. 758/2016, M.A. No. 920 /2016, M.A.No.1122/2016, M.A.No. 12/2017 & M.A.No.843/2017), O.A.No.405/2016 and O.A.No.520 of 2016 (M.A.No.981/2016, M.A.No.982/2016 & M.A.No.384/2017).
58. All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
59. The company shall stress upon the preventive aspects of occupational health.

  
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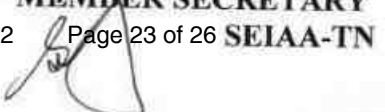
60. A separate environment and safety management cell with qualified staff shall be set up before commissioning of construction activities and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.
61. A scientific site/ ecological rehabilitation and restoration plan on long term basis should be drawn to carryout restoration with native species and Bio diversity.
62. The Green/Blue plan should guide the restoration of the site. The rehabilitation/restoration plan should be submitted to SEIAA-TN within one month. If applicable.
63. The existing water bodies should not be disturbed to ensure sustainable environment for aquatic life forms.
64. The proponent should completely implement all environmental pollution control measures as detailed in the EIA report and in the additional report.
65. Avenue plantation wherever needed has to be carried out along the route for dust suppression.
66. The green belt developed for the prevention of dust pollution should not form a part of the larger green belt development envisaged in the EIA report.
67. Regular monitoring and check up for pulmonary and carcinogenic diseases to be carried out regularly, not only for the workers involved in the mines but also to the people in the villages adjoining the mines. Interaction with the Primary Health Centre & district medical officer should be on regular basis to monitor the incidence of the diseases if any and to provide suitable medical facility for the patients.
68. Monitoring of well water levels and water quality of the wells in the locations furnished in the EIA report shall be done during pre-monsoon and post monsoon period and results submitted to the Regional Office of MoEF, Chennai and SEIAA.
69. Monitoring of water quality and air quality in and around the project site in the selected monitoring points as mentioned in the EIA report shall be continued regularly involving Academic Institutions.
70. Hydro geological study including infiltration test shall be conducted by any reputed agency to estimate leachate quantity.
71. Regular medical check-up for mine workers and nearby residents around the project site involving community medical centre/NIMH shall be conducted.
72. As per norms, the health study should be conducted through competent/approved health organization and report submitted for one year.
73. The effective safe guard measures shall be provided to control particulate dust level in critical areas, transfer points and haul road within the mine area.

  
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74. NOC from the State GWA for drawing ground water shall be obtained, if ground water table is intersected.
75. Green belt shall be provided as per norms of MoEF & CC, GOI, in consultation with local DFO.
76. All the recommendations made in the EIA report of the project shall be effectively implemented.
77. A booklet containing the Dos and Don'ts shall be prepared in vernacular languages for the use of the mine engineers/ managers and the workers to ensure that all necessary environmental, safety and health measures are undertaken.
78. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
79. Hydro geological study of the area shall be reviewed annually and report submitted to the Authority. No water bodies including natural drainage system in the area shall be disturbed due to activities associated with the operation of the Mining activity.
80. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
81. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MoEF at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO<sub>2</sub>, NO<sub>x</sub> or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.

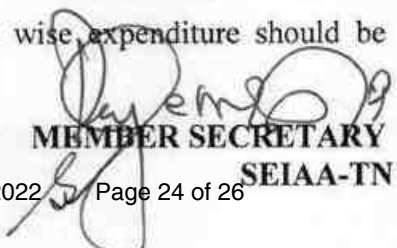
**Part B: General Conditions:**

1. EC is given only on the factual records, documents and the commitment furnished in non judicial stamp paper by the proponent.
2. The Proponent shall obtain the Consent from the TNPC Board before commencing the activity.
3. No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.

  
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4. No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be made.
5. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
6. Effective safeguards shall be adopted against health risks on account of breeding of vectors in the water bodies created due to excavation of earth.
7. A berm shall be left from the boundary of adjoining field having a width equal to at least half the depth of proposed excavation.
8. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
9. Vehicular emissions shall be kept under control and be regularly monitored. The mineral transportation shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.
10. Access and haul roads to the quarrying area should be restored in a mutually agreeable manner where these are considered unnecessary after extraction has been completed.
11. All Personnel shall be provided with protective respiratory devices including safety shoes, masks, gloves etc. Supervisory people should be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
12. Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
13. Workers/labourers shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.
14. The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.
15. The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be

  
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**SEIAA-TN**

reported to the Ministry of Environment and Forests and its Regional Office located at Chennai.

16. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
17. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance
18. The SEIAA, Tamil Nadu may alter/modify the above conditions or stipulate any further conditions in the interest of environment protection.
19. The SEIAA, Tamil Nadu may cancel the Environmental Clearance granted to this project under the provisions of EIA Notification, 2006, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining tpe Environmental Clearance.
20. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
21. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Biodiversity Conservation Act, 2016, the Biological Diversity Act, 2002 and Biological diversity Rules, 2004 and Rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
22. Any other conditions stipulated by other Statutory/Government authorities shall be complied.
23. Any appeal against this Environmental Clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

  
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24. The Environmental Clearance is issued based on the documents furnished by the project proponent. In case any documents found to be incorrect/not in order at a later date the Environmental Clearance issued to the project will be deemed to be revoked/ cancelled.

  
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**SEIAA-TN**

**Copy to:**

1. The Secretary, Ministry of Mines, Government of India, Shastri Bhawan, New Delhi.
2. The Principal Secretary to Government, Environment and Forests Department, Tamil Nadu.
3. The Principal Secretary to Government, Industries Department, Tamil Nadu.
4. The Additional Principal Chief Conservator of Forests, Regional Office (SZ), 34, HEPC Building, 1<sup>st</sup> & 2<sup>nd</sup> Floor, Cathedral Garden Road, Nungambakkam, Chennai - 34.
5. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
6. The Chairman, TNPC Board, 76, Mount Salai, Guindy, Chennai - 32.
7. The District Collector, Tirppur District.
8. The Commissioner of Geology and Mines, Guindy, Chennai - 32.
9. EI Division, Ministry of Environment & Forests, Paryavaran Bhawan, New Delhi.
10. Spare.



**Signature Not Verified**

Digitally signed by  
Tmt.P.RAJESWARI, IFS  
Member Secretary  
Date: 5/18/2022 12:55:03 PM  
Page 26 of 26



# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-134			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5&Part 14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-134
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ2- Project Area

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO, mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	19.4	44.0	7.5	25.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	19.5	43.9	7.2	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	19.7	42.3	7.4	24.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	19.0	42.8	7.2	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	20.2	42.5	8.1	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	19.9	42.1	8.4	25.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	20.5	42.6	8.3	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	20.6	43.6	8.2	26.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	20.2	43.0	8.0	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	20.3	43.4	7.7	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	20.1	43.2	7.8	24.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	20.8	42.9	7.9	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	21.8	43.2	8.1	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	21.1	43.4	8.4	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

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Note: 1. Test Results shown in this report relate only to the items tested. 2. This test report shall not be reproduced anywhere except in full and same format without the approval of the laboratory. 3. Unless informed by the customer the test items will not be retained for more than 10 days from the date of issue of test report.





# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-134			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5 & Part 14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-134
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ2- Project Area

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO, mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	CoH <sub>16</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8 hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	19.5	43.7	8.2	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	19.7	43.2	8.5	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	19.3	43.9	8.7	24.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	19.3	42.0	8.4	24.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	19.9	41.8	8.4	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	19.8	41.0	8.6	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	20.1	42.4	8.7	25.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	20.4	42.7	8.3	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	20.7	42.0	7.8	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	20.9	42.2	7.2	25.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	19.2	42.6	7.9	25.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	19.8	42.7	7.3	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS - National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-133			
<b>Site Location</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, MorattupalayamVillage , Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5&Part14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-133
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQ1- Core Zone

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	22.4	45.2	8.5	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	22.6	46.1	8.2	24.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	23.0	45.5	8.6	24.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	22.8	45.0	8.8	25.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	23.2	45.9	8.2	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	23.6	45.8	8.5	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	22.5	46.2	7.2	24.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	22.7	46.5	7.6	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	24.5	46.0	7.6	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	23.2	45.8	7.2	24.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	23.6	45.2	7.4	25.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	23.7	45.5	7.5	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	23.8	45.1	7.4	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	22.9	45.6	8.3	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-133			
<b>Site Location</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5 & Part 14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-133
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQI- Core Zone

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	22.5	45.5	8.5	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	22.3	46.7	7.5	24.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	22.6	46.0	7.7	24.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	23.1	46.1	7.2	25.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	23.0	46.8	7.4	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	23.5	46.7	7.5	25.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	22.6	46.3	8.1	24.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	22.3	46.2	8.3	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	21.5	46.4	8.4	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	21.5	44.2	8.4	24.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	21.7	44.8	8.4	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	21.6	44.3	8.9	25.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS - National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

.....End of Report.....



  
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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-135			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5&Part14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-135
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ3 - Morattupalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO, mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms <sup>o</sup>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	21.5	41.4	7.0	26.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	21.4	41.5	6.8	26.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	21.7	42.2	7.8	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	21.2	42.7	7.2	25.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	20.8	42.3	7.4	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	20.5	42.8	7.2	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	20.9	42.3	6.9	26.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	20.3	43.0	6.4	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	20.5	43.7	6.7	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	21.4	43.6	6.3	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	21.6	45.4	6.7	25.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	21.7	43.5	7.0	25.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	20.2	44.0	7.4	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	20.3	43.2	7.1	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

.....Continue Report.....



  
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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-135			
<b>Site Location</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5&Part 14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-135
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQ3 - Morattupalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	20.5	42.1	7.5	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	20.1	43.6	7.7	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	21.4	42.7	7.3	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	21.7	43.1	7.0	26.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	21.5	43.5	7.6	26.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	20.5	42.9	7.8	26.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	20.7	43.5	6.6	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	21.7	44.8	6.7	25.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	21.5	43.6	6.9	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	20.3	43.1	6.4	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	20.6	42.9	6.4	26.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	20.8	42.5	7.0	26.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS- National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-136			
<b>Site Location</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village , Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5&Part14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-136
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQ4 - Mudhalipalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms<sup>±</sup></b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	20.5	41.7	6.6	25.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	20.6	41.2	6.8	27.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	20.4	41.5	6.3	26.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	20.9	41.0	6.8	26.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	21.3	41.5	6.5	26.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	21.5	41.5	6.5	25.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	21.7	42.3	7.1	25.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	20.8	42.7	7.6	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	20.6	42.5	7.0	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	21.3	42.7	6.9	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	21.5	42.8	7.5	27.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	21.6	42.0	7.6	27.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	21.2	41.6	6.2	27.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	20.3	42.2	6.5	26.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-136

<b>Site Location</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5&Part 14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-136
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQ4 - Mudhalipalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO, mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	21.0	42.7	6.8	26.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	20.6	43.2	6.9	25.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	21.3	41.5	6.2	23.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	20.9	42.0	6.4	23.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	21.8	42.6	6.1	23.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	22.4	42.6	5.8	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	22.5	42.1	5.6	25.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	20.1	43.2	5.5	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	19.8	43.7	5.3	24.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	20.5	43.5	5.7	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	20.4	43.0	5.6	26.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	20.3	43.5	5.2	26.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS - National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-137

<b>Site Location</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5&Part14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-137
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQ5 - Karattupalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO, mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	20.4	47.5	8.5	23.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	20.2	47.2	8.9	23.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	20.3	47.6	8.2	23.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	20.5	47.3	8.3	23.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	21.1	47.2	8.2	23.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	20.9	47.4	7.8	23.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	21.0	48.3	7.9	22.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	20.9	48.5	7.3	23.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	20.6	48.6	7.1	22.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	21.5	48.2	7.6	22.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	21.7	48.3	7.4	23.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	21.8	48.7	7.7	23.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	21.3	49.0	7.2	23.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	21.0	47.5	7.4	23.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-137			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5 & Part 14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-137
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ5 - Karattupalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8 hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	20.5	47.6	7.5	23.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	21.7	47.6	7.0	23.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	20.6	47.2	7.8	22.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	21.4	48.4	8.4	22.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	20.6	48.6	8.1	23.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	21.5	47.0	8.3	22.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	20.5	47.6	8.7	22.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	21.4	48.3	6.9	22.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	20.9	47.2	6.7	23.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	20.2	48.2	6.4	23.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	20.6	48.5	6.5	22.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	21.4	48.3	6.1	23.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS-National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-138			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5&Part14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-138
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ6 - Parapalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	Cd, µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	18.8	40.1	6.6	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	19.6	39.8	6.4	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	19.2	39.5	6.3	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	19.5	39.5	6.4	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	19.4	38.7	6.5	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	19.3	38.6	6.2	25.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	19.0	38.0	6.7	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	18.6	39.3	5.9	26.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	18.9	40.6	5.8	26.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	18.5	39.8	6.1	26.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	20.7	40.3	5.9	26.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	20.6	40.4	5.6	26.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	19.3	40.6	5.5	26.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	19.9	40.2	6.3	26.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-138			
<b>Site Location</b>		<b>Morattupalayam Rough Stone and Gravel Quarry</b> S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>General Sampling Procedure</b>	IS 5182 Part 5&Part14
<b>Group</b>	Atmospheric Pollution	<b>Sample Reference Id</b>	KGS/0522/A-138
<b>Sample Matrix</b>	AAQ	<b>Sample Collected By</b>	Chemist
<b>Sample Description</b>	Ambient Air Quality	<b>Sample Collected On</b>	March 2022 - May 2022
<b>Sample Mark</b>	AAQ	<b>Sampling Time</b>	24 Hours
<b>Sample Received Condition</b>	Good/PVC Container	<b>Sample Code / Location</b>	AAQ6 - Parapalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> , µg/m <sup>3</sup>	PM <sub>10</sub> , µg/m <sup>3</sup>	SO <sub>2</sub> , µg/m <sup>3</sup>	NO <sub>2</sub> , µg/m <sup>3</sup>	NH <sub>3</sub> , µg/m <sup>3</sup>	O <sub>3</sub> , µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
<b>NAAQ Norms*</b>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	19.7	39.9	6.6	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	19.8	39.7	6.4	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	20.1	40.1	6.6	24.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	20.4	40.2	6.7	24.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	20.5	40.6	6.3	24.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	19.6	40.7	5.9	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	19.2	40.4	5.4	25.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	18.3	41.2	5.8	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	18.0	41.7	6.0	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	18.7	41.5	5.4	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	18.4	41.8	5.7	25.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	18.7	41.4	5.3	25.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS - National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No: KGS/0522/TR/A-139			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5&Part14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-139
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ7 - Pappanpalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms <sup>a</sup>	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
09.03.2022	23.2	48.4	7.9	24.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
10.03.2022	24.4	47.6	7.6	24.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.03.2022	25.6	45.2	7.7	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.03.2022	23.8	45.4	6.9	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.03.2022	23.4	42.8	7.2	23.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.03.2022	24.6	44.3	7.5	24.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.03.2022	25.7	45.6	8.2	24.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
31.03.2022	24.2	45.1	8.7	24.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
06.04.2022	24.4	45.2	8.1	23.3	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
07.04.2022	24.9	44.6	7.7	24.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
13.04.2022	25.2	43.8	7.9	23.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
14.04.2022	24.8	45.4	8.1	22.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
20.04.2022	25.5	46.0	7.9	24.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
21.04.2022	25.2	46.2	7.2	23.7	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No: KGS/0522/TR/A-139			
Site Location		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	General Sampling Procedure	IS 5182 Part 5&Part14
Group	Atmospheric Pollution	Sample Reference Id	KGS/0522/A-139
Sample Matrix	AAQ	Sample Collected By	Chemist
Sample Description	Ambient Air Quality	Sample Collected On	March 2022 - May 2022
Sample Mark	AAQ	Sampling Time	24 Hours
Sample Received Condition	Good/PVC Container	Sample Code / Location	AAQ7 - Pappanpalayam

Monitoring Date	Particulates		Gaseous Pollutants					Other Pollutants (Particulate Phase)				
	PM <sub>2.5</sub> µg/m <sup>3</sup>	PM <sub>10</sub> µg/m <sup>3</sup>	SO <sub>2</sub> µg/m <sup>3</sup>	NO <sub>2</sub> µg/m <sup>3</sup>	NH <sub>3</sub> µg/m <sup>3</sup>	O <sub>3</sub> µg/m <sup>3</sup>	CO mg/m <sup>3</sup>	Pb, µg/m <sup>3</sup>	As, ng/m <sup>3</sup>	Ni, ng/m <sup>3</sup>	C <sub>6</sub> H <sub>6</sub> , µg/m <sup>3</sup>	BaP, ng/m <sup>3</sup>
NAAQ Norms*	60 (24 hrs.)	100 (24 hrs.)	80 (24 hrs.)	80 (24 hrs.)	400 (24 hrs.)	100 (8 hrs.)	2.0 (8hrs.)	1.0 (24 hrs.)	6.0 (annual)	20 (annual)	5.0 (annual)	1.0 (annual)
27.04.2022	23.7	45.9	6.8	24.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.04.2022	24.3	46.1	6.5	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
04.05.2022	23.1	43.9	6.8	25.4	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
05.05.2022	23.5	43.4	6.5	25.5	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
11.05.2022	21.1	43.5	6.7	25.6	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
12.05.2022	22.0	43.8	7.5	24.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
16.05.2022	23.5	43.0	6.9	25.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
17.05.2022	25.6	44.6	7.2	24.8	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
23.05.2022	25.7	45.9	7.0	25.2	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
24.05.2022	23.1	46.7	7.6	25.0	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
28.05.2022	22.8	45.6	7.8	25.9	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0
30.05.2022	23.0	45.4	7.7	26.1	<5.0	<5.0	<1.0	<0.01	<5.0	<3.0	<1.0	<3.0

\* NAAQS - National Ambient Air Quality Standards Issued by CPCB (Central Pollution Control Board) in 2009

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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No: KGS/0322/TR/N-99		Report Date: 12.03.2022	
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F. Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>Sample Reference ID</b>	KGS/0322/N-99
<b>Group</b>	Atmospheric Pollution	<b>Noise Level Monitored By</b>	Chemist
<b>Sample Matrix</b>	Noise	<b>Noise Level Monitored On</b>	08.03.2022
<b>Sample Description</b>	Ambient Noise	<b>Noise Level Received On</b>	09.03.2022
<b>General Sampling Procedure</b>	IS 9989 Methods	<b>Noise Level Calculated On</b>	12.03.2022

Location		N7 -Pappalayam		
S. No	Time (Hrs)	Min dB(A)	Max dB(A)	Leq dB(A)
01.	0600	35.75	35.75	35.75
02.	0700	38.12	38.12	38.12
03.	0800	38.93	38.93	38.93
04.	0900	36.94	36.94	36.94
05.	1000	37.86	37.86	37.86
06.	1100	38.89	38.89	38.89
07.	1200	40.55	40.55	40.55
08.	1300	36.25	36.25	36.25
09.	1400	39.36	39.36	39.36
10.	1500	38.48	38.48	38.48
11.	1600	41.07	41.07	41.07
12.	1700	38.06	38.06	38.06
13.	1800	40.73	40.73	40.73
14.	1900	38.62	38.62	38.62
15.	2000	40.35	40.35	40.35
16.	2100	43.99	43.99	43.99
17.	2200	38.92	38.92	38.92
18.	2300	39.35	39.35	39.35
19.	0000	37.04	37.04	37.04
20.	0100	37.93	37.93	37.93
21.	0200	38.56	38.56	38.56
22.	0300	36.07	36.07	36.07
23.	0400	38.23	38.23	38.23
24.	0500	36.25	36.25	36.25
Day Mean dB(A)				39.5
Night Mean dB(A)				37.2

.....End of Report.....



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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No: KGS/0322/TR/N-97		Report Date: 12.03.2022	
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>Sample Reference ID</b>	KGS/0322/N-97
<b>Group</b>	Atmospheric Pollution	<b>Noise Level Monitored By</b>	Chemist
<b>Sample Matrix</b>	Noise	<b>Noise Level Monitored On</b>	08.03.2022
<b>Sample Description</b>	Ambient Noise	<b>Noise Level Received On</b>	09.03.2022
<b>General Sampling Procedure</b>	IS 9989 Methods	<b>Noise Level Calculated On</b>	12.03.2022

Location		N1 - Core Zone			N2 - Core Zone			N3 - Morattupalayam		
S.No	Time (Hrs)	Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)
01.	0600	38.7	44.2	42.27	33.3	40.1	37.91	35.3	39.5	37.89
02.	0700	36.3	42.5	40.42	36.1	46.6	43.96	34.9	40.2	38.31
03.	0800	40.8	45.8	43.98	37.5	46.2	43.74	35.6	41.3	39.32
04.	0900	41.7	48.2	46.07	37	47.8	45.14	35.2	41.1	39.08
05.	1000	42.5	47.3	45.53	38	45.2	42.95	34.7	42.2	39.90
06.	1100	44	45.2	44.64	38.4	47.1	44.64	36	45.5	42.95
07.	1200	40.9	45.5	43.78	34.9	43.4	40.96	34.1	47.9	45.07
08.	1300	43.3	45.9	44.79	37.1	48.2	45.51	32.9	48.1	45.22
09.	1400	41.7	42.8	42.28	36.2	43.7	41.40	38.2	48.9	46.24
10.	1500	39.8	40.1	39.95	35.8	46.1	43.48	34.6	47.5	44.71
11.	1600	35.1	38.7	37.26	31.6	38.4	36.21	32.5	40.8	38.39
12.	1700	35.4	39.7	38.06	32.3	40.7	38.28	34.1	43.1	40.60
13.	1800	34.6	45	42.37	34.2	42.9	40.44	33.6	41.6	39.23
14.	1900	38.2	45.6	43.32	31.2	39.7	37.26	32.8	39.9	37.66
15.	2000	35.3	43.9	41.45	36.7	45.8	43.29	34	42.6	40.15

.....Continue Report.....



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## TEST REPORT

Test Report No: KGS/0322/TR/N-97		Report Date: 12.03.2022	
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Discipline</b>	Chemical	<b>Sample Reference ID</b>	KGS/0322/N-97
<b>Group</b>	Atmospheric Pollution	<b>Noise Level Monitored By</b>	Chemist
<b>Sample Matrix</b>	Noise	<b>Noise Level Monitored On</b>	08.03.2022
<b>Sample Description</b>	Ambient Noise	<b>Noise Level Received On</b>	09.03.2022
<b>General Sampling Procedure</b>	IS 9989 Methods	<b>Noise Level Calculated On</b>	12.03.2022

Location		N1 - Core Zone			N2 - Core Zone			N3 - Morattupalayam				
S.No	Time (Hrs)	Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)		
16.	2100	39.5	45.2	43.22	32.5	40.8	38.39	36.9	44.8	42.44		
17.	2200	35.3	38.2	36.99	35.3	43.1	40.76	32.7	40.7	38.33		
18.	2300	32.6	37.5	35.71	34	42.5	40.06	34	43.6	41.04		
19.	0000	33.4	38.6	36.74	32.9	40.7	38.36	32.6	40.5	38.14		
20.	0100	31.3	34.3	33.05	32.4	42.8	40.17	31.1	35.5	33.83		
21.	0200	32.7	37	35.36	33.6	41.1	38.80	32.8	36.5	35.03		
22.	0300	32.2	36.5	34.86	34.5	38.2	36.73	34.1	37	35.79		
23.	0400	32.4	35.5	34.22	34	40.7	38.53	35.2	37.1	36.25		
24.	0500	33.4	34.5	33.98	35.4	39.5	37.92	33.9	38.5	36.78		
<b>Day Mean dB(A)</b>				38.5	<b>Day Mean dB(A)</b>			42.1	<b>Day Mean dB(A)</b>			40.9
<b>Night Mean dB(A)</b>				36.2	<b>Night Mean dB(A)</b>			35.1	<b>Night Mean dB(A)</b>			36.9

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## TEST REPORT

Test Report No: KGS/0322/TR/N-98		Report Date: 12.03.2022	
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Discipline	Chemical	Sample Reference ID	KGS/0322/N-98
Group	Atmospheric Pollution	Noise Level Monitored By	Chemist
Sample Matrix	Noise	Noise Level Monitored On	08.03.2022
Sample Description	Ambient Noise	Noise Level Received On	09.03.2022
General Sampling Procedure	IS 9989 Methods	Noise Level Calculated On	12.03.2022

Location		N4 - Mudhalipalayam			N5 - Karattupalayam			N6 - Parapalayam				
S.No	Time (Hrs)	Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)	Min dB(A)	Max dB(A)	Leq dB(A)		
01.	0600	33.8	42.6	39.6	31.3	38.8	36.50	34.5	43.2	40.7		
02.	0700	35.6	43.3	40.1	33.7	41.5	39.16	33.7	40.4	38.2		
03.	0800	35.7	44.5	41.0	34.4	42.8	40.38	32.8	41.8	39.3		
04.	0900	31.6	46.9	42.0	35.5	44.4	41.92	33.9	38.1	36.5		
05.	1000	36.4	48.3	44.0	36.1	45	42.52	34.7	40.6	38.6		
06.	1100	32.8	45.7	45.6	38.2	43.5	41.61	34.1	40.2	38.1		
07.	1200	34.6	43.2	42.9	38.2	41.6	40.22	32.8	38.5	36.5		
08.	1300	32.9	41.4	40.8	36.6	42.5	40.48	34.7	43.2	40.8		
09.	1400	37.4	49.3	39.0	32.6	45.4	42.61	32.6	40.6	38.2		
10.	1500	32.6	40.7	46.6	31.3	40.4	37.89	31.3	38.9	36.6		
11.	1600	32.7	40.3	38.3	32.5	41.6	39.09	32.6	41.2	38.8		
12.	1700	31.6	38.5	38.0	36.5	43.9	41.62	33.5	42.7	40.2		
13.	1800	31.8	38.3	36.3	34.5	42.9	40.48	34.4	43.2	40.7		
14.	1900	32.4	40.4	36.2	33.8	41.6	39.26	32.9	40.6	38.3		
15.	2000	33.6	41.3	38.0	31.2	39.4	37.00	33.6	41.4	39.1		
16.	2100	32.9	40.2	39.0	32.8	40.7	38.34	31.5	38.6	36.4		
17.	2200	31.7	39.7	37.9	33.7	41.4	39.07	32.5	40.1	37.8		
18.	2300	32.6	40.4	37.3	31.6	38.2	36.05	31.7	38.2	36.1		
19.	0000	33.9	37.1	38.1	33.4	40.1	37.93	32.3	39.3	37.1		
20.	0100	35.2	38.7	35.8	33.5	36.5	35.25	33.9	38.4	36.7		
21.	0200	34.6	35.9	37.3	35.7	39.3	37.86	31.5	35.5	33.9		
22.	0300	33.7	36.5	35.3	36.1	39	37.79	32.4	36.3	34.8		
23.	0400	32.6	35.5	35.3	35.2	38.2	36.95	34.1	35.8	35.0		
24.	0500	32.1	42.2	34.3	34.6	36.8	35.84	32.6	33.6	33.1		
Day Mean dB(A)				40.3	Day Mean dB(A)				39.9	Day Mean dB(A)		38.5
Night Mean dB(A)				36.2	Night Mean dB(A)				37.1	Night Mean dB(A)		35.2

..... End of Report



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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR/S- 100

<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code:</b>		SI	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S- 100
<b>Sample Mark</b>	<b>Core Zone</b>	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
01.	pH @ 25°C	-	IS 2720 Part 26 - 1987 (Reaff:2016)	7.89
02.	Conductivity @ 25°C	µmhos/cm	IS 14767 - 2000 (Reaff : 2016)	275
03.	Texture	%	Gravimetric Method	Clay Loam
04.	Sand	%		34.6
05.	Silt	%		36.1
06.	Clay	%		29.3
07.	Water Holding Capacity	%	By Gravimetric Method	44.9
08.	Bulk Density	g/cm <sup>3</sup>	By Cylindrical Method	1.11
09.	Porosity	%	By Gravimetric Method	28.1
10.	Exchangeable Calcium as Ca	mg/kg	Food and Agriculture organization of the united Nation Rome 2007 : 2018	161
11.	Exchangeable Magnesium as Mg	mg/kg		22.0
12.	Exchangeable Manganese as Mn	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	34
13.	Exchangeable Zinc as Zn	mg/kg		0.50
14.	Available Boron as B	mg/kg		0.48

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## TEST REPORT

Test Report No.: KGS/0322/TR/S- 100			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code:</b>		SI	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S- 100
<b>Sample Mark</b>	<b>Core Zone</b>	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
15.	Soluble Chloride as Cl	mg/kg	APHA 23 <sup>rd</sup> Edn 2019.4500 Cl B	156.0
16.	Soluble Sulphate as SO <sub>4</sub>	%	IS 2720 Part 27 : 1977 (Reaff:2015)	120
17.	Available Potassium as K	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	43.2
18.	Available Phosphorus as P	mg/kg	IS 10158 : 1982 (Reaff: 2019)	0.74
19.	Available Nitrogen as N	mg/kg	IS 14684 : 1999 (Reaff:2019)	142
20.	Cadmium as Cd	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	BDL(DL:0.003)
21.	Chromium as Cr	mg/kg		BDL (DL:0.05)
22.	Copper as Cu	mg/kg		BDL (DL:0.05)
23.	Lead as Pb	mg/kg		0.39
24.	Total Iron as Fe	mg/kg		1.98
25.	Organic Matter	%	IS : 2720 Part 22: 1972 (Reaff: 2015)	2.09
26.	Organic Carbon	%		1.21
27.	Cation Exchange Capacity	meq/100g of soil	USEPA 9080 - 1986	39.6

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## TEST REPORT

Test Report No.: KGS/0322/TR/S- 101			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code:</b>		S2	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S- 101
<b>Sample Mark</b>	<b>Core Zone</b>	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
01.	pH @ 25°C	-	IS 2720 Part 26 - 1987 (Reaff:2016)	8.20
02.	Conductivity @ 25°C	µmhos/cm	IS 14767 - 2000 (Reaff: 2016)	316
03.	Texture	%	Gravimetric Method	Clay Loam
04.	Sand	%		35.1
05.	Silt	%		31.8
06.	Clay	%		33.1
07.	Water Holding Capacity	%	By Gravimetric Method	46.6
08.	Bulk Density	g/cm <sup>3</sup>	By Cylindrical Method	1.20
09.	Porosity	%	By Gravimetric Method	27.9
10.	Exchangeable Calcium as Ca	mg/kg	Food and Agriculture organization of the united Nation Rome 2007 : 2018	179
11.	Exchangeable Magnesium as Mg	mg/kg		29.5
12.	Exchangeable Manganese as Mn	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	26.5
13.	Exchangeable Zinc as Zn	mg/kg		0.29
14	Available Boron as B	mg/kg		0.45

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## TEST REPORT

Test Report No.: KGS/0322/TR\S- 101

<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code:</b>		S2	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S- 101
<b>Sample Mark</b>	<b>Core Zone</b>	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
15.	Soluble Chloride as Cl <sup>-</sup>	mg/kg	APHA 23 <sup>rd</sup> Edn 2019 4500 Cl B	134
16.	Soluble Sulphate as SO <sub>4</sub>	%	IS 2720 Part 27 : 1977 (Reaff:2015)	119
17.	Available Potassium as K	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	39.7
18.	Available Phosphorus as P	mg/kg	IS 10158 : 1982 (Reaff: 2019)	1.12
19.	Available Nitrogen as N	mg/kg	IS 14684 : 1999 (Reaff:2019)	156
20.	Cadmium as Cd	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	BDL (DL:0.003)
21.	Chromium as Cr	mg/kg		BDL (DL:0.05)
22.	Copper as Cu	mg/kg		BDL (DL:0.05)
23.	Lead as Pb	mg/kg		0.45
24.	Total Iron as Fe	mg/kg		2.57
25.	Organic Matter	%	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.95
26.	Organic Carbon	%		1.13
27.	Cation Exchange Capacity	meq/100g of soil	USEPA 9080 - 1986	35.8

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## TEST REPORT

Test Report No.: KGS/0322/TR/S- 102			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P),389/1C2, Morattupalayam Village , Uthukuli Taluk, Tiruppur District.	
<b>Sample Code :</b>		S3	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S-102
<b>Sample Mark</b>	Morattupalayam	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
01.	pH @ 25°C	-	IS 2720 Part 26 - 1987 (Reaff:2016)	8.34
02.	Conductivity @ 25°C	µmhos/cm	IS 14767 - 2000 (Reaff: 2016)	292
03.	Texture	%	Gravimetric Method	Clay Loam
04.	Sand	%		32.3
05.	Silt	%		38.6
06.	Clay	%		29.1
07.	Water Holding Capacity	%	By Gravimetric Method	47.2
08.	Bulk Density	g/cm <sup>3</sup>	By Cylindrical Method	1.24
09.	Porosity	%	By Gravimetric Method	31.4
10.	Exchangeable Calcium as Ca	mg/kg	Food and Agriculture organization of the united Nation Rome 2007 : 2018	138.6
11.	Exchangeable Magnesium as Mg	mg/kg		24.2
12.	Exchangeable Manganese as Mn	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	25.2
13.	Exchangeable Zinc as Zn	mg/kg		0.46
14.	Available Boron as B	mg/kg		0.72

.....Continue Report.....



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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR/S- 102			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos: 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code :</b>		S3	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S-102
<b>Sample Mark</b>	Morattupalayam	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
15.	Soluble Chloride as Cl	mg/kg	APHA 23 <sup>rd</sup> Edn 2019 4500 Cl B	129
16.	Soluble Sulphate as SO <sub>4</sub>	%	IS 2720 Part 27 : 1977 (Reaff:2015)	138
17.	Available Potassium as K	mg/kg	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	38.6
18.	Available Phosphorus as P	mg/kg	IS 10158 : 1982 (Reaff: 2019)	0.93
19.	Available Nitrogen as N	mg/kg	IS 14684 : 1999 (Reaff:2019)	120
20.	Cadmium as Cd	mg/kg	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	BDL (DL:0.003)
21.	Chromium as Cr	mg/kg		BDL (DL:0.05)
22.	Copper as Cu	mg/kg		BDL (DL:0.05)
23.	Lead as Pb	mg/kg		0.73
24.	Total Iron as Fe	mg/kg		2.01
25.	Organic Matter	%	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.34
26.	Organic Carbon	%		0.78
27.	Cation Exchange Capacity	meq/100g of soil	USEPA 9080 – 1986	37.5

.....End of Report.....



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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR\S- 103			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code :</b>		S4	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S-103
<b>Sample Mark</b>	Mudhalipalayam	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg.	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
01.	pH @ 25°C	-	IS 2720 Part 26 - 1987 (Reaff:2016)	7.99
02.	Conductivity @ 25°C	µmhos/cm	IS 14767 - 2000 (Reaff: 2016)	418
03.	Texture	%	Gravimetric Method	Clay Loam
04.	Sand	%		37.9
05.	Silt	%		34.6
06.	Clay	%		27.5
07.	Water Holding Capacity	%	By Gravimetric Method	50.8
08.	Bulk Density	g/cm <sup>3</sup>	By Cylindrical Method	0.98
09.	Porosity	%	By Gravimetric Method	32.6
10.	Exchangeable Calcium as Ca	mg/kg	Food and Agriculture organization of the united Nation Rome 2007 : 2018	124.7
11.	Exchangeable Magnesium as Mg	mg/kg		30.6
12.	Exchangeable Manganese as Mn	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	38.6
13.	Exchangeable Zinc as Zn	mg/kg		0.9
14.	Available Boron as B	mg/kg		0.93

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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR/S- 103			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Code :		S4	
Sample Description	SOIL	Sample Reference	KGS/0322/S-103
Sample Mark	Mudhalipalayam	Sample Drawn by	Chemist
Sample Quantity	2.0 Kg	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S. No	Parameters	Units	Test Methods	Result
15.	Soluble Chloride as Cl	mg/kg	APHA 23 <sup>rd</sup> Edn 2019-4500 Cl B	166
16.	Soluble Sulphate as SO <sub>4</sub>	%	IS 2720 Part 27 : 1977 (Reaff:2015)	101
17.	Available Potassium as K	mg/kg	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	39.5
18.	Available Phosphorus as P	mg/kg	IS 10158 : 1982 (Reaff: 2019)	0.46
19.	Available Nitrogen as N	mg/kg	IS 14684 : 1999 (Reaff:2019)	174
20.	Cadmium as Cd	mg/kg	USEPA 3050 B – 1996 & USEPA 6010 C - 2000	BDL (DL:0.003)
21.	Chromium as Cr	mg/kg		BDL (DL:0.05)
22.	Copper as Cu	mg/kg		BDL (DL:0.05)
23.	Lead as Pb	mg/kg		1.12
24.	Total Iron as Fe	mg/kg		1.97
25.	Organic Matter	%	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.64
26.	Organic Carbon	%		0.95
27.	Cation Exchange Capacity	meq/100g of soil	USEPA 9080 – 1986	41.0

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR\S-104			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Code:		S5	
Sample Description	SOIL	Sample Reference	KGS/0322/S-104
Sample Mark	Parapalayam	Sample Drawn by	Chemist
Sample Quantity	2.0 Kg	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S. No	Parameters	Units	Test Methods	Result
01.	pH @ 25°C	-	IS 2720 Part 26 - 1987 (Reaff:2016)	8.41
02.	Conductivity @ 25°C	µmhos/cm	IS 14767 - 2000 (Reaff: 2016)	414
03.	Texture	%	Gravimetric Method	Clay Loam
04.	Sand	%		36.4
05.	Silt	%		35.2
06.	Clay	%		28.4
07.	Water Holding Capacity	%	By Gravimetric Method	43.4
08.	Bulk Density	g/cm <sup>3</sup>	By Cylindrical Method	0.94
09.	Porosity	%	By Gravimetric Method	40.4
10.	Exchangeable Calcium as Ca	mg/kg	Food and Agriculture organization of the united Nation Rome 2007 : 2018	152
11.	Exchangeable Magnesium as Mg	mg/kg		39.8
12.	Exchangeable Manganese as Mn	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	31.8
13.	Exchangeable Zinc as Zn	mg/kg		1.01
14.	Available Boron as B	mg/kg		0.75

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/S-104			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code:</b>		S5	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S-104
<b>Sample Mark</b>	Parapalayam	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
15.	Soluble Chloride as Cl	mg/kg	APHA 23 <sup>rd</sup> Edn 2019 4500 Cl B	125
16.	Soluble Sulphate as SO <sub>4</sub>	%	IS 2720 Part 27 : 1977 (Reaff:2015)	126
17.	Available Potassium as K	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	30.7
18.	Available Phosphorus as P	mg/kg	IS 10158 : 1982 (Reaff: 2019)	1.18
19.	Available Nitrogen as N	mg/kg	IS 14684 : 1999 (Reaff:2019)	123
20.	Cadmium as Cd	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	BDL (DL:0.003)
21.	Chromium as Cr	mg/kg		BDL (DL:0.05)
22.	Copper as Cu	mg/kg		BDL (DL:0.05)
23.	Lead as Pb	mg/kg		0.85
24.	Total Iron as Fe	mg/kg		1.19
25.	Organic Matter	%	IS : 2720 Part 22: 1972 (Reaff: 2015)	1.99
26.	Organic Carbon	%		1.16
27.	Cation Exchange Capacity	meq/100g of soil	USEPA 9080 - 1986	38.2

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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR\S-105			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Code :		S6	
Sample Description	SOIL	Sample Reference	KGS/0322/S-105
Sample Mark	Pappalayam	Sample Drawn by	Chemist
Sample Quantity	2.0 Kg	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S. No	Parameters	Units	Test Methods	Result
01.	pH @ 25°C	-	IS 2720 Part 26 - 1987 (Reaff:2016)	8.85
02.	Conductivity @ 25°C	µmhos/cm	IS 14767 - 2000 (Reaff : 2016)	459
03.	Texture	%	Gravimetric Method	Clay Loam
04.	Sand	%		32.2
05.	Silt	%		35.9
06.	Clay	%		31.8
07.	Water Holding Capacity	%	By Gravimetric Method	43.6
08.	Bulk Density	g/cm <sup>3</sup>	By Cylindrical Method	0.70
09.	Porosity	%	By Gravimetric Method	41
10.	Exchangeable Calcium as Ca	mg/kg	Food and Agriculture organization of the united Nation Rome 2007 : 2018	132
11.	Exchangeable Magnesium as Mg	mg/kg		25.0
12.	Exchangeable Manganese as Mn	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	21.2
13.	Exchangeable Zinc as Zn	mg/kg		0.48
14.	Available Boron as B	mg/kg		0.50

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## TEST REPORT

Test Report No.: KGS/0322/TR\S-105			
<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Code:</b>		S6	
<b>Sample Description</b>	<b>SOIL</b>	<b>Sample Reference</b>	KGS/0322/S-105
<b>Sample Mark</b>	<b>Pappalayam</b>	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0 Kg	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S. No	Parameters	Units	Test Methods	Result
15.	Soluble Chloride as Cl	mg/kg	APHA 23 <sup>rd</sup> Edn 2019 4500 Cl B	161
16.	Soluble Sulphate as SO <sub>4</sub>	%	IS 2720 Part 27 : 1977 (Reaff:2015)	84.5
17.	Available Potassium as K	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	208
18.	Available Phosphorus as P	mg/kg	IS 10158 : 1982 (Reaff: 2019)	0.81
19.	Available Nitrogen as N	mg/kg	IS 14684 : 1999 (Reaff:2019)	182
20.	Cadmium as Cd	mg/kg	USEPA 3050 B - 1996 & USEPA 6010 C - 2000	BDL(DL:0.003)
21.	Chromium as Cr	mg/kg		BDL (DL:0.05)
22.	Copper as Cu	mg/kg		BDL (DL:0.05)
23.	Lead as Pb	mg/kg		0.25
24.	Total Iron as Fe	mg/kg		2.56
25.	Organic Matter	%	IS : 2720 Part 22: 1972 (Reaff: 2015)	2.62
26.	Organic Carbon	%		1.52
27.	Cation Exchange Capacity	meq/100g of soil	USEPA 9080 - 1986	40.6

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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR/W-106			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	SWI	Sample Reference	KGS/0322/W-106
Sample Mark	Koolipalayameri	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S. No.	Parameters	Units	Test Methods	Result
1	Color	Hazen	IS 3025 Part 4 :1983	5
2	Odour	-	IS 3025 Part 5 :1983	Agreeable
3	pH @ 25°C	-	IS 3025 Part 11 :1983	7.55
4	Electrical Conductivity @ 25°C	µs/cm	IS 3025 Part 14 :1984	1052
5	Turbidity	NTU	IS 3025 Part 10 :1984	7.8
6	Total Dissolved Solids	mg/l	IS 3025 Part 16 :1984	621
7	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 Part 21: 1984	196.7
8	Calcium as Ca	mg/l	IS 3025 Part 40 :1991	40.1
9	Magnesium as Mg	mg/l	IS 3025 Part 46 :1994	23.5
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 Part 23 :1986	210
11	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 Part 32 :1988	112.4
12	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l	IS 3025 Part 24:1986	56
13	Iron as Fe	mg/l	IS 3025 Part 53 :2003	0.19
14	Free Residual Chlorine	mg/l	IS 3025 Part 26: 1986	BDL (DL: 2.0)
15	Fluoride as F <sup>-</sup>	mg/l	IS 3025 Part 60: 2008	0.13
16	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l	IS 3025 Part 34: 1988	18
17	Copper as Cu	mg/l	IS 3025 Part 42:1992	BDL (DL:0.2)
18	Manganese as Mn	mg/l	IS 3025 Part 59:2006	BDL (DL:0.05)
19	Mercury as Hg	mg/l	IS 3025 Part 48:1999	(BDL (DL: 0.0005)
20	Cadmium as Cd	mg/l	IS 3025 Part 41:2003	BDL (DL:0.01)
21	Selenium as Se	mg/l	IS 3025 Part 56:2003	BDL (DL: 0.05)

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## TEST REPORT

Test Report No.: KGS/0322/TR/W-106			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	SW1	Sample Reference	KGS/0322/W-106
Sample Mark	Koolipalayameri	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S. No.	Parameters	Units	Test Methods	Result
22	Aluminium as Al	mg/l	IS 3025 Part 55:2003	BDL (DL: 0.03)
23	Lead as Pb	mg/l	IS 3025 Part 47:1994	BDL (DL:0.01)
24	Zinc as Zn	mg/l	IS 3025 Part 49:2003	BDL (DL:0.02)
25	Total Chromium	mg/l	IS 3025 Part 52:2003	BDL (DL: 0.05)
26	Boron as B	mg/l	IS 3025 Part 57:2005	BDL (DL:0.1)
27	Mineral Oil	mg/l	IS 3025 Part 39:2011	BDL (DL:1.0)
28	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 Part 43-1992	Absent
29	Anionic Detergents as MBAS	mg/l	IS 13428 - 2005	BDL (DL:0.1)
30	Cyanide as CN	mg/l	IS 3025 Part 27-1986	Absent
31	Biological Oxygen Demand	mg/l	IS 3025 Part 44:1993	6.4
32	Chemical Oxygen Demand	mg/l	IS 3025 Part 58:2006	24
33	Dissolved Oxygen	mg/l	IS 3025 Part 38:1989	5.7
34	Total Coliform	Per 100ml	IS 1622 : 1981	present
35	E-Coli	Per 100ml	IS 15185	present
36	Barium as Ba	mg/l	IS 13428 - 2005	BDL (DL:0.5)
37	Ammonia (as Total Ammonia-N)	mg/l	IS 3025 Part 34-1988	2.5
38	Sulphide as H <sub>2</sub> S	mg/l	IS 3025 Part 29-1986	BDL (DL:0.05)
39	Molybdenum as Mo	mg/l	KGS/SOP/W-004 : 2018	BDL (DL:0.5)
40	Total Arsenic as As	mg/l	IS 3025 Part 37:1997	BDL (DL:0.01)
41	Total Suspended Solids	mg/l	IS 3025 Part 17 -1984	20.7

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# KGS ENVIRO LABORATORY PVT LTD

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## TEST REPORT

Test Report No.: KGS/0322/TR/W-107			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	SW2	Sample Reference	KGS/0322/W-107
Sample Mark	Noyyal River	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
1	Color	Hazen	IS 3025 Part 4:1983	5
2	Odour	-	IS 3025 Part 5:1983	Agreeable
3	pH@ 25°C	-	IS 3025 Part 11:1983	7.31
4	Electrical Conductivity @ 25°C	µs/cm	IS 3025 Part 14:1984	976
5	Turbidity	NTU	IS 3025 Part 10:1984	8.2
6	Total Dissolved Solids	mg/l	IS 3025 Part 16:1984	598
7	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 Part 21:1984	170
8	Calcium as Ca	mg/l	IS 3025 Part 40:1991	35.6
9	Magnesium as Mg	mg/l	IS 3025 Part 46:1994	19.8
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 Part 23:1986	168
11	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 Part 32:1988	99.0
12	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l	IS 3025 Part 24:1986	49.8
13	Iron as Fe	mg/l	IS 3025 Part 53:2003	0.20
14	Free Residual Chlorine	mg/l	IS 3025 Part 26:1986	BDL(DL: 2.0)
15	Fluoride as F <sup>-</sup>	mg/l	IS 3025 Part 60:2008	0.20
16	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l	IS 3025 Part 34:1988	9.6
17	Copper as Cu	mg/l	IS 3025 Part 42:1992	BDL (DL:0.2)
18	Manganese as Mn	mg/l	IS 3025 Part 59:2006	BDL (DL:0.05)
19	Mercury as Hg	mg/l	IS 3025 Part 48:1999	(BDL (DL: 0.0005)
20	Cadmium as Cd	mg/l	IS 3025 Part 41:2003	BDL (DL:0.01)
21	Selenium as Se	mg/l	IS 3025 Part 56:2003	BDL (DL: 0.05)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-107			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	SW2	Sample Reference	KGS/0322/W-107
Sample Mark	Noyyal River	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
22	Aluminium as Al	mg/l	IS 3025 Part 55:2003	BDL (DL: 0.03)
23	Lead as Pb	mg/l	IS 3025 Part 47:1994	BDL (DL:0.01)
24	Zinc as Zn	mg/l	IS 3025 Part 49:2003	BDL (DL:0.02)
25	Total Chromium	mg/l	IS 3025 Part 52:2003	BDL (DL: 0.05)
26	Boron as B	mg/l	IS 3025 Part 57:2005	BDL (DL:0.1)
27	Mineral Oil	mg/l	IS 3025 Part 39:2011	BDL (DL:1.0)
28	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 Part 43:1992	Absent
29	Anionic Detergents as MBAS	mg/l	IS 13428 - 2005	BDL (DL:0.1)
30	Cyanide as CN	mg/l	IS 3025 Part 27:1986	Absent
31	Biological Oxygen Demand	mg/l	IS 3025 Part 44:1993	5.6
32	Chemical Oxygen Demand	mg/l	IS 3025 Part 58:2006	18
33	Dissolved Oxygen	mg/l	IS 3025 Part 38:1989	4.4
34	Total Coliform	Per 100ml	IS 1622 : 1981	present
35	E-Coli	Per 100ml	IS 15185	present
36	Barium as Ba	mg/l	IS 13428 - 2005	BDL (DL:0.5)
37	Ammonia (as Total Ammonia-N)	mg/l	IS 3025 Part 34:1988	BDL(DL:1)
38	Sulphide as H <sub>2</sub> S	mg/l	IS 3025 Part 29:1986	BDL (DL:0.05)
39	Molybdenum as Mo	mg/l	KGS/SOP/W-004 : 2018	BDL (DL:0.5)
40	Total Arsenic as As	mg/l	IS 3025 Part 37:1997	BDL (DL:0.01)
41	Total Suspended Solids	mg/l	IS 3025 Part 17 -1984	17.4

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-108			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	WW-1	Sample Reference	KGS/0322/W-108
Sample Mark	Near Project Area	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
1	Color	Hazen	IS 3025 Part 4 :1983	< 5
2	Odour	-	IS 3025 Part 5 :1983	Agreeable
3	pH@ 25°C	-	IS 3025 Part 11 :1983	6.72
4	Electrical Conductivity @ 25°C	µs/cm	IS 3025 Part 14 :1984	910
5	Turbidity	NTU	IS 3025 Part 10 :1984	< 1
6	Total Dissolved Solids	mg /l	IS 3025 Part 16 :1984	578
7	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 Part 21: 1984	159
8	Calcium as Ca	mg/l	IS 3025 Part 40 :1991	31.8
9	Magnesium as Mg	mg/l	IS 3025 Part 46 :1994	19.4
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 Part 23 :1986	145
11	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 Part 32 :1988	98.8
12	Sulphate as SO <sub>4</sub> <sup>-</sup>	mg/l	IS 3025 Part 24:1986	43.4
13	Iron as Fe	mg/l	IS 3025 Part 53 :2003	0.10
14	Free Residual Chlorine	mg/l	IS 3025 Part 26: 1986	BDL(DL: 2.0)
15	Fluoride as F <sup>-</sup>	mg/l	IS 3025 Part 60: 2008	0.15
16	Nitrates as NO <sub>3</sub>	mg/l	IS 3025 Part 34: 1988	9.6
17	Copper as Cu	mg/l	IS 3025 Part 42:1992	BDL (DL:0.2)
18	Manganese as Mn	mg/l	IS 3025 Part 59:2006	BDL (DL:0.05)
19	Mercury as Hg	mg/l	IS 3025 Part 48:1999	(BDL (DL: 0.0005))

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-108			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	WW-1	Sample Reference	KGS/0322/W-108
Sample Mark	Near Project Area	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
20	Cadmium as Cd	mg/l	IS 3025 Part 41:2003	BDL (DL:0.01)
21	Selenium as Se	mg/l	IS 3025 Part 56:2003	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	IS 3025 Part 55:2003	BDL (DL: 0.03)
23	Lead as Pb	mg/l	IS 3025 Part 47:1994	BDL (DL:0.01)
24	Zinc as Zn	mg/l	IS 3025 Part 49:2003	BDL (DL:0.02)
25	Total Chromium	mg/l	IS 3025 Part 52:2003	BDL (DL: 0.05)
26	Boron as B	mg/l	IS 3025 Part 57:2005	BDL (DL:0.1)
27	Mineral Oil	mg/l	IS 3025 Part 39-2011	BDL (DL:1.0)
28	Phenolic Compunds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 Part 43-1992	Absent
29	Anionic Detergents as MBAS	mg/l	IS 13428 - 2005	BDL (DL:0.1)
30	Cynaide as CN	mg/l	IS 3025 Part 27-1986	Absent
31	Total Coliform	Per 100ml	IS 1622 : 1981	< 2
32	E-Coli	Per 100ml	IS 15185	< 2
33	Barium as Ba	mg/l	IS 13428 - 2005	BDL (DL:0.5)
34	Ammonia (as Total Ammonia-N)	mg/l	IS 3025 Part 34-1988	BDL (DL:0.1)
35	Sulphide as H <sub>2</sub> S	mg/l	IS 3025 Part 29-1986	BDL (DL:0.05)
36	Molybdenum as Mo	mg/l	KGS/SOP/W-004 : 2018	BDL (DL:0.5)
37	Total Arsenic as As	mg/l	IS 3025 Part 37:1997	BDL (DL:0.01)
38	Total Suspended Solids	mg/l	IS 3025 Part 17 -1984	BDL(DL:2)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-109			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	WW-2	Sample Reference	KGS/0322/W-109
Sample Mark	Karattupalayam	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
1	Color	Hazen	IS 3025 Part 4 :1983	< 5
2	Odour	-	IS 3025 Part 5 :1983	Agreeable
3	pH@ 25°C	-	IS 3025 Part 11 :1983	6.99
4	Electrical Conductivity @ 25°C	µs/cm	IS 3025 Part 14 :1984	948
5	Turbidity	NTU	IS 3025 Part 10 :1984	< 1
6	Total Dissolved Solids	mg/l	IS 3025 Part 16 :1984	550
7	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 Part 21 : 1984	194
8	Calcium as Ca	mg/l	IS 3025 Part 40 :1991	42.0
9	Magnesium as Mg	mg/l	IS 3025 Part 46 :1994	21.6
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 Part 23 :1986	205
11	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 Part 32 :1988	86.4
12	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l	IS 3025 Part 24:1986	39.6
13	Iron as Fe	mg/l	IS 3025 Part 53 :2003	BDL (DL:0.1)
14	Free Residual Chlorine	mg/l	IS 3025 Part 26: 1986	BDL(DL: 2.0)
15	Fluoride as F	mg/l	IS 3025 Part 60: 2008	0.12
16	Nitrates as NO <sub>3</sub>	mg/l	IS 3025 Part 34: 1988	7.2
17	Copper as Cu	mg/l	IS 3025 Part 42:1992	BDL (DL:0.2)
18	Manganese as Mn	mg/l	IS 3025 Part 59:2006	BDL (DL:0.05)
19	Mercury as Hg	mg/l	IS 3025 Part 48:1999	(BDL (DL: 0.0005)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-109			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	WW-2	Sample Reference	KGS/0322/W-109
Sample Mark	Karattupalayam	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
20.	Cadmium as Cd	mg/l	IS 3025 Part 41:2003	BDL (DL:0.01)
21	Selenium as Se	mg/l	IS 3025 Part 56:2003	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	IS 3025 Part 55:2003	BDL (DL: 0.03)
23	Lead as Pb	mg/l	IS 3025 Part 47:1994	BDL (DL:0.01)
24	Zinc as Zn	mg/l	IS 3025 Part 49:2003	BDL (DL:0.02)
25	Total Chromium	mg/l	IS 3025 Part 52:2003	BDL (DL: 0.05)
26	Boron as B	mg/l	IS 3025 Part 57:2005	BDL (DL:0.1)
27	Mineral Oil	mg/l	IS 3025 Part 39:2011	BDL (DL:1.0)
28	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 Part 43-1992	Absent
29	Anionic Detergents as MBAS	mg/l	IS 13428 – 2005	BDL (DL:0.1)
30	Cyanide as CN	mg/l	IS 3025 Part 27-1986	Absent
31	Total Coliform	Per 100ml	IS 1622 : 1981	< 2
32	E-Coli	Per 100ml	IS 15185	< 2
33	Barium as Ba	mg/l	IS 13428 – 2005	BDL (DL:0.5)
34	Ammonia (as Total Ammonia-N)	mg/l	IS 3025 Part 34-1988	BDL (DL:0.1)
35	Sulphide as H <sub>2</sub> S	mg/l	IS 3025 Part 29-1986	BDL (DL:0.05)
36	Molybdenum as Mo	mg/l	KGS/SOP/W-004 : 2018	BDL (DL:0.5)
37	Total Arsenic as As	mg/l	IS 3025 Part 37:1997	BDL (DL:0.01)
38	Total Suspended Solids	mg/l	IS 3025 Part 17 -1984	BDL(DL:2)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-110			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	BW-1	Sample Reference	KGS/0322/W-110
Sample Mark	Near Project Area	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
1	Color	Hazen	IS 3025 Part 4 :1983	< 5
2	Odour	-	IS 3025 Part 5 :1983	Agreeable
3	pH@ 25°C	-	IS 3025 Part 11 :1983	7.47
4	Electrical Conductivity @ 25°C	µs/cm	IS 3025 Part 14 :1984	745
5	Turbidity	NTU	IS 3025 Part 10 :1984	< 1
6	Total Dissolved Solids	mg/l	IS 3025 Part 16 :1984	449
7	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 Part 21 :1984	180
8	Calcium as Ca	mg/l	IS 3025 Part 40 :1991	32.0
9	Magnesium as Mg	mg/l	IS 3025 Part 46 :1994	24.2
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 Part 23 :1986	176
11	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 Part 32 :1988	70.3
12	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l	IS 3025 Part 24 :1986	29.4
13	Iron as Fe	mg/l	IS 3025 Part 53 :2003	BDL (DL:0.1)
14	Free Residual Chlorine	mg/l	IS 3025 Part 26 :1986	BDL(DL: 2.0)
15	Fluoride as F	mg/l	IS 3025 Part 60 :2008	0.20
16	Nitrates as NO <sub>3</sub>	mg/l	IS 3025 Part 34 :1988	6.5
17	Copper as Cu	mg/l	IS 3025 Part 42 :1992	BDL (DL:0.2)
18	Manganese as Mn	mg/l	IS 3025 Part 59 :2006	BDL (DL:0.05)
19	Mercury as Hg	mg/l	IS 3025 Part 48 :1999	(BDL (DL: 0.0005)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-110			
Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	BW-1	Sample Reference	KGS/0322/W-110
Sample Mark	Near Project Area	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
20	Cadmium as Cd	mg/l	IS 3025 Part 41:2003	BDL (DL:0.01)
21	Selenium as Se	mg/l	IS 3025 Part 56:2003	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	IS 3025 Part 55:2003	BDL (DL: 0.03)
23	Lead as Pb	mg/l	IS 3025 Part 47:1994	BDL (DL:0.01)
24	Zinc as Zn	mg/l	IS 3025 Part 49:2003	BDL (DL:0.02)
25	Total Chromium	mg/l	IS 3025 Part 52:2003	BDL (DL: 0.05)
26	Boron as B	mg/l	IS 3025 Part 57:2005	BDL (DL:0.1)
27	Mineral Oil	mg/l	IS 3025 Part 39-2011	BDL (DL:1.0)
28	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 Part 43-1992	Absent
29	Anionic Detergents as MBAS	mg/l	IS 13428 - 2005	BDL (DL:0.1)
30	Cyanide as CN	mg/l	IS 3025 Part 27-1986	Absent
31	Total Coliform	Per 100ml	IS 1622 : 1981	<2
32	E-Coli	Per 100ml	IS 15185	<2
33	Barium as Ba	mg/l	IS 13428 - 2005	BDL (DL:0.5)
34	Ammonia (as Total Ammonia-N)	mg/l	IS 3025 Part 34-1988	BDL (DL:0.1)
35	Sulphide as H <sub>2</sub> S	mg/l	IS 3025 Part 29-1986	BDL (DL:0.05)
36	Molybdenum as Mo	mg/l	KGS/SOP/W-004 : 2018	BDL (DL:0.5)
37	Total Arsenic as As	mg/l	IS 3025 Part 37:1997	BDL (DL:0.01)
38	Total Suspended Solids	mg/l	IS 3025 Part 17 -1984	BDL(DL:2)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-111

Site Location:		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
Sample Description	BW-2	Sample Reference	KGS/0322/W-111
Sample Mark	Mudhalipalayam	Sample Drawn by	Chemist
Sample Quantity	2.0ltr	Sample Collected on	09.03.2022
Sample Received on	10.03.2022	Test Commenced on	10.03.2022
Test Completed on	15.03.2022	Test Reported on	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
1	Color	Hazen	IS 3025 Part 4 :1983	< 5
2	Odour	-	IS 3025 Part 5 :1983	Agreeable
3	pH@ 25°C	-	IS 3025 Part 11 :1983	7.20
4	Electrical Conductivity @ 25°C	µs/cm	IS 3025 Part 14 :1984	810
5	Turbidity	NTU	IS 3025 Part 10 :1984	< 1
6	Total Dissolved Solids	mg/l	IS 3025 Part 16 :1984	430
7	Total Hardness as CaCO <sub>3</sub>	mg/l	IS 3025 Part 21: 1984	130
8	Calcium as Ca	mg/l	IS 3025 Part 40 :1991	25.6
9	Magnesium as Mg	mg/l	IS 3025 Part 46 :1994	16.0
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	IS 3025 Part 23 :1986	152
11	Chloride as Cl <sup>-</sup>	mg/l	IS 3025 Part 32 :1988	85.6
12	Sulphate as SO <sub>4</sub> <sup>2-</sup>	mg/l	IS 3025 Part 24:1986	31.8
13	Iron as Fe	mg/l	IS 3025 Part 53 :2003	BDL (DL:0.1)
14	Free Residual Chlorine	mg/l	IS 3025 Part 26: 1986	BDL(DL: 2.0)
15	Fluoride as F	mg/l	IS 3025 Part 60: 2008	0.17
16	Nitrates as NO <sub>3</sub>	mg/l	IS 3025 Part 34: 1988	8.2
17	Copper as Cu	mg/l	IS 3025 Part 42:1992	BDL (DL:0.2)
18	Manganese as Mn	mg/l	IS 3025 Part 59:2006	BDL (DL:0.05)
19	Mercury as Hg	mg/l	IS 3025 Part 48:1999	(BDL (DL: 0.0005)

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# KGS ENVIRO LABORATORY PVT LTD

NABL Accredited Testing Laboratory (ISO/IEC 17025:2017)



## TEST REPORT

Test Report No.: KGS/0322/TR/W-111

<b>Site Location:</b>		Morattupalayam Rough Stone and Gravel Quarry S.F.Nos. 209/1A (P), 209/1B (P) & 209/2 (P), 389/1C2, Morattupalayam Village, Uthukuli Taluk, Tiruppur District.	
<b>Sample Description</b>	BW-2	<b>Sample Reference</b>	KGS/0322/W-111
<b>Sample Mark</b>	Mudhalipalayam	<b>Sample Drawn by</b>	Chemist
<b>Sample Quantity</b>	2.0ltr	<b>Sample Collected on</b>	09.03.2022
<b>Sample Received on</b>	10.03.2022	<b>Test Commenced on</b>	10.03.2022
<b>Test Completed on</b>	15.03.2022	<b>Test Reported on</b>	15.03.2022

S.No.	Parameters	Units	Test Methods	Result
20	Cadmium as Cd	mg/l	IS 3025 Part 41:2003	BDL (DL:0.01)
21	Selenium as Se	mg/l	IS 3025 Part 56:2003	BDL (DL: 0.05)
22	Aluminium as Al	mg/l	IS 3025 Part 55:2003	BDL (DL: 0.03)
23	Lead as Pb	mg/l	IS 3025 Part 47:1994	BDL (DL:0.01)
24	Zinc as Zn	mg/l	IS 3025 Part 49:2003	BDL (DL:0.02)
25	Total Chromium	mg/l	IS 3025 Part 52:2003	BDL (DL: 0.05)
26	Boron as B	mg/l	IS 3025 Part 57:2005	BDL (DL:0.1)
27	Mineral Oil	mg/l	IS 3025 Part 39-2011	BDL (DL:1.0)
28	Phenolic Compunds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	IS 3025 Part 43-1992	Absent
29	Anionic Detergents as MBAS	mg/l	IS 13428 - 2005	BDL (DL:0.1)
30	Cynaide as CN	mg/l	IS 3025 Part 27-1986	Absent
31	Total Coliform	Per 100ml	IS 1622 : 1981	< 2
32	E-Coli	Per 100ml	IS 15185	< 2
33	Barium as Ba	mg/l	IS 13428 - 2005	BDL (DL:0.5)
34	Ammonia (as Total Ammonia-N)	mg/l	IS 3025 Part 34-1988	BDL (DL:0.1)
35	Sulphide as H <sub>2</sub> S	mg/l	IS 3025 Part 29-1986	BDL (DL:0.05)
36	Molybdenum as Mo	mg/l	KGS/SOP/W-004 : 2018	BDL (DL:0.5)
37	Total Arsenic as As	mg/l	IS 3025 Part 37:1997	BDL (DL:0.01)
38	Total Suspended Solids	mg/l	IS 3025 Part 17 -1984	BDL(DL:2)

.....End of Report.....



  
Authorized Signatory

Note: 1. Test Results shown in this report relate only to the items tested. 2. This test report shall not be reproduced anywhere except in full and same format without the approval of the laboratory. 3. Unless informed by the customer the test items will not be retained for more than 10 days from the date of issue of test report.



## National Accreditation Board for Education and Training



# Certificate of Accreditation

### Geo Exploration & Mining Solutions, Salem

No. 17, Advaita Ashram Road, Fairlands, Salem – 636 004, Tamilnadu, India.

The organization is accredited as **Category-A** under the QCI-NABET Scheme for Accreditation of EIA Consultant Organization, Version 3: for preparing EIA-EMP reports in the following Sectors –

S.No	Sector Description	Sector (as per)		Cat.
		NABET	MoEFCC	
1	Mining of minerals opencast only	1	1 (a) (i)	A
2	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	B
3	Building and construction projects	38	8(a)	B

**Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RAAC minutes dated Jan 06, 2023 and posted on QCI-NABET website.**

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACO/23/2684 dated Feb 20, 2023. The accreditation needs to be renewed before the expiry date by Geo Exploration & Mining Solutions, Salem following due process of assessment.

Sr. Director, NABET  
Dated: Feb 20, 2023

Certificate No.  
NABET/EIA/2225/RA 0276

Valid up to  
August 06, 2025

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to the QCI-NABET website.

