DRAFT OF ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENT MANAGEMENT PLAN

FOR OBTAINING

Environmental Clearance under EIA Notification – 2006

Schedule Sl. No. 1 (a) (i): Mining Project

"B1" CATEGORY – MINOR MINERAL – CLUSTER – NON-FOREST LAND

CLUSTER EXTENT = 10.77.50 hectares

At

Punnam Village, Pugalur Taluk,

Karur District, Tamil Nadu State

ToR Letter No. SEIAA-TN/F.No.10406/SEAC/ToR-1602/2023 Dated:06.11.2023

NAME AND ADDRESS OF THE PROPOSED PROJECT PROPONENT

Name and Address	Extent & S.F.No.	Mineral Production
Tmt.T.Sathya W/o.Thangarasu Door No.2, Masagoundanpudhur Punjaipugalur South, Najaipugalur, Moolimangalam, Pugalur Taluk, Karur.	1.80.0 Ha & 1287/1(Part) & 1287/3	Rough Stone-37800 m^3 Gravel – 2516 m^3

ENVIRONMENTAL CONSULTANT

GEO TECHNICAL MINING SOLUTIONS

No: 1/213-B, Ground Floor, Natesan Complex
Oddapatti, Collectorate Post office,
Dharmapuri-636705. Tamil Nadu.
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com
NABET ACC. NO: NABET/EIA/2124/SA 0184
Valid till: April 02, 2024

ENVIRONMENTAL LAB

EXCELLENCE LABORATORY

No.23/93, 5th Street Ram Nagar, S.S.Colony,

Madurai, Tamil Nadu

NABL Certificate Number: TC-6932, Valid Until : 19.03.2024

Baseline Study Period – October 2023 through December 2023

TERMS OF REFERENCE (ToR) COMPLIANCE

ToR issued vide Lr No. SEIAA-TN/F.No.10406/SEAC/ToR-1602 Dated 06.11.2023

for Tmt.T.Sathya Rough Stone & Gravel Quarry

1	The PP shall obtain Certified Compliance report (CCR) from Integrated Regional Office, MoEF&CC, Chennai for the earlier Environmental Clearance obtained from SEIAA-TN.	The details regarding CCR is attached in the Annexure VI.
2	The proponent Is requested to carry out a survey and enumerate on the structures located within 50m, 100m, 150m, 200m, 250m, 300m and 500m from the boundary of the mine lease area.	The details of survey on the structures within the given radius will be submitted in the final EIA report.
3	The PP shall furnish the slope stability action plan approved action approved by the AD (Mines) during the EIA appraisal.	The slope stability action plan approved by the AD (Mines) is attached in the Annexure VI.
4	The PP shall mark the DGPS reference pillars painted with blue & white colour indicating the safety barrier of 7.5m to be left under the Rule 13(1) of MCDR, 1988 within the lease boundary and protective bunds.	Details of the DGPS reference pillars painted will be submitted in the final EIA report.
5	The PP shall develop green belt/plantation all along the mining lease boundary in a safety barrier.	The details of green belt/plantation along the mine lease area are discussed in the Section 4.6 under Chapter IV, pp.92-95.
6	The PP shall furnish the total manpower required for the proposed mining project including Statutory officials, Geologist, Supervisory staff, skilled, semi-skilled & unskilled staff with showing the representation of the local people as per the eligibility and experience.	Details of manpower required for this project have been given in Table 2.13 under Chapter II, p.20.

<table>
<tr><th colspan="4">Annexure - I</th></tr>
<tr><td>1</td><td colspan="2">In the case of existing / operating mines, a letter obtained from the concerned Ad (Mines) shall be submitted and it shall include the following:</td><td></td></tr>
<tr><td rowspan="9"></td><td>i</td><td>Original pit dimension</td><td rowspan="9">The details regarding is attached in Annexure VI.</td></tr>
<tr><td>ii</td><td>Quantity achieved Vs EC Approved Quantity</td></tr>
<tr><td>iii</td><td>Balance Quantity as per Mineable Reserve calculated</td></tr>
<tr><td>iv</td><td>Mined out Depth as on date Vs EC Permitted depth</td></tr>
<tr><td>v</td><td>Details of illegal / illicit mining</td></tr>
<tr><td>vi</td><td>Violation in the quarry during the past working</td></tr>
<tr><td>vii</td><td>Quantity of material mined out outside the mine lease area</td></tr>
<tr><td>viii</td><td>Condition of Safety zone / benches</td></tr>
<tr><td>ix</td><td>Revised / Modified mining Plan showing the benches of not exceeding 6 m height and ultimate depth of not exceeding 50m.</td></tr>
<tr><td>2</td><td colspan="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.</td><td>The VAO certificate has been submitted in the Annexure IV.</td></tr>
<tr><td>3</td><td colspan="2">The proponent is requested to carry out a survey and enumerate on the structures located within the radius of (i) 100m, (ii) 100m, (iii) 200m and (iv) 300m (v) 500m 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,</td><td>The details about the structure within the radius of 100m, 200m, 300m, 500m will be submitted in the final EIA report.</td></tr>
</table>

	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 1km of the proposed quarry.	Detailed hydrogeological study was carried out. The results have been discussed Section 3.2 under Chapter III, pp.32-44.
5	The proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.	Details regarding Bio diversity is given in the Section 3.5 under Chapter III, pp.58-70.
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.	The DFO document will be submitted in the final EIA report.
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 prepare and submit an 'Slope Stability Action plan' for carrying out the realignment of the benches in the proposed quarry lease after it is approved by the concerned Asst. Director and mining during the time of appraisal for obtaining the EC.	The Slope Stability report will be submitted in the final EIA report.
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 30m below ground level.	The Slope Stability report will be submitted in the final EIA report.

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 mining operation is eco friendly quarry operation so the blasting is not required.
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.		A conceptual design of blasting has been given in Section 2.6 under Chapter II, pp.16-20.
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 condition is not applicable as the proposed quarry project is the only project in the name of project proponent Mrs.T.Sathya.
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	a	What was the period of the operation and stoppage of the earlier mines with last work permit issued by the AD/DD mines?	The details regarding are attached in the Annexure III and Annexure VI.
14	b.	Quantity of minerals mined out.	
	c.	Highest production achieved in any one year.	
	d.	Detail of approved depth of mining.	
	e.	Actual depth of the mining achieved earlier.	
	f.	Name of the person already mined in	

		that leases area.	
	g.	If EC and CTO already obtained, the copy of the same shall be submitted.	
	h.	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/Toposheet, 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).		All corner coordinates of the mine lease area have been superimposed on a high-resolution Google Earth Image, as shown in Figure 2.3, under Chapter II, p.12.
16	The PP shall carry out Drone video survey covering the cluster, green belt, fencing etc.,		Drone video showing fencing and greenbelt development will be submitted during presentation.
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.		Photographs showing green belt have been included in Section 4.6 under Chapter IV, pp.92-95. And fencing photos will be submitted during final EIA report.
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.		The mineral reserves of the project have been discussed in Section 2.5 under Chapter II, pp.14-15. The anticipated impact of mining on land, air, noise, water, soil, biology, and socio economy is discussed under Chapter IV, pp.80 - 99.

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.	Details of manpower required for this project have been given in Table 2.13 under Chapter II, p.20.
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.	Detailed hydrogeological study was carried out. The results have been discussed Section 3.2 under Chapter III, pp.32-44.
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.	The baseline data were collected for the environmental components including land, soil, water, air, noise, biology, socio-economy, and traffic and the results have been discussed under Chapter III, pp. 21-79.
22	The Proponent shall carry out the Cumulative impact study due to mining operations carried out in the quarry	Results of cumulative impact study due to mining operations are given in Section 7.4 under Chapter VII, pp.110-114.

	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.	Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis. Drinking water will be sourced from the approved water vendors.
24	Land use of the study area delineating forest area, agricultural land, gazing 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 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 has been discussed in Section 3.1 under Chapter III, pp.23-31. The details of surrounding sensitive ecological features have been provided in Table 3.39 under Chapter III, p.78. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 2.7 under Chapter II, p.17.
25	Details of the land for storage of Overburden/Waste Dumps (or) Rejects	This condition is not applicable to this project because no dumps have been

	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.	proposed outside 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.	This condition is not applicable to this project because this project is not located in proximity to the areas of areas declared as 'Critically Polluted' (or) the project areas which attracts the court restrictions for mining operations.
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.	Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis. Drinking water will be sourced from the approved water vendors.
28	Impact on local transport infrastructure due to the Project should be indicated.	Details regarding the impact of the project on traffic are given in Section 3.7 under Chapter III, pp.75-77.
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.	A detailed tree survey was caried out within 300 m radius and the results have been discussed in Section 3.5 under Chapter III, pp.58-70.
30	A detailed mine closure plan for the proposed project shall be included in	A progressive mine closure plan has been attached with the approved mining plan

	EIA/EMP report which should be site-specific.	report in Annexure III. The budget details for the progressive mine closure plan are shown in Table 2.8 under Chapter II, p.17.
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 EIA coordinator and the FAE for ecology and biodiversity visited the study area and educated the local students about the importance of protecting the biological environment.
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 should be chosen. Species of small/medium/tall trees alternating with shrubs should be planted in a mixed manner.	A detailed greenbelt development plan has been provided in Section 4.6 under Chapter IV, pp.92-95.
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/Horticulture with regard to site specific choices. The proponent shall earmark the greenbelt area with GPS coordinates all along the boundary of the	The FAE of ecology and biodiversity has advised the project proponent that saplings of one year old raised in the eco-friendly bags should be purchased and planted with the spacing of 3 m between each plant around the proposed project area as per the advice of local forest authorities/botanist.

	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.	A disaster management plan for the project has been provided in Section 7.3 under Chapter VII, pp.108-110.
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.	A risk assessment plan for the project has been provided in Section 7.2 under Chapter VII, pp.106-108.
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 of the project and preventive measures have been discussed in detail in Section 4.8 under Chapter IV, pp.96 - 97.
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 are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 under Chapter VIII, pp.117 & 118.
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	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 18 people directly as discussed in Section 8.1 under

	indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.	Chapter VIII, p.116.
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 in any court against this project.
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.	Benefits of the project details have been given under Chapter VIII, pp.116-118.
41	If any quarrying operation 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.	The previous EC details is attached in the Annexure III.
42	The PP Shall prepare the EMP for the entire life/lease period of mine and also Furnish the sworn affidavit starting to Abide the EMP for the entire life of mine.	A detailed environment management plan has been prepared following the suggestion made by SEAC, as shown in Chapter X, pp.120-126. The sworn affidavit stating to abide the EMP for the entire life of mine will be submitted in the final EIA report.
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	The EIA report has been prepared keeping in mind the fact that concealing any factual information or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may lead to withdrawal

	Environment (Protection) Act' 1986.	of this terms of reference besides attracting penal provisions in the Environment (Protection) Act, 1986.
	The proposal was placed in the 670th Authority meeting held on 06.11.2023. The authority noted that this proposal was placed for appraisal in the 416th SEAC meeting held on 13.10.2023, 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 recommended by SEAC & normal conditions in addition to the conditions in 'Annexure B' of this minute.	
	Annexure '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.	A cluster management committee including all the proponents of the rough stone quarrying projects within the cluster of 500 m radius will be constituted for the effective implementation of green belt development plan, water sprinkling, blasting, etc.
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 members of the cluster management committee will be instructed to carry out EMP in coordination.
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	Detailed Operational Plan must be submitted which must include the blasting frequency with respect to the nearby quarry	All the information has been discussed in Section 2.6 & 2.7 under Chapter II, pp.16-20.

	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.	It will be informed to the committee.
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.	It will be advised to the cluster management committee 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 will 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.	A proper action plan regarding the restoration will be followed by the committee.
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	The committee shall deliberate on the health of the workers/staff involved in the mining as well as the health of the public.	The information on the health of the workers and the local people will be updated periodically.
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	The committee shall furnish the fire safety and evacuation plan in the case of fire accidents.		The committee will submit the fire safety and evacuation plan as discussed in Section 7.3 under Chapter VII, pp.108-110.
	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.	Soil health and biodiversity have been discussed in Sections 3.1 and 3.5 respectively under Chapter III, pp.23-31 & pp.58-70.
	b)	Climate change leading to Droughts, Floods etc.	Climatic condition of the proposed project area has been discussed in Section 3.3 under Chapter III, pp.44-54.
	c)	Pollution leading to release of Greenhouse gases (GHG), rise in Temperature, & Livelihood of the local People.	The information about CO2 emission has been added to Section 4.6 under Chapter IV, pp.92-95.
	d)	Possibi1ities of water contamination and impact on aquatic ecosystem health.	Possibilities of both surface and ground water contamination have been discussed in Section 4.3 under Chapter IV, pp.81-82. The impact on aquatic species has been discussed in Section 4.6 under Chapter IV, pp.92-95.
	e)	Agriculture, Forestry, & Traditional practices.	Sorgum, millet, groundnut, and coconut are the primary crops that are cultivated in the study area.
	f)	Hydrothermal/Geothermal effect due to destruction in the Environment.	The average geothermal gradient of earth is 25^0C/km. As the proposed depth of mining is 25 m below the local ground

			level, the temperature will increase by 1^0C at the depth of mining.
	g)	Bio-geochemical processes and its foot prints including environmental stress.	Data is not included.
	h)	Sediment geochemistry in the surface streams.	The details regarding is discussed in the Table 3.4 under Chapter III, p.31.
	Agriculture & Agro-Biodiversity		
13	Impact on surrounding agricultural fields around the proposed mining area.		There shall be negligible air emissions or effluents from the project site. During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly, as shown in Section 4.6 under Chapter IV, pp.92 - 95.
14	Impact on soil flora & vegetation around the project site.		The details on flora have been provided in Section 3.5 under Chapter III, pp.58-70. 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 shall be given and if so, transplantation of such vegetations all along the boundary of the proposed mining area shall committed mentioned in EMP.		Details of vegetation in the lease area have been provided in Section 3.5 under Chapter III, pp.58-70. Details about transplantation of plants have been provided in Section 4.6 under Chapter IV, pp.92-95.
16	The Environmental Impact Assessment should study the biodiversity, the natural		The ecological details have been provided in Section 3.5 under Chapter

	ecosystem, the soil micro flora, fauna and soil seed banks and suggest measures to maintain the natural Ecosystem.	III, pp.58-70 and measures have been provided in Section 4.6 under Chapter IV, pp.92-95.
17	Action should specifically suggest for sustainable management of the area and restoration of ecosystem for flow of goods and services.	All the essential environmental protective measures will be followed by the proponent to manage the surrounding environment and restore the ecosystem, as discussed in Chapter IV, pp.80-99.
18	The project proponent shall study and furnish the impact of project on plantations in adjoining patta lands, Horticulture, Agriculture and livestock.	The impact of project on the land environment has been discussed in Section 4.1 under Chapter IV, pp.80-81.
	Forests	
19	The project proponent shall study on impact of mining on Reserve forests free ranging wildlife.	The project proponent shall do barbed wire fencing work and develop a green belt around the lease area to prevent wildlife from entering the site.
20	The Environmental Impact Assessment should study impact on forest, vegetation, endemic, vulnerable and endangered indigenous flora and fauna.	The impacts of the project on ecology and biodiversity have been discussed in Section 4.6 under Chapter IV, pp.92-95.
21	The Environmental Impact Assessment should study impact on standing trees and the existing trees should be numbered and action suggested for protection.	The impacts of the project on standing trees and the existing trees have been discussed in Section 4.6 under Chapter IV, pp.92-95.
22	The Environmental Impact Assessment should study impact on protected areas, Reserve Forests, National parks, corridors and wildlife pathways, near project site.	There are no protected areas, National Parks, Corridors and Wildlife pathways near project site. The list of environmentally sensitive areas within 10 km radius has been provided in Table 3.39 under Chapter III, p.78.
	Water Environment	
23	Hydro-geological study considering the	Detailed hydrogeological study was

	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.	carried out. The results have been discussed Section 3.2 under Chapter III, pp.32-44.
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 IV, pp.81-82.
25	Detailed study shall be carried out in regard to impact of mining around the proposed mine lease area on the nearby villages, waterbodies/rivers & any ecological fragile areas.	The matter has been discussed under Chapter IV, pp.80-99.
26	The project proponent shall study impact on fish habitats and the food WEB/food chain in the water body and Reservoir.	An analysis for food chain in aquatic ecosystem has been discussed in Section 3.5 under Chapter III, pp.65.
27	The project proponent shall study and furnish the details on potential fragmentation impact on natural environment, by the activities.	The impacts of the proposed project on the surrounding environment have discussed in Chapter IV, pp.80-99.
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 sits	The impact of the proposed project on aquatic plants and animals in water bodies has been discussed in Section 4.6 under Chapter IV, pp.92-95.

	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.	The impact of mining on soil environment has been discussed in Section 4.2 under Chapter IV, pp.81.
30	The Environmental Impact Assessment should study on wetlands, water bodies, rivers streams, lakes and farmer sites.	The impacts on water bodies, streams, lakes have been discussed in Section 4.3 under Chapter IV, pp.81-82.
Energy		
31	The measures taken to control Noise, Air, water, Dust control and steps adopted to efficiently utilise the Energy shall be furnished.	The measures taken to control noise, air, water, and dust have been given under Chapter IV, pp. 80-99.
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.	The carbon emission and the measures to mitigate carbon emission have been discussed in Section 4.6 under Chapter IV, pp.92-95.
33	The Environmental Impact Assessment should study impact on climate change, temperature rise, pollution and above soil & below soil carbon stock.	The matter has been discussed in Chapter IV, pp. 80-99.
	Mine Closure Plan	
34	Detailed Mine closure plan covering the entire mine lease period as per precise area communication order issued.	A progressive mine closure plan has been attached with the approved mining plan report in Annexure III. The budget details for the progressive mine closure plan are shown in Table 2.8 under Chapter II, p.17.

	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.	A detailed Environment Management plan has been given under Chapter X, pp.120-126.
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.	A detailed Environment Management plan has been given in Tables 10.1 & 10.2 under Chapter X, pp.121-126.
	Risk Assessment	
37	To furnish risk assessment and management plan including anticipated vulnerabilities during operational and post operational phases of Mining.	The risk assessment and management plan for this project has been provided in Section 7.2 under Chapter VII, pp.106-108.
	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.	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII, pp.108-110.
	Others	
39.	The project proponent shall furnish VAO certificate with reference to 300 m radius regard to approved habitations, schools, Archaeological sites, structures, railway lines, roads, water bodies such as streams, odai, vaari, canal, river, lake pond, tank etc.	The VAO certificate has been submitted in the Annexure IV.

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.	The concerns raised during public consultation will be submitted in the final EIA report.
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.	The details regarding plastic waste management is discussed in the Section 7.5 under Chapter VII, pp.114-115.
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.	Not applicable. 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 proposed site for quarrying is a private land. A copy of the document showing that the proponent is the rightful lessee has been enclosed along with the approved mining plan in Annexure III.
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	All the documents are in the name of the lessee.

	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/ 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).	All corner coordinates of the mine lease area have been superimposed on a high-resolution Google Earth Image, as shown in Figure 2.3, under Chapter II, p.12.
5.	Information should be provided in Survey of India Toposheet 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.	Toposheets of Survey of India have been used for showing sampling locations of air, soil, water, and noise, as shown in Chapter III, pp.21-79.
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 lease 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	The Environmental Policy will be included in the final EIA report.

	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.	It is an opencast quarrying operation proposed to operate in Manual 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 90^0 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.	The study area considered for this study is of 5 km radius for air, soil, water, and noise level sample collections, while the study area is 10 km radius for ecology and biodiversity studies 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,	Land use of the study area delineating forest area, agricultural land, grazing

	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, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features has been discussed in Section 3.1, under Chapter III, pp.21-32. The details of surrounding sensitive ecological features have been provided in Table 3.39 under Chapter III, p.78. Land use plan of the project area showing pre-operational, operational and post-operational phases are discussed in Table 2.7 under Chapter II, p.17.
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	It is not applicable as no dumps have been proposed outside the lease area. The entire quarried out rough stone will be transported to the needy customers.
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.	It is not applicable as there is no forest land involved within the proposed project area. The details have been discussed in Table 3.39 under Chapter III, p.78.
13.	Status of forestry clearance for the broken-	It is not applicable as the proposed

	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.	project area does not involve any forest land.
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.	Not Applicable. The project doesn't attract Recognition of Forest Rights Act, 2006 as there are neither forests nor forest dwellers / 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.
15.	The vegetation in the RF / PF areas in the study area, with necessary details, should be given.	Reserve Forest is found within the study area. The matter has been discussed Section 3.5.1, under Chapter III, p.65.
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.	There is no any wildlife/protected area within 10 km radius from the periphery of the project area. Information regarding the same has been given in Table 3.39 under Chapter III, p.78.
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	There are No National Parks, Biosphere Reserves, Wildlife Corridors, and Tiger/Elephant Reserves within 10 km radius from the periphery of the project area. Information regarding the same has

	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	been given in Table 3.39 under Chapter III, p.78.
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.	A detailed biological study was carried out in both core and buffer zones and the results have been discussed in Section 3.5 under Chapter III, pp.58-70.
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.	Not Applicable. 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).	Not Applicable 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.	Not Applicable. There are no approved habitations of SCs/STs and other weaker sections in the lease area. Therefore, R&R Plan / Compensation Plan for the Project Affected People (PAP) are not provided.
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	Baseline data were collected for the period of October-December 2023 as per CPCB notification and MoEF & CC Guidelines. Primary baseline data and the results have been included in Sections

	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.	3.1-3.8 under Chapter III, pp.21-79.
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 GLCs of pollutants was carried out using AERMOD view 11.2.0. The model results have been given in Section 4.4 under the Chapter IV, pp.82-89.
24.	The water requirement for the project, its availability and source should be furnished. A detailed water balance should also be	The water requirement for the project, its availability and source have been provided in Table 2.10 under Chapter II,

	provided. Fresh water requirement for the project should be indicated.	p.19.
25.	Necessary clearance from the competent Authority for drawl of requisite quantity of water for the project should be provided.	Not Applicable. Water for dust suppression, greenbelt development and domestic use will be sourced from accumulated rainwater/seepage water in mine pits and purchased from local water vendors through water tankers on daily requirement basis. Drinking water will be sourced from the approved water vendors.
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.	Part of the working pit will be allowed to collect rain water during the spell of rain. The water thus collected will be used for greenbelt development and dust suppression. The mine closure plan has been prepared for converting the excavated pit into rain water harvesting structure and serve as water reservoir for the project village during draught season.
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 environment including surface water and ground water have been discussed in Section 4.3 under Chapter IV, pp.81-82.
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	Not Applicable. The ground water table is found at the depth of 55 m below ground level. The ultimate depth of quarry is 25 m BGL. Therefore, the mining activity will not intersect the ground water table. Data

	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.	regarding the occurrence of groundwater table have been provided in Section 3.2 under Chapter III, pp.32-44.
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.	Not Applicable. There are no streams, seasonal or other water bodies passing within the project area. Therefore, no modification or diversion of water bodies is anticipated.
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.	The highest elevation of the project area is 201 m AMSL. Ultimate depth of the mine is 25 m BGL. Depth to the water level in the area is 55 m BGL.
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	Greenbelt development plan has been given in Section 4.6 under Chapter IV, pp.92-95.

	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.	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 Section 3.7 under Chapter III, pp.75-77.
33.	Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.	Infrastructure & other facilities will be provided to the mine workers after the grant of quarry lease and the same has been discussed in Section 2.6.6 under Chapter II, p.17.
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.	Progressive mine closure plan has been prepared for this project and is given in Section 2.6.4 under Chapter II, p.17.
35.	Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical	Occupational health impacts of the project and preventive measures have been explained in detail in Section 4.8 under Chapter IV, pp.96-97.

	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.	No public health implications are anticipated due to this project. Details of CSR and CER activities have been discussed in Sections 8.6 and 8.7 under Chapter VIII, pp.117-118.
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.	No negative impact on socio-economic environment of the study area is anticipated and this project shall benefit the socio-economic environment by offering employment for 18 people directly as discussed in Section 8.1 under Chapter VIII, p.116.
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.	A detailed Environment Management Plan has been prepared and provided in Tables 10.1 & 10.2 under Chapter X, pp.121-126.
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.	The outcome of public hearing will be submitted during the final EIA report.

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.	No litigation is pending in any court against this project.
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.	Project Cost is Rs.31,93,700/- CER Cost is Rs. 5,00,000/- In order to implement the environmental protection measures, an amount of Rs.2146290 as capital cost and recurring cost as Rs.1129200 as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be 8447032, as shown in Tables 10.1 & 10.2 under Chapter X, pp.121-126.
42	A disaster management Plan shall be prepared and included in the EIA/EMP Report.	The disaster management plan for this project has been provided in Section 7.3 under Chapter VII, pp.108-110.
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.	Benefits of the project details have been given under Chapter VIII, pp.116-119.
44.	Besides the above, the below mentioned general points are also to be followed:	
a)	Executive Summary of the EIA/EMP Report	Executive summary has been enclosed as a separate booklet.
b)	All documents to be properly referenced with index and continuous page numbering.	All the documents have been properly referenced with index and continuous page numbering.
c)	Where data are presented in the Report	List of tables and source of the data

	especially in Tables, the period in which the data were collected and the sources should be indicated.	collected have been mentioned.
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	Original Baseline monitoring reports will be submitted in the final EIA report.
e)	Where the documents provided are in a language other than English, an English translation should be provided.	All the documents provided here are in English language.
f)	The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.	The questionnaire will be submitted in the final EIA 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, 2009, which are available on the website of this Ministry, should be followed.	Instructions issued by MoEF & CC O.M. No. J-11013/41/2006-IA. II (I) dated 4th August, 2009 have been followed while preparing the EIA report.
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.	No changes are made in the basic scope and the project parameters.

	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.	The CCR report is attached in the Annexure VI.
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.	All the plans including surface & geological plans, and progressive closure plan have been included in Annexure III.

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CHAPTER I
INTRODUCTION

1.0 PREAMBLE

Environmental Impact Assessment (EIA) study is a process used to identify the environmental, social and economic impacts of a project prior to decision-making. EIA systematically examines both beneficial and adverse consequences of the proposed project and ensure that these impacts are considered during the project designing. According to the Ministry of Environment and Forests, Govt. of India, EIA notification S.O. 1533 (E) of 14th September 2006 and its subsequent amendments as per Gazette Notification S.O. 3977 (E) of 14th August 2018, all the mining projects are broadly classified into two categories, i.e., category A and category B, based on the spatial extent of the projects. The category B projects are further divided in to B1 and B2 on the basis of the guidelines issued of the Ministry of Environment and Forests. All mining projects included in category B1 require an EIA report for obtaining environmental clearance from the State Environment Impact Assessment Authority (SEIAA). As the proposed project falls within the cluster of quarries of overall extent of greater than 5 ha and less than 50 ha in the case of non-coal mine lease, the proposed project falls under the category B1 and the project requires preparation and submission of an EIA report after public consultation to SEIAA for obtaining environmental clearance 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.

In compliance with ToR obtained vide Lr.No.SEIAA-TN/F.No.10406/SEAC/ToR-1602/2023 Dated:06.11.2023, this EIA report has been prepared for the project proponent, Tmt.T.Sathya applied for rough stone and gravel quarry lease in the Patta land falling in S.F.No.1287/1(Part) & 1287/3 over an extent of 1.80.0 ha in Punnam Village, Pugalur Taluk, Karur District and Tamil Nadu. This EIA report takes into account the rough stone quarries within the cluster of 500 m radius from the periphery of the proposed project site. The cluster contains three proposed projects known as P1, P2, P3 and two expired project EX1 & EX2. All the projects mentioned above have been taken for cluster extent calculation as per MoEF & CC Notification S.O. 2269 (E) Dated 1st July 2016. The total extent of all the quarries is 10.77.50 ha, also known as the cluster extent. The quarries involved in the calculation of cluster extent are shown in Figure 1.1.

Table 1.1 Details of Quarries within the cluster area of 500 m radius

Proposed Quarries					
Code	**Name of the Owner**	**S.F. No**	**Village**	**Extent (ha)**	**Status**
P1	Tmt.S.Sathya	1287/1(Part) & 1287/3	Punnam	1.80.0	Proposed Area
P2	Thiru.P.Devaraj	104/1, 105/2, 105/1A(P), 104/2B1(P) & 104/2A (P)	Punnam	2.27.50	Applied Area
P3	Thiru.N.Sakthivel	105/1B (P), 112/1A, 112/2A	Punnam	3.87.00	Applied Area
Existing Quarry					

Expired Quarries					
EX1	R.Natrayan	112/1B, 112/2B, 112/3	Kuppam	1.45.50	06.09.2017 to 05.09.2022
EX2	Thiru.M.Arunachalam	104/2B2, 104/2B3	Kuppam	1.37.50	21.02.2018 to 20.02.2023
	Total Cluster Extent			**10.77.50**	

Source:

DD Letter - Rc.No.494/Mines/2022, Dated:28.08.2023.

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

1.1 PURPOSE OF THE REPORT

The purpose of the report is to study baseline environmental conditions in and around the proposed project area for the period of **October-December2023** according to the provisions of MoEF & CC Office Memorandum dated 29.08.2017 and MoEF & CC Notification, S.O. 996 (E) dated 10.04.2015, to analyse impacts and provide mitigation measures.

1.2 ENVIRONMENTAL CLEARANCE

The Environmental Clearance process for the project will comprise of four stages. These stages are screening, scoping, public consultation & appraisal.

Screening

Screening is the first stage of the EIA process. In this stage, the State level Expert Appraisal Committee (SEAC) examined the application of EC made by the proponent in Form 1 through online (Proposal No. SIA/TN/MIN/442933/2023, dated 20.09.2023) and decided that the project requires detailed environmental studies for the preparation of EIA report. Therefore, the proponent submitted application for Terms of Reference (ToR) on 20.09.2023.

Scoping

The proposal was placed in the 416th meeting of SEAC on 13.10.2023. 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) and the recommendation for ToR is subjected to the outcome of the Honourable NGT, Principal Bench, New Delhi (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).

Public Consultation

In this stage, an application along with the draft of EIA and EMP report will be made to the Member Secretary of the Tamil Nadu Pollution Control Board (TNPCB) to conduct Public Hearing ensuring public participation at the project site or in its close proximity in the district. During public hearing, an opportunity will be given to the people living nearby the project site to express their opinions about the impact of the proposed project on the environment. The outcome of the public hearing meeting will be updated in the final EIA report for appraisal.

Appraisal

In this stage, an application along with final EIA report including the outcome of the public consultations will be made to the SEIAA. The application thus made will be scrutinized by the SEAC. Then, the SEAC will make recommendations to grant EC or reject the application to the SEIAA.

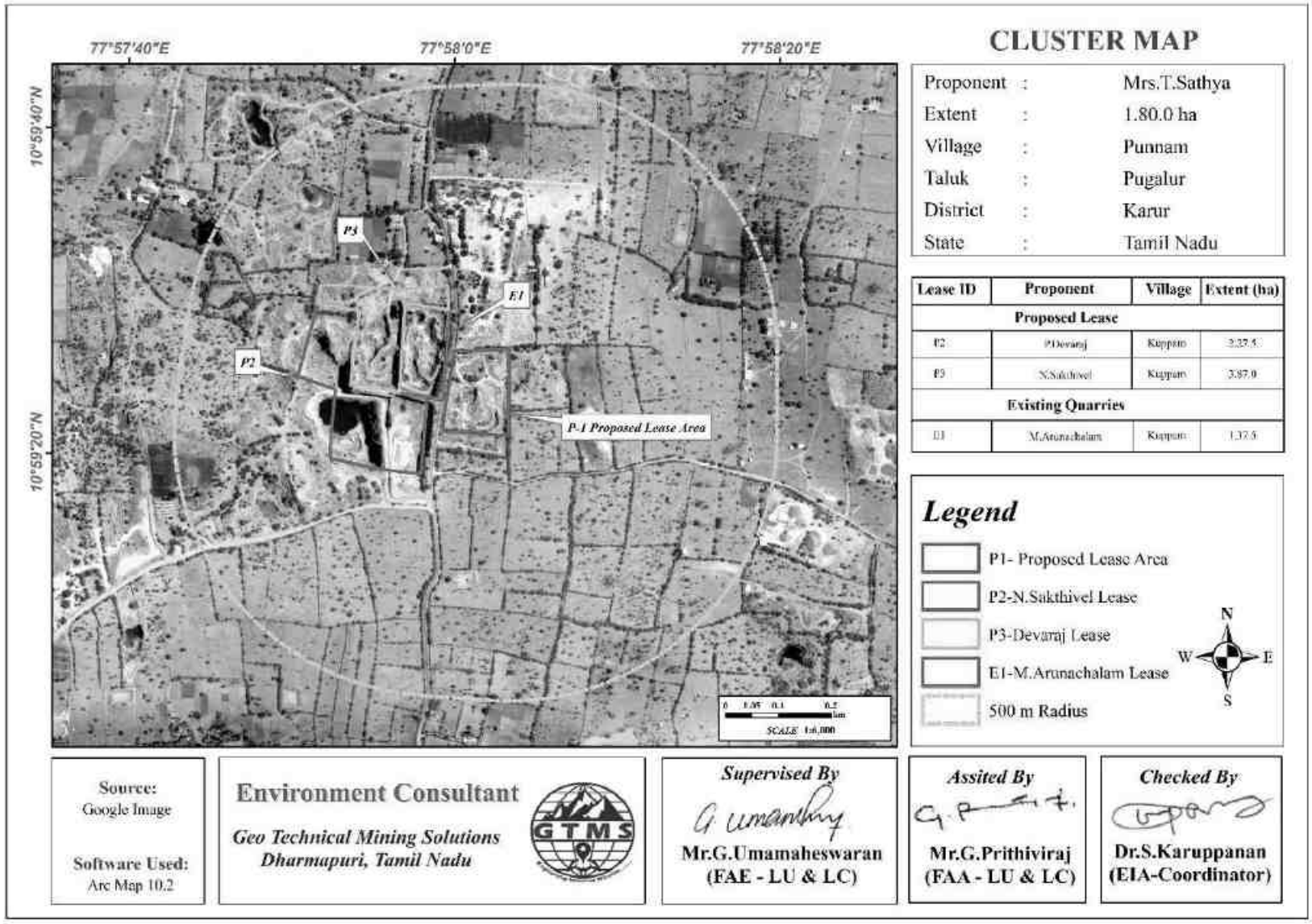


Figure 1.1 Location of the proposed and existing rough stone quarries in the cluster of 500m radius

1.3 TERMS OF REFERENCE (ToR)

The SEAC framed a comprehensive Terms of Reference (TOR) based on the information provided in the Form 1 and information collected from the proposed project site visit and issued TOR to the proponent vide **Lr.No.SEIAA-TN/F.No.10406/SEAC/ToR-1602/2023 Dated:06.11.2023.**

1.4 POST ENVIRONMENT CLEARANCE MONITORING

For category B projects, irrespective of its clearance by MoEF/SEIAA, the project proponent shall prominently advertise in the newspapers indicating that the project has been accorded environmental clearance and the details of MoEF website where it is displayed.

After obtaining EC, the project proponent will submit a half-yearly compliance report of stipulated environmental clearance terms and conditions to MoEF & CC Regional Office & SEIAA on 1st June and 1st December of every year.

1.5 TRANSFERABILITY OF ENVIRONMENTAL CLEARANCE

A prior environmental clearance granted for a specific project or activity to an applicant may be transferred during its validity to another legal person entitled to undertake the project or activity on application by the transferor or the transferee with a written "no objection" by the transferor, to, and by the regulatory authority concerned, on the same terms and conditions under which the prior environmental clearance was initially granted, and for the same validity period (EIA Guidance Manual for Mining of Minerals, 2010).

1.6 IDENTIFICATION OF THE PROJECT PROPONENT

The profile of the project proponent who has involved in this quarrying project has been given in Table 1.2.

Table 1.2 Details of Project Proponent

Name of the Project Proponent	**Tmt.T.Sathya**
Address	W/o.Thangarasu Door No.2, Masagoundanpudhur Punjaipugalur South, Najaipugalur, Moolimangalam, Pugalur Taluk, Karur.
Status	Proprietor

1.7 BRIEF DESCRIPTION OF THE PROJECT

The proposed project deals with excavation of rough stone and gravel which is primarily used in construction projects. The method adopted for rough stone and gravel excavation is Open cast manual mining method involving formation of benches with 5 m height and 5 m width. The proposed project site is located in Punnam Village, Pugalur Taluk, Karur

District and Tamil Nadu State. Some of the important features of the proposed project have been provided in Table 1.3.

Table 1.3 Salient Features of the Proposed Project

Name of the Quarry	Tmt.T.Sathya Rough Stone and Gravel Quarry	
Type of Land	Patta Land	
Extent	1.80.0 Ha	
S.F. No	1287/1(Part), 1287/3	
Toposheet No	58-F/13	
Location of Project Site	10°59'21.05"N to 10°59'26.37"N 77°57'59.23"E to 77°58'03.34"E	
Highest Elevation	201 m AMSL	
Proposed depth of Mining	25 m BGL	
Geological Resources	Rough Stone in m^3	Gravel in m^3
	303859	8232
Mineable Reserves	Rough Stone in m^3	Gravel in m^3
	62962	5236
Proposed reserves for five years	Rough Stone in m^3	Gravel in m^3
	37800	2516
Method of Mining	Open cast manual mining method	
Topography	Flat Topography	
Machinery proposed	Jack Hammer	2
	Compressor	1
	Shoval	6
	Tipper	4
	Picas	4
Blasting Method	Eco-friendly quarry operation is proposed in this quarry lease area. Tractor mounted compressor attached with Jack hammers is proposed to drilling.	
Proposed Manpower Deployment	18 Nos	
Project Cost	Rs.31,93,700/-	
CER Cost	Rs. 5,00,000	
Proposed Water Requirement	3.75 KLD	

1.8 SCOPE OF THE STUDY

The main scope of the EIA study is to quantify the cumulative impact of the quarries in the cluster on the study area and formulate the effective mitigation measures for each individual lease. 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, and dust generation has been provided in this report. The baseline monitoring study has been carried out during the period of **October – December 2023** for various environmental components such as land, soil, air, water, noise, ecology, etc. 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. The sampling methodologies for the various environmental parameters required for the study, frequency of sampling, method of sample analysis, etc., are given in Table 3.1 in Chapter III.

1.9 Legislation Applicable to Mining of Mineral Sector

A few important legislations are given below:

- The Mines Act, 1952
- The Mines and Mineral (Development and Regulation) Act, 1957
- Mines Rules, 1955
- Mineral Concession Rules, 1960
- Mineral Conservation and Development Rules, 1988
- State Minor Mineral Concession Rules, 1960
- Granite Conservation and Development Rule, 1999
- The Water (Prevention and Control of pollution) Act, 1974
- The Air (Prevention and Control of pollution) Act,1981
- The Environment (Protection) Act, 1986
- The Forest (Conservation) Act, 1988
- The Wildlife (Protection) Act, 1972.

Note: *As per the OM vide F.No.IA3-22/10/22-IA.III(E177258), the baseline monitoring data were collected during the period of* ***October-December 2023*** *and utilized for preparation of this EIA report.*

CHAPTER II

PROJECT DESCRIPTION

2.0 GENERAL INTRODUCTION

The open cast manual mining method, also known as open-pit mining has been proposed to extract the mineral deposit. It is the most commonly used surface mining method all over the world and is generally suitable for mining low-grade mineral deposits that are found close to the surface of the earth and distributed uniformly over a large area. Open pits are also termed quarries when the pits are used for the extraction of building materials and dimension stones.

Opencast manual mining starts with the development of benches, the widths of which will be determined in such a way to accommodate the use of heavy machinery. The walls of open pits will be dug at an angle that will be decided based on well-established industry standards to provide safety. In some cases where the walls are composed of weak material such as soil and highly weathered rocks, dewatering holes will be drilled horizontally to relieve the water pressure to avoid wall collapse inside the mine site.

The required mine-related infrastructures will be established close to the open pit. The mining infrastructures may include an administration building, a maintenance garage, and a warehouse. The materials mined from open pits will be brought to the surface using trucks. The waste rocks will be piled up in a suitable location, usually close to the open pit. The structure produced by the waste rock pile is known as a waste dump. The dimension of the waste dump will be determined based on industrial safety standards to prevent the rocks from falling into the surrounding area.

2.1 DECSCRIPTION OF THE PROJECT

The proponent, **Tmt.T.Sathya** is involved in the undertaking of establishment, construction, development, and closure of opencast mines. He, through the exploration phase, identified the proposed project site as the one that has a great potential of producing an economically viable quantity of rough stone and gravel. Therefore, the proponent had applied for quarry lease on 29.09.2022 to extract rough stone. The precise area communication letter was issued by Department of Geology and Mining, Karur vide Rc.No.494/Mines/2022 Dated:24.07.2023. Based on the precise area communication letter, mining plan was prepared. The mining plan thus prepared was approved by Deputy Director Department of Geology and Mining, Karur Rc.No.494/Mines/2022 Dated:11.08.2023. The overall view of the project site is shown in Figure 2.1.

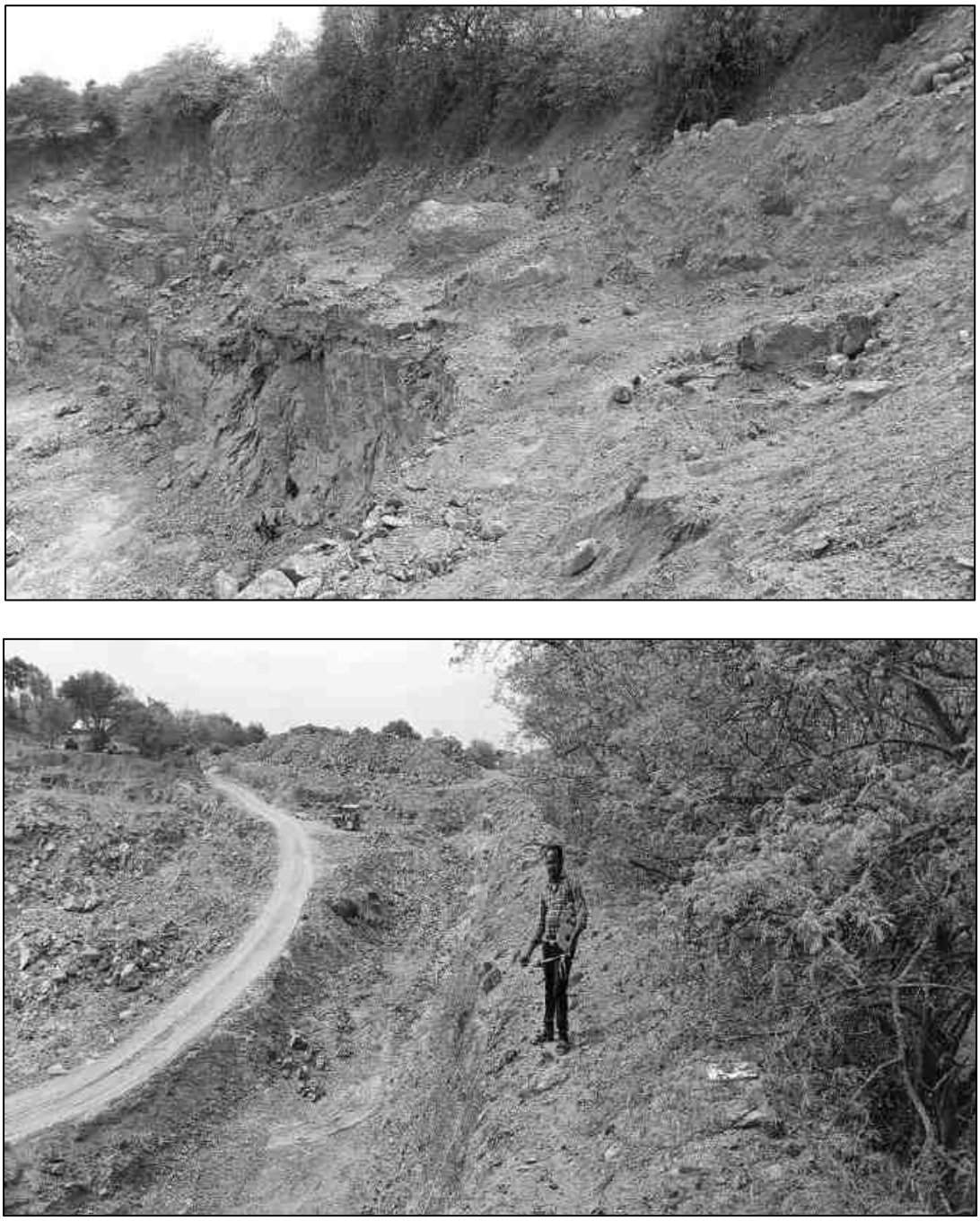


Figure 2.1 Overall View of Proposed Project Site

2.2 LOCATION AND ACCESSIBILITY

The proposed quarry project is located in Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu as shown in Figure 2.2. The area lies between Latitudes from 10°59'21.05"N to 10°59'26.37"N and Longitudes from 77°57'59.23"E to 77°58'3.34"E. The maximum altitude of the project area is 201 m AMSL. Accessibility details to the proposed project site have been given in Table 2.1.

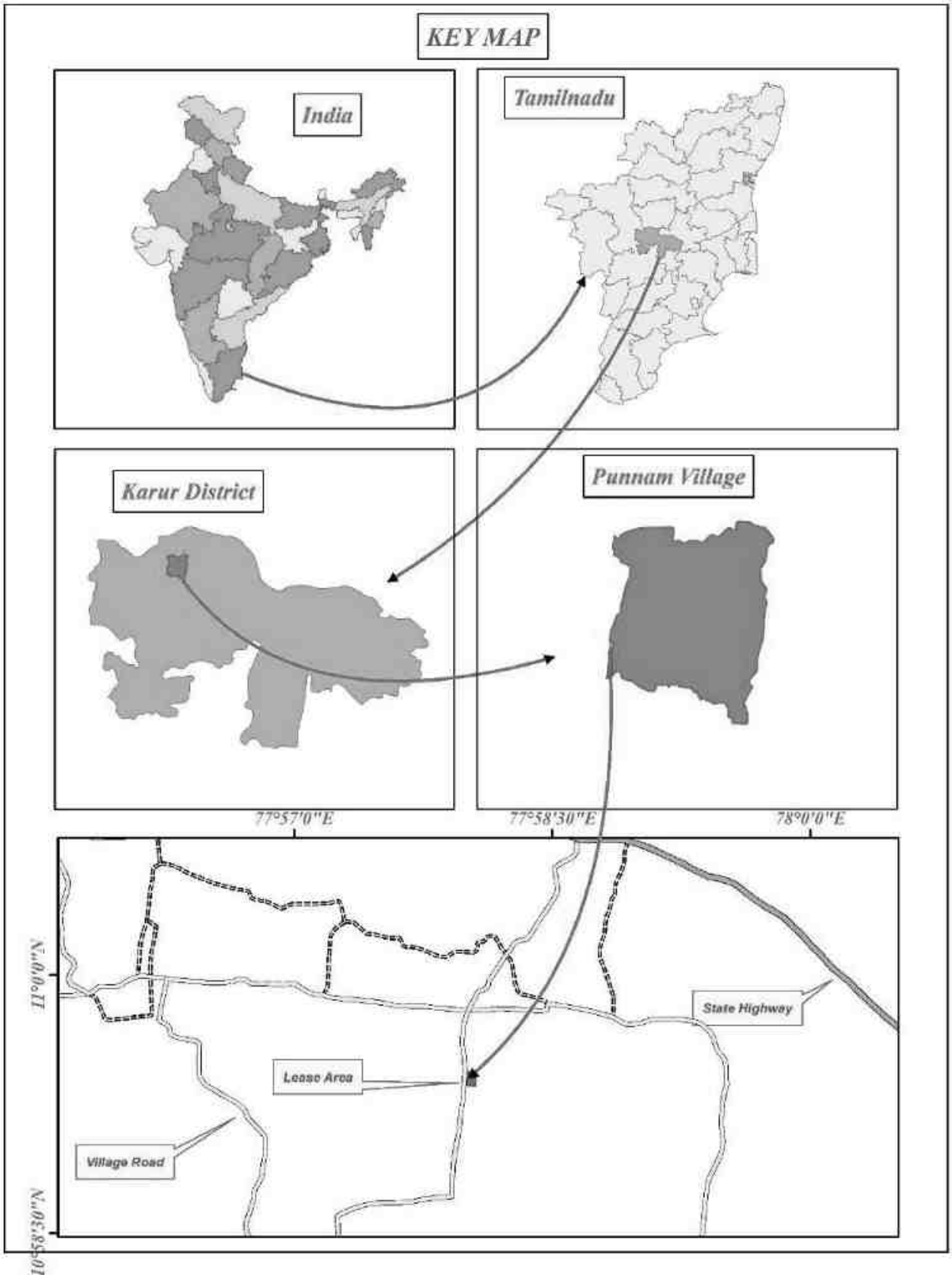


Figure 2.2 Key Map Showing Location of the Project Site

Table 2.1 Site Connectivity to the Project Area

Nearest Roadways	NH - 81 Vellakoil – Karur	3.5 km S
	SH – 84 Noyal - Karur	2.75 km N
	MDR – 332 Noyal – K.Paramathi	5.3 km W
Nearest Town	Karudaiyampalayam	3.3 km SW
Nearest Railway Station	Pugalur	7.0 km NE
Nearest Airport	Trichy	85.2 km E
Nearest Seaport	Tuticorin	247 km S
Nearest Villages	Pulliyampalayam	1.08 km N
	Naduppalalayam	2.4 km E
	Vallipuram	0.85 km S
	Talaiyuttupatti	1.4 km W

2.3 LEASEHOLD AREA

- The extent of the proposed project site is 1.80.0 ha.
- The proposed project is site specific.
- There is no mineral beneficiation or processing proposed inside the project area.
- There is no forest land involved in the proposed area and is devoid of major vegetation and trees.

2.3.1 Corner Coordinates

The boundary corner geographic coordinates are given in Table 2.2 and the proposed project site with boundary coordinates has been shown in Figure 2.3.

Table 2.2 Corner Coordinates of Proposed Project

Pillar ID	Latitude	Longitude
1	10°59'26.37"N	77°58'3.34"E
2	10°59'22.45"N	77°58'3.33"E
3	10°59'21.05"N	77°58'3.33"E
4	10°59'21.33"N	77°57'59.23"E
5	10°59'22.42"N	77°57'59.34"E
6	10°59'25.13"N	77°57'59.81"E
7	10°59'26.26"N	77°57'59.93"E
8	10°59'26.35"N	77°58'02.74"E

2.4 GEOLOGY

The lease area geologically occurs Hornblende–Biotite Gneiss. The Charnockite, commercially called as Roughstone occurs within the migmatite rock. Also, the lease area geomorphologically occursactive quarry.

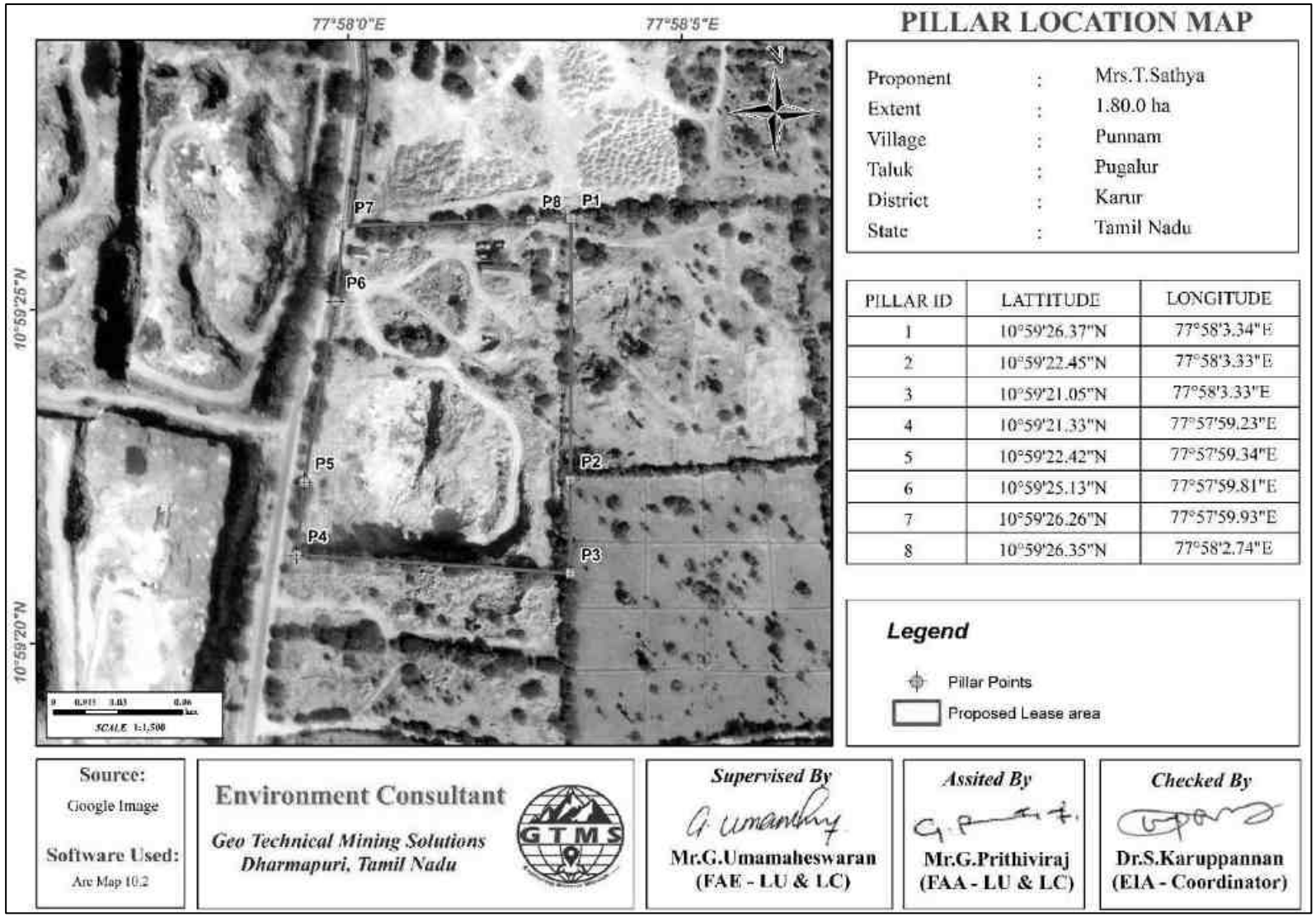
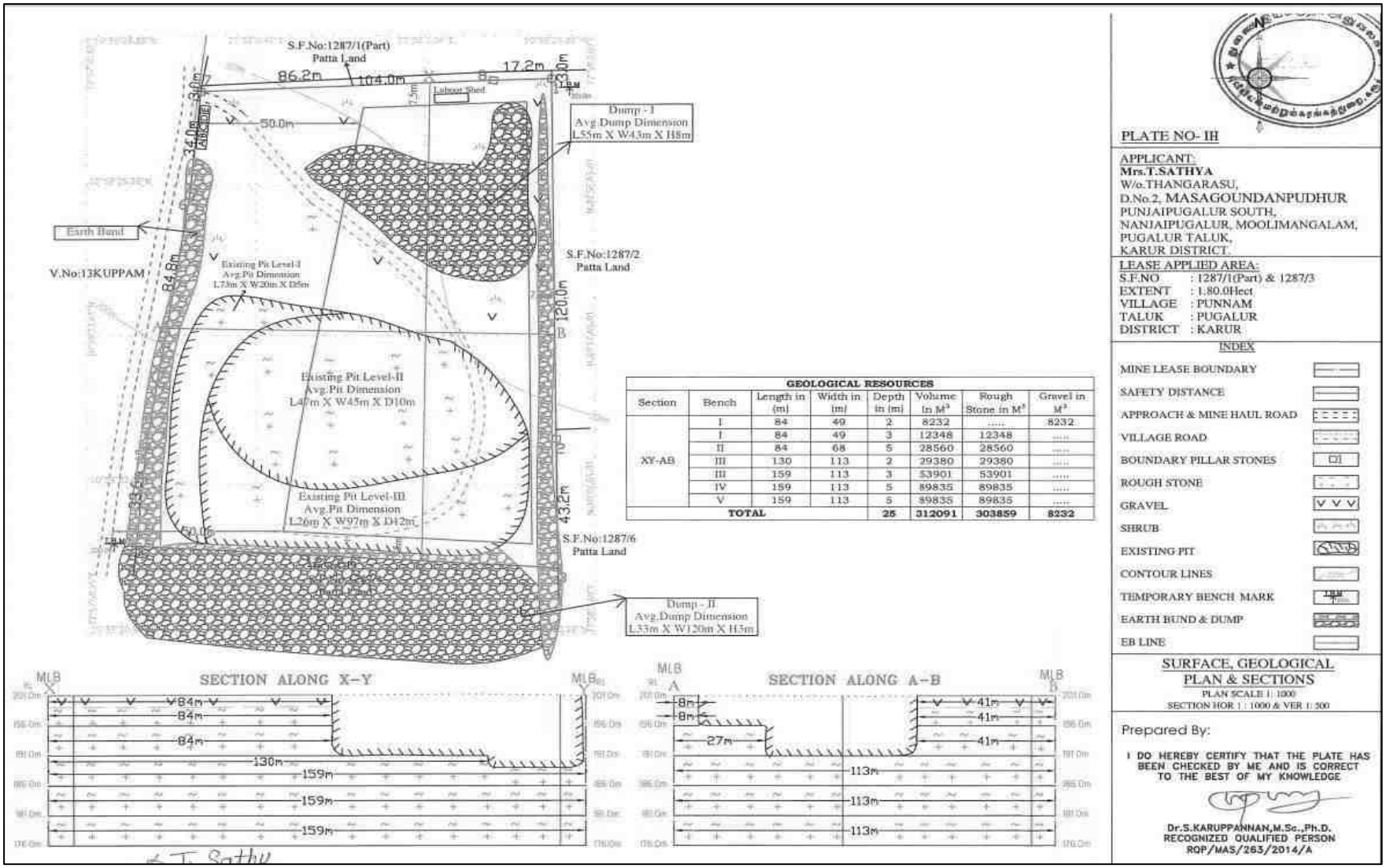


Figure 2.3 Google Earth Image Showing Lease Area with Pillars



GEOLOGICAL RESOURCES

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I	84	49	2	8232	.....	8232
	I	84	49	3	12348	12348	.....
	II	84	68	5	28560	28560	.....
	III	130	113	2	29380	29380	.....
	III	159	113	3	53901	53901	.....
	IV	159	113	5	89835	89835	.....
	V	159	113	5	89835	89835	.....
TOTAL				25	312091	303859	8232

Figure 2.4 Surface, Geological Plan and Sections

2.5 QUANTITY OF RESERVES

The Resources and Reserves of Rough Stone were calculated based on cross-section method by plotting sections to cover the maximum lease area for the proposed project. Based on the availability of geological resources, the mineable reserves are calculated by considering excavation system of bench formation and leaving essential safety distance of 7.5m and 10m safety distance as per precise area communication letter and deducting the locked-up reserves during bench formation (also called as Bench Loss). The mineable reserves are calculated up to the depth of 45m considering there is no waste / overburden / side burden (100% Recovery anticipated) for the proposed project. The plate used for reserve estimation has been shown in Figure 2.4 results of geological resources and reserves have been shown in Table 2.3.

Table 2.3 Estimated Resources and Reserves of the Project

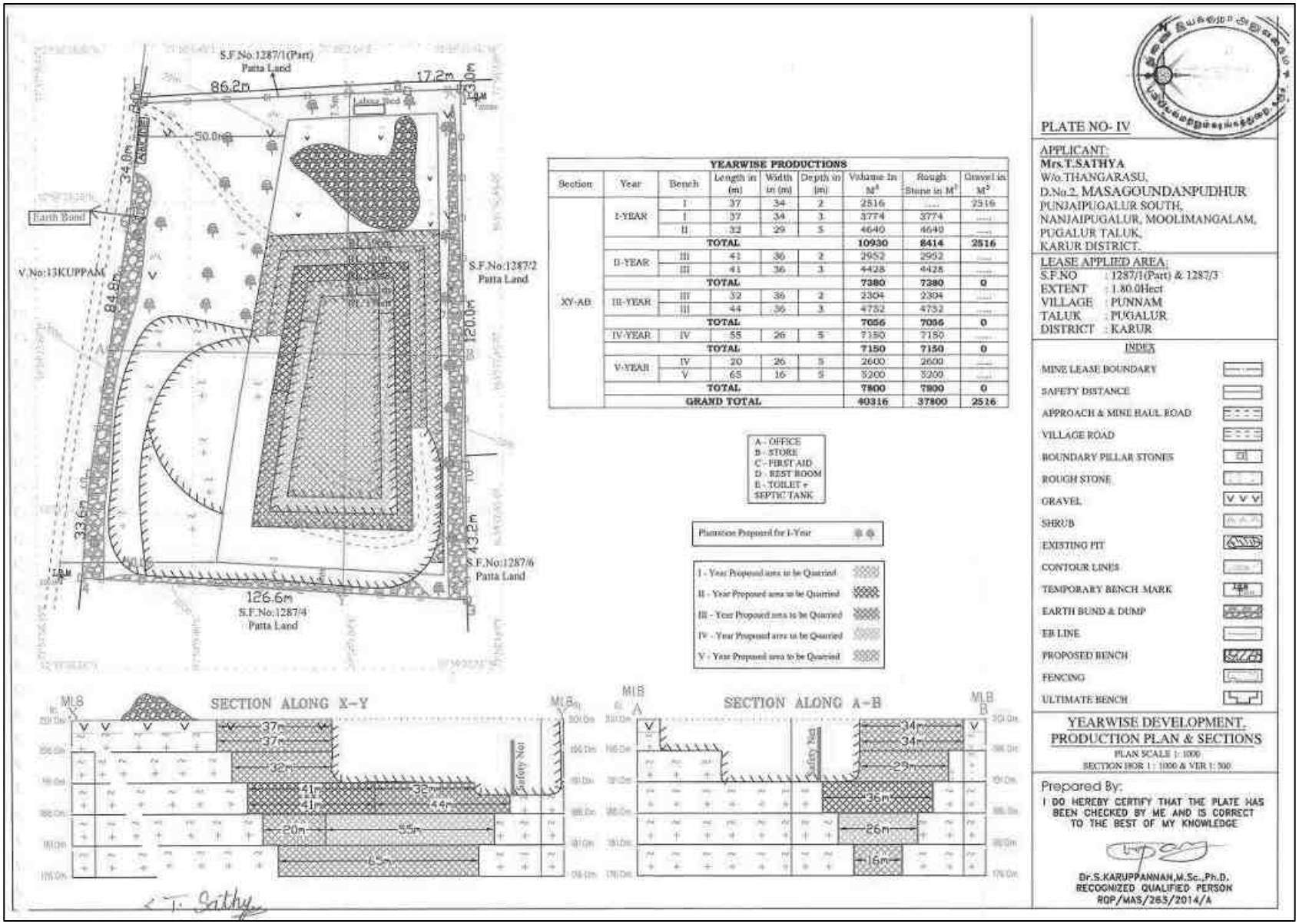
Resource Type	Rough Stone in m^3	Gravel in m^3
Geological Resource in m^3	303859	8232
Mineable Reserves in m^3	62962	5236
Proposed production for 5 years m^3	37800	2516

Based on the year wise development and production plan and sections, the year wise production results have been given in Table 2.4 & Figure 2.5.

Table 2.4 Year-Wise Production Details

Year	Rough Stone in (m^3)	Gravel in (m^3) / 1 year
I	8414	2516
II	7380	--
III	7056	--
IV	7150	--
V	7800	---
Total	**37800**	**2516**

Source: Approved Mining Plan & Tord



YEARWISE PRODUCTIONS

Section	Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I-YEAR	I	37	34	2	2516	----	2516
		I	37	34	3	3774	3774	----
		II	32	29	5	4640	4640	----
		TOTAL				**10930**	**8414**	**2516**
	II-YEAR	III	41	36	2	2952	2952	----
		III	41	36	3	4428	4428	----
		TOTAL				**7380**	**7380**	**0**
	III-YEAR	III	32	36	2	2304	2304	----
		III	44	36	3	4752	4752	----
		TOTAL				**7056**	**7056**	**0**
	IV-YEAR	IV	55	26	5	7150	7150	----
		TOTAL				**7150**	**7150**	**0**
	V-YEAR	IV	20	26	5	2600	2600	----
		V	65	16	5	5200	5200	----
		TOTAL				**7800**	**7800**	**0**
		GRAND TOTAL				**40316**	**37800**	**2516**

Figure 2.5 Year wise Development, Production Plan & Sections

2.6 MINING METHOD

The mining operation is open-cast manual mining methods are adopted and on single shift basis only. Under the regulation 106 of the Metalliferous Mines Regulations, 1961 in all open cast wokings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not exceed 5m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal. The rough stone is proposed to quarry at 5m bench height & width conventional opencast manual quarrying operation using drilling with help of tractor mounted compressor attached with jack hammers, are loaded directly to the tippers. Machineries like Tractor mounted compressor attached with Jack hammers is proposed to drilling. Rough stone will be loaded manually to the trucks for dispatch to needed to the customers.

Blasting Pattern:

Eco-friendly quarry operation is proposed in this quarry lease area. Tractor mounted compressor attached with Jack hammers is proposed to drilling.

2.6.1 Magnitude of Operation

Based on the results of estimated production for the 5 years, details about the size of operation have been provided in Table 2.5.

Table 2.5 Operational Details for Proposed Project

	Rough Stone in m^3 5 years	Gravel in m^3 1 year
Proposed production for 5 years	37800	2516
Number of Working Days /Annum	270	270
Production of /Day (m^3)	28	9
No. of Lorry Loads	5	2

2.6.2 Extent of Mechanization

List of machineries proposed for the quarrying operation is given in Table 2.6.

Table 2.6 Machinery Details

S. No.	Type	No of Unit	Size /Capacity	Make	Motive Power
1	Jack Hammers	2	Hand held	--	Diesel
2	Compressor	1	Air	--	Diesel
3	Shoval	6	--	--	--
4	Picas	4	--	--	--
4	Tipper	4	15 MT	--	Diesel

2.6.3 Progressive Quarry Closure Plan

The progressive quarry closure plan of the proposed project shows past, present, and future land use statistics. According to the land use results, as shown in Table 2.8 At Present about 0.75.67 ha of land is unutilized, about 0.03.0 ha of land is used for road, about 0.24.13ha of land is used for green belt. Whereas, at the end of the mine life, about 1.20.45 ha of land is used for green belt and 0.06.0ha will be used for roads and 0.02.0 is used for infrastructure and 0.51.55 ha of land is used for area under mining.

Table 2.7 Land use data at present, during scheme of mining, and at the end of mine life

Description	Present Area (ha)	Area at the end of life of quarry (ha)
Area under mining	0.77.2	0.51.55
Infrastructure	Nill	0.02.0
Road	0.03.0	0.06.0
Green Belt & Earth Bund	0.24.13	1.20.45
Drainage & Settling Tank	Nill	Nil
Unutilized area	0.75.67	Nil
Total`	**1.80.0**	**1.80.0**

2.6.4 Progressive Quarry Closure Budget

As the proposed project has the enormous potential for continuous operations even after the expiry of lease period, mine closure plan is not proposed for now. Based on the progressive mine closure plan for the scheme period, the mine closure cost is given in Table 2.8.

Table 2.8 Mine Closure Budget

Activity	Capital Cost
360 plants inside the lease area	72000
540 plants outside the lease area	162000
Wire Fencing	360000
Renovation of Garland Drain	18000
Total	**6,12,000**

Source: Environment Management Plan

2.6.5 Conceptual Mining Plan

The ultimate pit size is designed based on certain practical parameters such as economical depth of mining, safety zones, permissible area, etc. Details of ultimate pit dimensions have been derived from given in Table 2.9.

Table 2.9 Ultimate Pit Dimension

Pit	Length (m)	Width (m) (Max)	Depth (m)
I	124	36	25

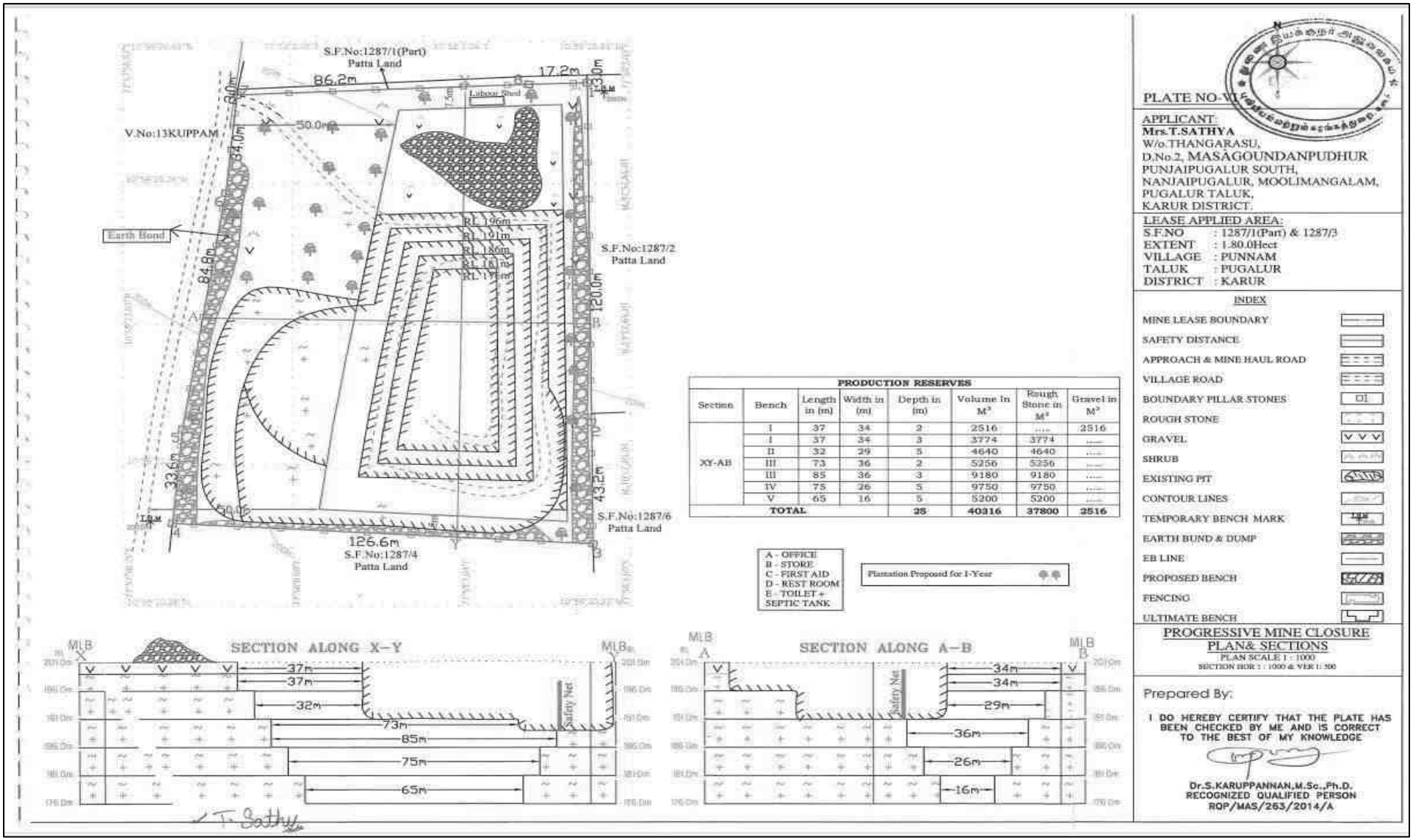
Source: Approved Mining Plan & ToR

2.6.6 Infrastructures

Infrastructures like mines office, temporary rest shelters for workers, latrine and urinal facilities have been proposed as per the mine rule and will be established after the grant of quarry lease. There is no proposal for the mineral processing or ore beneficiation plants in this project.

2.6.6.1 Other Infrastructure Requirement

No workshops are proposed inside the project area. Hence, there will not be any process effluent generation from the proposed lease area. Domestic effluent from the mine office will be discharged to septic tank and soak pit. As there is no toxic effluent expected to generate in the form of solid, liquid or gaseous form, there is no requirement of waste treatment plant.



PRODUCTION RESERVES

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume in M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I	37	34	2	2516	.....	2516
	I	37	34	3	3774	3774	.....
	II	32	29	5	4640	4640	.....
	III	73	36	2	5256	5256	.....
	III	85	36	3	9180	9180	.....
	IV	75	26	5	9750	9750	.....
	V	65	16	5	5200	5200	.....
TOTAL				25	40316	37800	2516

Figure 2.6 Progressive Mine Closer Plan and Sections

2.6.7 Water Requirement

Detail of water requirement in 3.75 KLD is given in Table 2.10.

Table 2.10 Water Requirement for the Project

Purpose	Quantity	Source
Dust Suppression	1.0 KLD	Existing bore wells nearby the lease area
Green Belt development	1.0 KLD	Existing bore wells nearby the lease area
Drinking & Domestic	1.75 KLD	Existing bore wells and approved water vendors
Total	**3.75 KLD**	

Source: Prefeasibility Report

2.6.8 Energy Requirement

High speed Diesel (HSD) will be used for quarrying machineries. As per the data shown in Table 2.12, Around 1,67,206 litres of HSD will be used for rough stone and gravel extraction during this 5 years plan period. The diesel will be brought to the site from nearby diesel pumps.

Table 2.11 Fuel Requirement Details

Details	Rough Stone (37800 m^3)	Gravel (2516 m^3)	Total Diesel (litre)
Fuel Requirement for Excavator			
Average Rate of Fuel Consumption (l/hr)	16	10	---
Working Capacity (m^3/hr)	20	60	---
Time Required (hours)	1890	42	---
Total Diesel Consumption for 5 years (litre)	30240	419	**30659**
Fuel Requirement for Compressor			
Average Rate of Fuel Consumption/hole (litre)	0.4	**---**	**---**
Number of Drillholes/day	4	**---**	**---**
Total Diesel Consumption for 5 years (litre)	2160	**---**	**2160**
Fuel Requirement for Tipper			
Average Rate of Fuel Consumption/Trip (litre)	20	20	---
Carrying Capacity in m^3	6	6	---
Number of Trips / days	5	0*	---
Number of Trips / 5 years	6300	419	---
Total Diesel Consumption for 5 years (litre)	126000	8387	**134387**
Total Diesel Consumption by Excavator, Compressor and Tipper			**167206**

** Number of truck loads for gravel has been normalized for 5 years.*

2.6.9 Capital Requirement

The project proponent will invest **Rs. 31,93,700/-** to the project. The breakup summary of the investment has been given in Table 2.12.

Table 2.12 Capital Requirement Details

S. No.	Description	Cost (Rs.)
1	Fixed Asset Cost	11,25,200/-
2	Machinery cost	10,00,000/-
3	EMP Cost	10,68,500/-
Total Project Cost		**31,93,700/-**

Source: Approved Mining Plan

2.7 MANPOWER REQUIREMENT

The skilled, competent qualified statutory persons will be engaged for quarrying operation, preference will be given to the local community. Number of employees required for this project have been provided in Table 2.13.

Table 2.13 Employment Potential for the proposed project

S. No.	Category	Role	Nos.
1.	Highly Skilled	Mine manager	1
		Mine Engineer	1
		Mine Geologist	1
		Blaster	Nill
2.	Unskilled	Musdoor/ Labours	15
Total			**18**

Source: Prefeasibility Report

2.8 PROJECT IMPLEMENTATION SCHEDULE

The commercial operation will commence after the grant of Environmental Clearance. CTO and CTE 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. Expected time schedule for the quarrying operation is given Table 2.14.

Table 2.14 Expected Time Schedule

S. No.	Particulars	Time Schedule (in Months)					Remarks if any
		1st	2nd	3rd	4th	5th	
1	Environmental Clearance						
2	Consent to Establish						Project Establishment Period
3	Consent to operate						Production starting period.
Time line may vary; subjected to rules and regulations /& other unforeseen circumstances							

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

CHAPTER III

DESCRIPTION OF THE 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. The environmental consultant for both the clusters are the same. The monitoring of ambient air quality, noise levels, water quality and soil analysis for the nearby cluster were done in post monsoon season from October to December 2022 through the third party NABL accredited laboratory. The baseline monitoring done for 5km radius (TERMS OF REFERENCE [TOR] FOR EIA REPORT FOR ACTIVITIES / PROJECTS REQUIRING ENVIRONMENTAL CLEARANCE Prepared by Administrative Staff College of India, Bellavista, Khairatabad, AUGUST 2009, Page No.86) not varied as much. Therefore, we utilize the baseline data for this cluster which is collected for the adjacent cluster in the year 2022 between October to December as per the Office Memorandum F. No. IA3-22/10/2022-IA.III [E 177258] issued by Government of India Ministry of Environment, Forest and Climate Change (IA Division) dated 8th June 2022. We also collected the baseline data in one location i.e, in the core for the present cluster in the post monsoon season October to December 2023 for cross verification. Field monitoring studies to evaluate the base line status of the project site were carried out covering **October through December 2023** with CPCB guidelines. Environmental baseline data were collected by an NABL accredited and MoEF notified Excellence Laboratory for the environmental attributes including soil, water, air, and noise and by FAEs for ecology and biodiversity, traffic, and socio-economy.

Study Area

The study area has been divided into two zones: core zone and buffer zone. Core zone is considered as lease area and buffer zone as 5 km radius from the periphery of the cluster, except for ecological study, which considers 10 km as buffer zone. Both core and buffer zones are taken as the study area. The data was collected from the study area to understand the existing environment conditions of the above-mentioned environmental components. Sampling methodologies for the various environmental parameters, including frequency of sampling, method of sample analysis, etc., are briefly given in Table 3.1.

Table 3.1 Monitoring Attributes and Frequency of Monitoring

Attribute	Parameters	Frequency of Monitoring	No. of Locations	Protocol
Land Use/ Land Cover	Land-use Pattern within 5 km radius of the study area	Once during the study period	Study Area	Satellite Imagery & Primary Survey
*Soil	Physico-Chemical characteristics	Once during the study period	9 (1 in core & 8 in 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	8 (8 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_{10} $PM_{2.5}$ SO_2 NO_X	24 hours, twice a week	10 (1 core & 9 buffer)	IS 5182 Part 1-23 National Ambient Air Quality Standards, CPCB
*Noise Levels	Ambient noise	Hourly observation for 24 hours per location	10 (1 core & 9 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.

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

3.1 LAND ENVIRONMENT

3.1.1 Geology and Geomorphology

Study area is mainly composed of hornblende-biotite genesis and phroxene granulite, as shown in Figure 3.1. The lease area occurs in migmatite terrain.

Among the geomorphic units, shallow weathered/buried pediment and pediplain dominate the study area, as shown in Figure 3.2. The lease area occurs in shallow weathered/buried pediplain terrain.

3.1.2 Land Use/ Land Cover

Land Use and Land Cover (LULC) map, as shown in Figure 3.3 was prepared using Sentinel II image for the study area of 5 km radius to provide a baseline status of the study area covering 5 km radius around the proposed mine site. Totally, 6 LULCs were mapped. The areal extent of each LULC is provided in Table 3.2. Of the total area, mining area covers only 216.95 ha accounting for 2.84 %, of which lease area of 1.80.0 ha contributes only about 0.023 %. This small percentage of mining activities shall not have any significant impact on the land environment.

Table 3.2 LULC Statistics of the Study Area

S. No.	LU/LC Type	Extend (ha)	Percentage
1	Crop Land	6958.63	91.06
2	Dense Forest	65.87	0.86
3	Land with/without scrub	181.51	2.38
4	Mining/Industrial lands	216.95	2.84
5	Plantations	213.52	2.79
6	Settlement	5.29	0.07
Total		**7641.76**	**100.0**

Source: Sentinel II Satellite Imagery

3.1.3 Topography

The proposed lease area is located in a flat terrain with an altitude range of 201 m AMSL.

3.1.4 Drainage Pattern

Drainage pattern is the pattern formed by the streams, rivers, and lakes in a particular drainage basin over time that reveals characteristics of the kind of rocks and geological structures in a landscape. The proposed area shows dendritic drainage pattern indicating uniform lithology beneath the surface, as shown in Figure 3.4.

3.1.5 Seismic Sensitivity

The proposed lease area is situated in a Seismic Zone II, as defined by National Center for Seismology (Official Website of National Centre of Seismology). The Zone II is defined as the region where only minor damage is expected from seismic events. In this respect, the proposed lease area is located in a low earthquake hazard area.

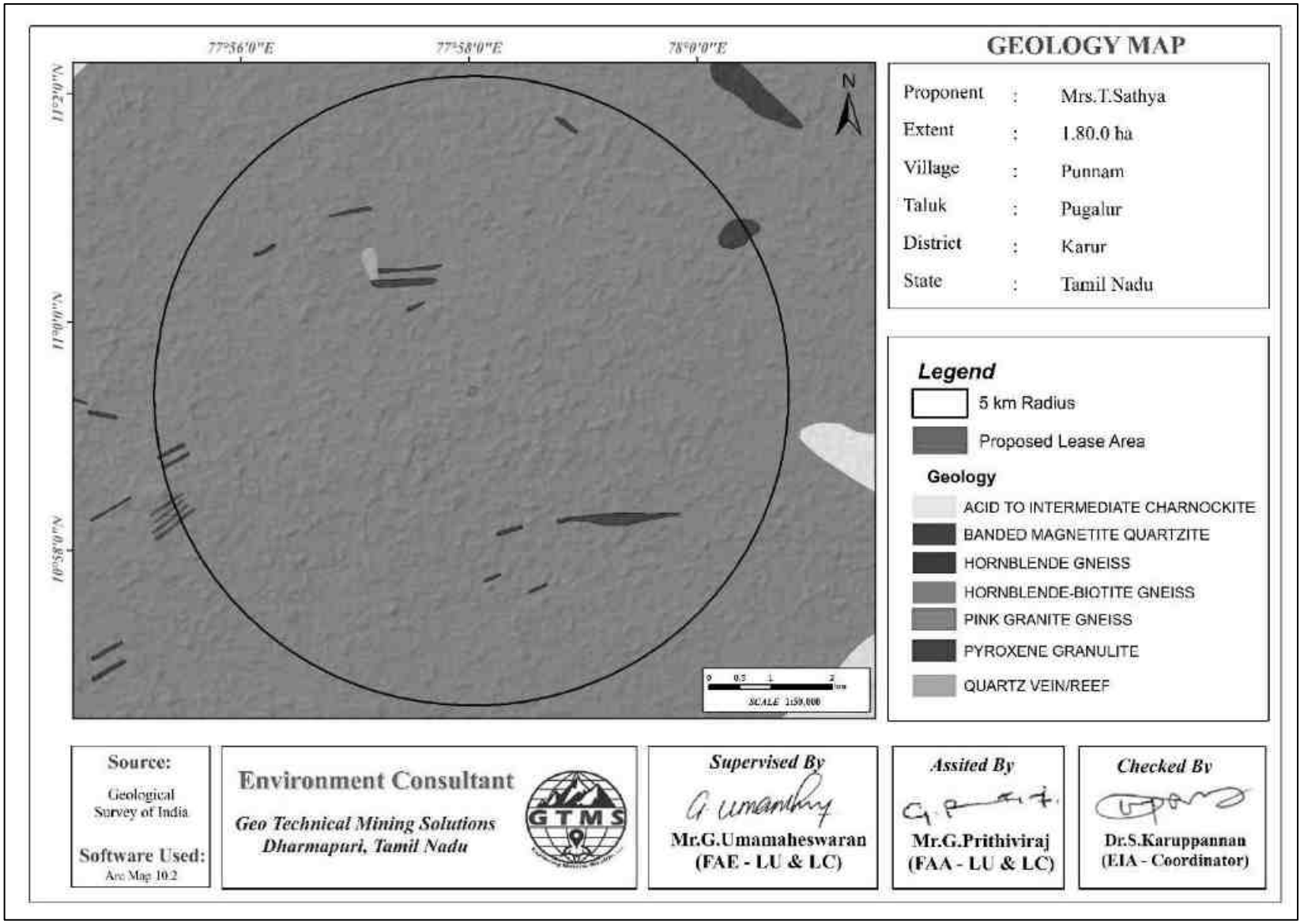


Figure 3.1 Geology Map of 5 km Radius from Proposed Project Site

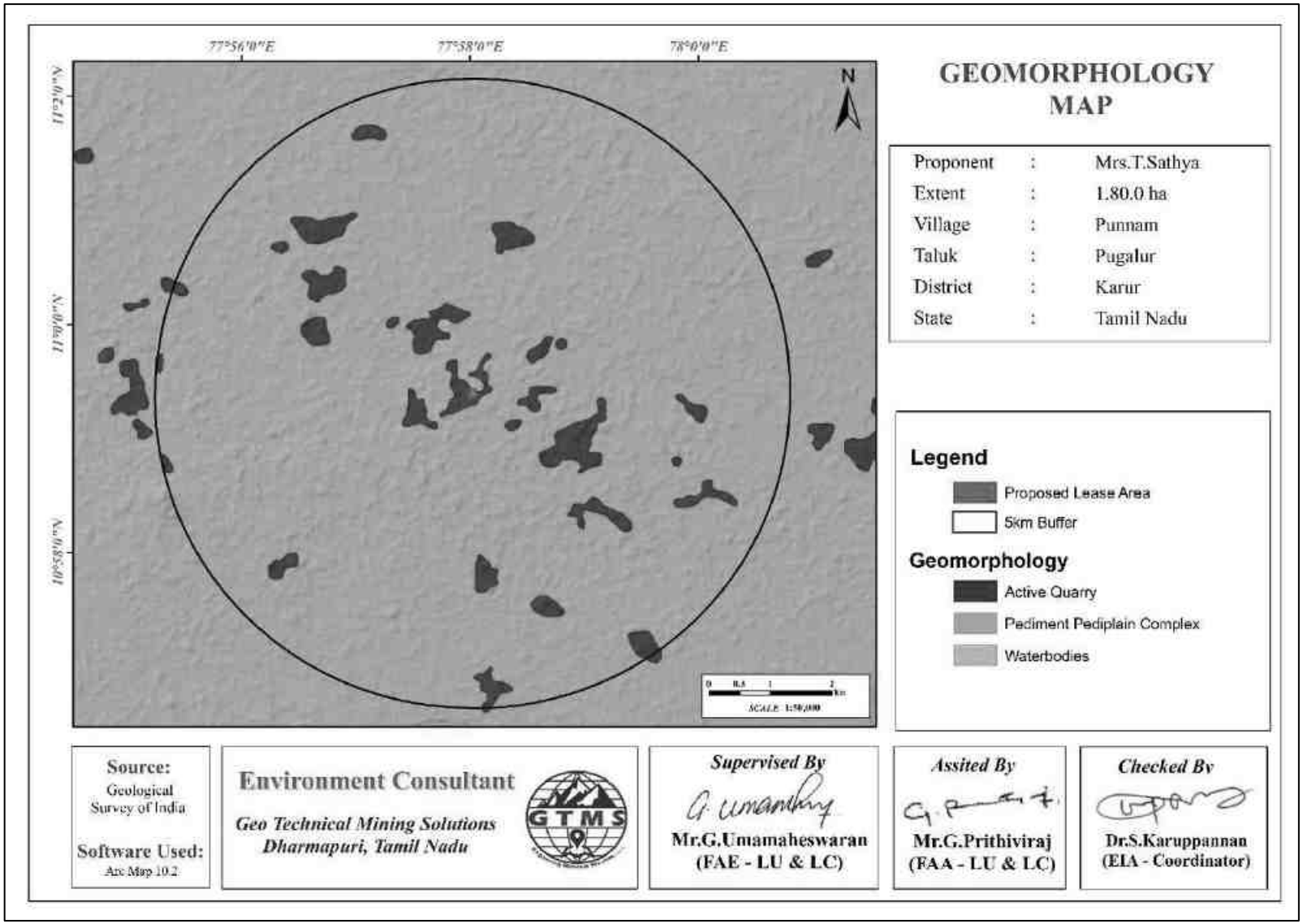


Figure 3.2 Geomorphology Map of 5 km Radius from Proposed Project Site

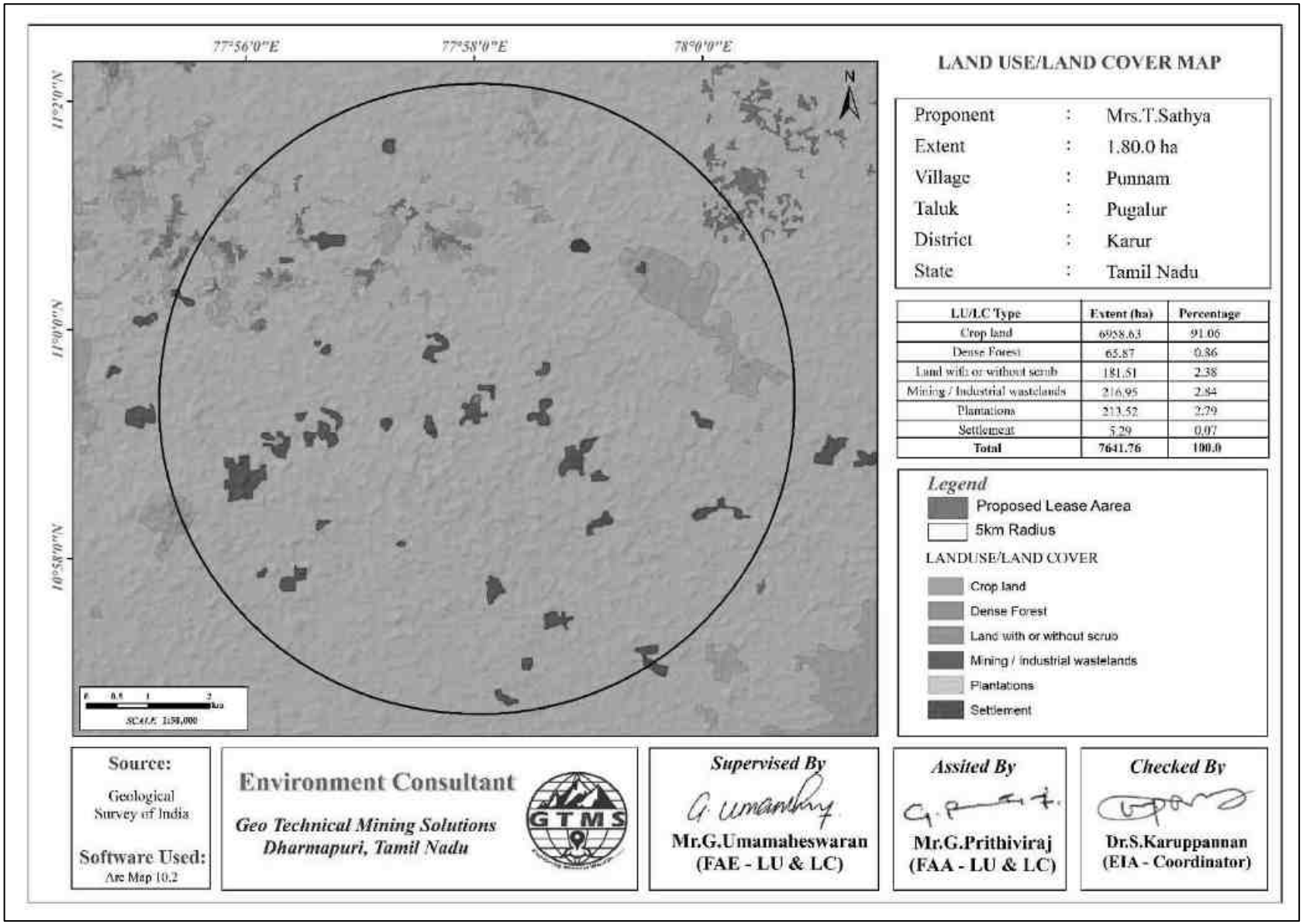


Figure 3.3 LULC Map of 5 km Radius from Proposed Project Site

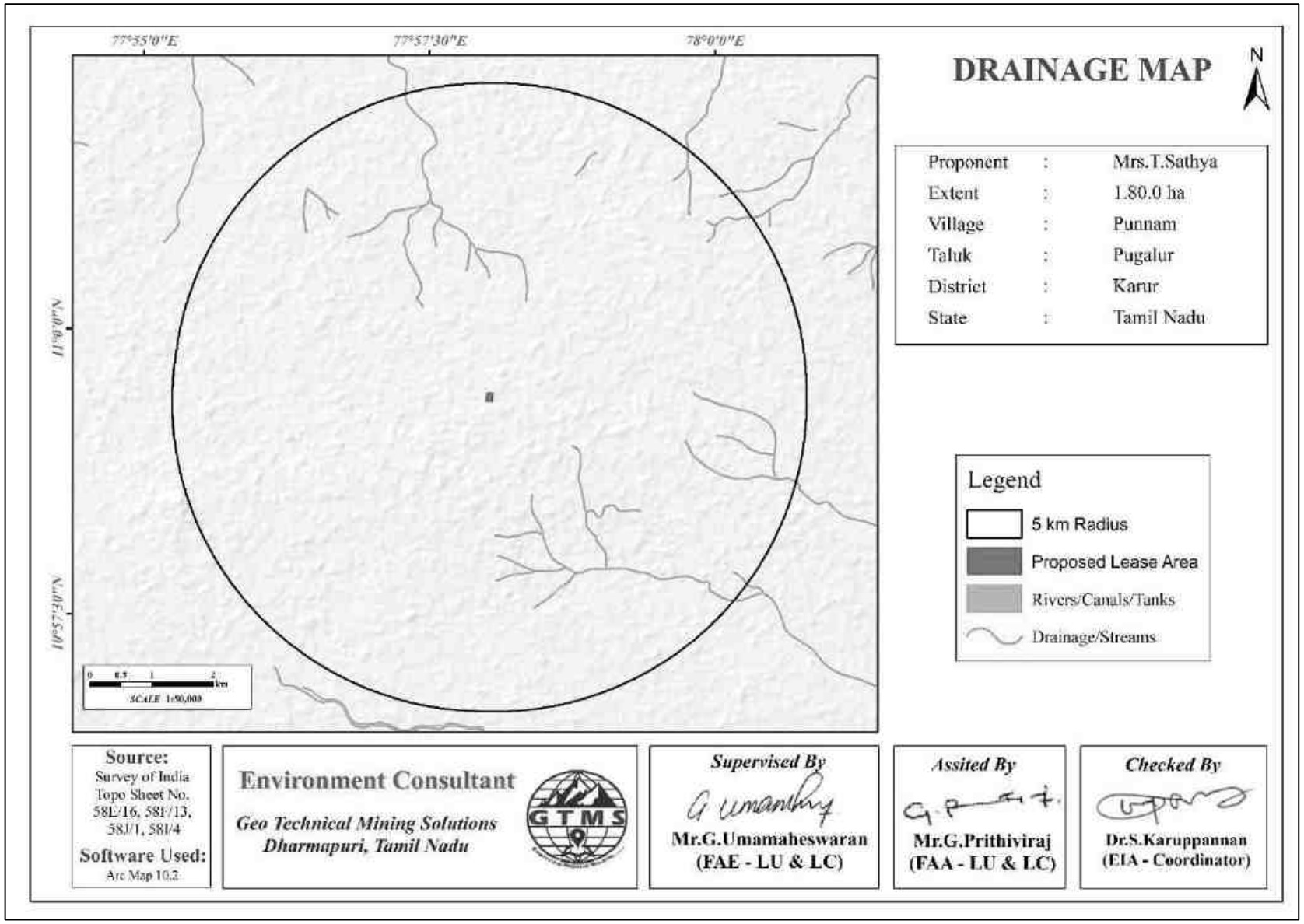


Figure 3.4 Drainage Map of 5 km Radius from Proposed Project Site

3.1.6 Soil

Composite soil samples were collected from 9 locations of the study area to determine the baseline soil characteristics of the soil. The locations were selected for soil sampling based on soil types, vegetative cover, and industrial & residential activities including infrastructure facilities. Soil samples were collected up to 90 cm depth, filled in polythene bags, coded and sent to laboratory for analysis. The locations of the sampling sites are shown in Table 3.3 and Figure 3.5. The samples thus collected were analysed for physical and chemical characteristics. The physical and chemical characteristic results of soil samples are provided in Table 3.4.

Table 3.3 Soil Sampling Locations

S.No.	Sampling ID	Location	Distance (km)	Direction	Coordinates
1	S01	Devaraj lease area	0.11	NW	10°56'65.11"N,77°56'57.14"E
2	S02	Vetamangalam	5.0	NW	11°2'4.11"N 77°56'57.26"E
3	S03	Uppupalayam	1.76	N	11°0'40.39"N,77°57'52.96"E
4	S04	Valipuram	4.75	NW	10° 59'7.30"N, 77°55'33.98"E
5	S05	Karudayampalayam	3.42	SSW	10°57'46.96"N 77°56'59.21"E
6	S06	Punnam	3.13	SE	10°59'14.77"N 77°59'46.45"E
7	S07	Punnam	4.01	NE	11°00'51.87"N 77°59'42.66"E
8	S08	Pavithram	4.41	SE	10°57'25.20"N 77°59'29.09"E
9	S09	Core	--	--	10°58'24.80"N 77°58'1.67"E

Source: On-site monitoring/sampling Excellence Laboratory, in association with GTMS.

Physical Characteristics & Chemical Characteristics

The soil samples in the study area sandy loam textures varying between, silty loam and sandy loam. pH of the soil varies from 6.5 to 7.7 indicating slightly acidic to slightly alkaline nature. Electrical conductivity of the soil varies from 161 to 338 µS/Cm. Bulk density ranges between 1.2 and 9.2 g/cm^3. Nitrogen ranges between 1.04 and 2.05 %. Potassium ranges between 0.12 and 0.27 %. Calcium ranges between 301 and 512 mg/kg. Organic matter content ranges between 0.25 and 4.2 %. Manganese ranges between 1.5 and 45 mg/kg.

Soil erosion

The soil erosion map shows in Figure 3.6 that there is no soil erosion in the mining lease area and moderate soil erosion in the southwest part of the lease area.

Soil Quality Assessment

Soil quality is the foundation of sustainable crop production. Soil quality assessment helps to understand soil conditions and adopt suitable production practices. It can be done using physical, chemical, and biological properties of soil. For this assessment, four soil quality parameters including PH, EC, OM, CEC and BD were taken into account. The soil quality score for each sample has been provided in Table 3.4a.

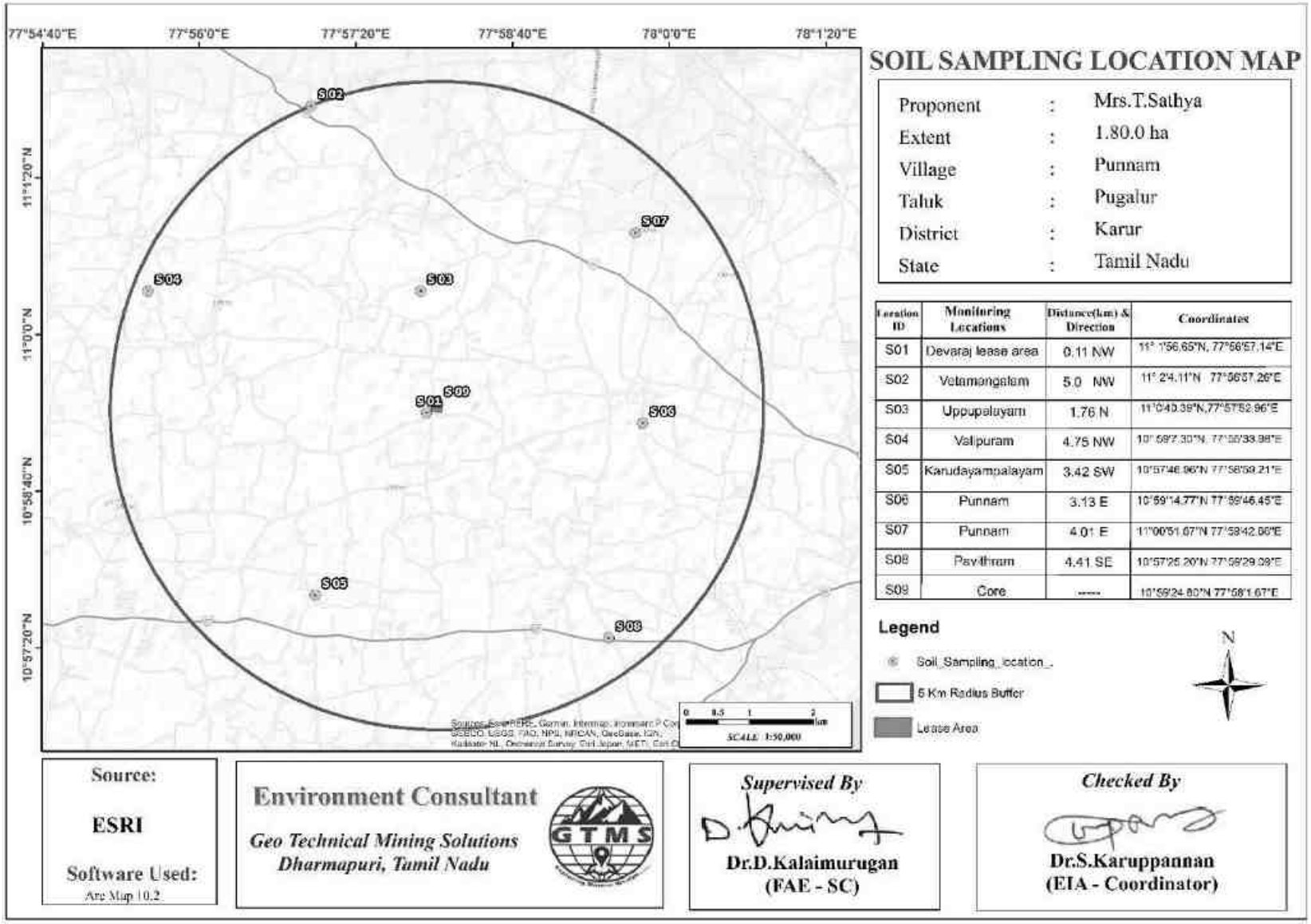


Figure 3.5 Toposheet Showing Soil Sampling Locations within 5 km Radius around Proposed Project Site

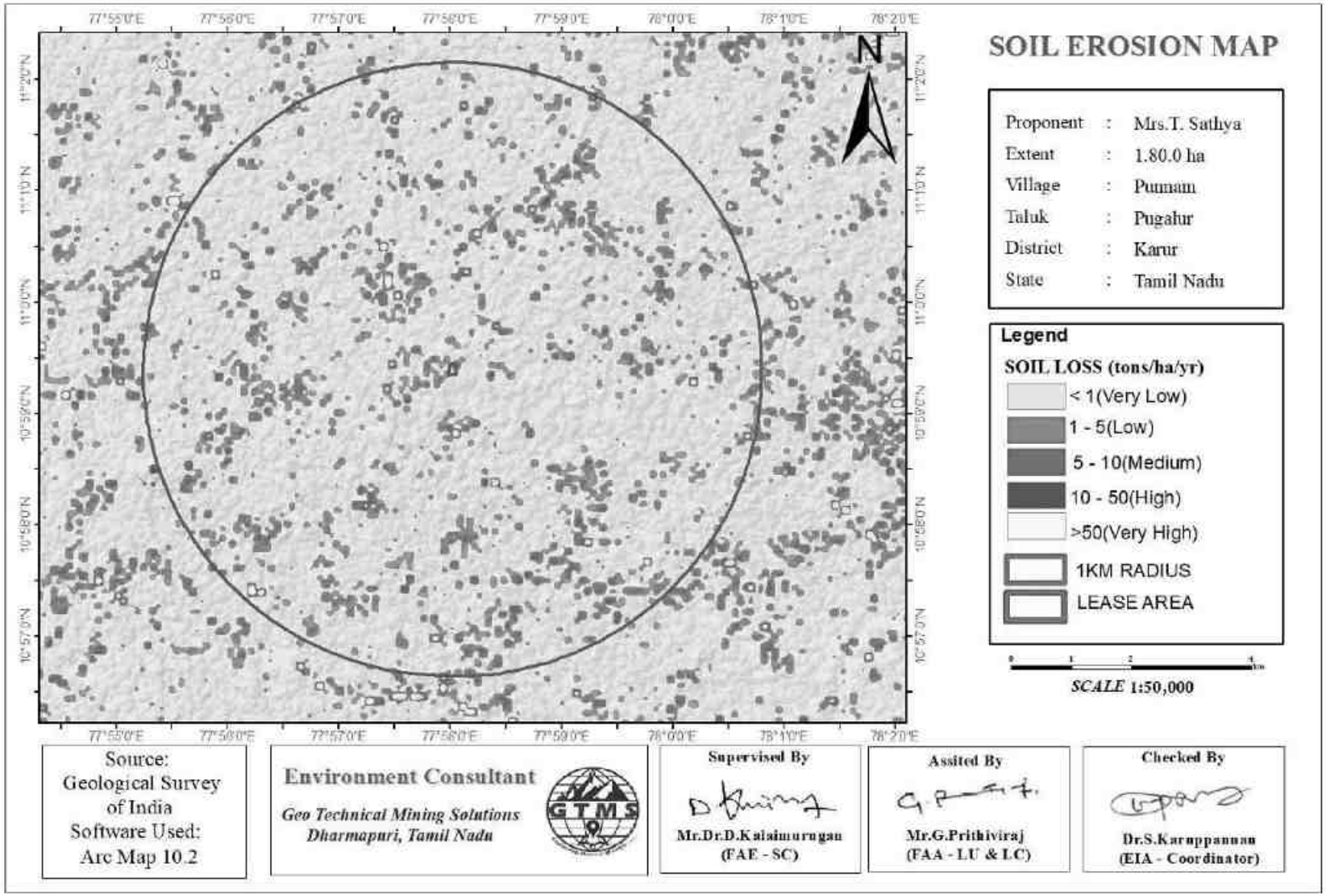


Figure 3.6 Soil Erosion map within 5 km Radius around the Proposed Project Site

Table 3.4 Soil Quality of the Study Area

S. No.	Parameters	Unit	Result in Core	Result in Buffer		
				Minimum	Maximum	Average
1	Bulk Density	g/cm^3	1.5	1.2	9.2	3.28
2	Cadmium (Cd)	mg/kg	<1.0	<1.0	<1.0	<1.0
3	CEC	meq%	14.5	14.8	24	20.11
4	Chromium (Cr)	mg/kg	<1.0	<1.0	<1.0	<1.0
5	Copper (Cu)	mg/kg	1.8	1.6	10	3.12
6	Iron (Fe)	mg/kg	7532	6432	37397	16944.63
7	Lead (Pb)	mg/kg	<1.0	<1.0	<1.0	<1.0
8	Manganese (Mn)	mg/kg	1.65	1.5	45	12.21
9	Nitrogen (N)	%	1.24	0.04	2.05	1.19
10	Organic Matter @ 155°C	%	1.23	0.25	4.2	1.50
11	pH value @ 25°C	--	7.1	6.5	7.7	7.18
12	Phosphate (P)	%	2.5	0.16	2.9	1.61
13	Potassium (K)	%	0.22	0.12	0.27	0.15
14	EC @ 25°C	µS/cm	168	161	338	229.75
15	Total Carbon	%	6.5	2	17.4	5.78
16	Sulphates (SO_4)	%	0.48	0.15	0.73	0.39
17	Zinc (Zn)	mg/kg	18	17	31	22.88
18	Boron (B)	mg/kg	0.42	0.32	0.84	0.59
19	Calcium (Ca)	mg/kg	356	301	513	380.50
20	Chlorides (Cl)	mg/kg	214	160	318	231.88
21	Magnesium (Mg)	mg/kg	142	110	180	145.25
22	Texture	-	Sandy loam	Sandy loam- Silty Clay Loam		
23	Sand	%	53.40	16.23	55.45	34.51
24	Silt	%	28.15	12.21	58.58	42.64
25	Clay	%	19.45	12.34	37.43	22.85

Source: Sampling Results by *Excellence Laboratory, in association with GTMS.*

Table 3.4a Assigning Scores to Soil Quality Indicators

Soil Quality Score							
S. No.	OM	BD	PH	CEC	EC	**Total Score**	**Recommendation**
S01	30	12	12	6	10	70	The soil requires major and immediate treatment
S02	30	6	12	6	10	64	
S03	30	2	12	6	10	60	
S04	30	12	12	6	10	70	
S05	30	2	18	6	10	66	
S06	30	2	18	2	10	62	
S07	30	2	12	6	10	60	
S08	50	2	18	2	10	82	The soil requires moderate treatment
S09	30	12	12	6	10	70	The soil requires major and immediate treatment

OM (Organic Matter) BD (Bulk Density) pH (Potential of Hydrogen) EC (Electrical Conductivity)

Source: PSS-2262 Soil Quality Monitoring.pdf (okstate.edu)

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 baseline quality of surface and ground water.

Table 3.5 Water Sampling Locations

S. No.	Sampling ID	Location	Distance (km)	Direction	Coordinates
1	OW01	Near core	0.04	N	10°59'30.44"N,77°58'1.36"E
2	OW02	Arasampalaiyam	3.32	NNW	11°0'42.51"N,77°56'45.26"E
3	BW01	MGR Nagar	3.19	SW	10°58'50.44"N,77°55'53.77"E
4	BW02	Vedirimattam Pudur	4.87	NE	11°02'3.05"N,77°54'80.38"E
5	BW03	Punnamchatram	2.94	NE	11°0'50.37"N,77°58'49.79"E
6	BW04	Pavithiram	3.13	SE	10°58'16.75"N,77°59'23.38"E
7	BW05	Punnam	1.41	E	10°59'15.94"N,77°58'49.13"E
8	BW06	Nedungur	4.22	SSW	10°57'17.64"N,77°56'58.86"E

Source: On-site monitoring/sampling Excellence Laboratory, in association with GTMS.

3.2.1 Ground Water Resources and Quality

Groundwater in the study area occurs in the crystalline rocks of Archaean age and recent alluvium. The movement of the groundwater is controlled by the intensity of weathering and fracturing of crystalline rocks. Dug wells and bore wells are the most common ground water abstraction structures in the area. However, in dry season, people in the study area heavily rely on bore wells for their domestic and agriculture purpose.

Eight groundwater samples, known as OW01, OW02, BW01, BW02, BW03, BW04, BW05 and BW06 were collected from bore wells and open wells were analysed for physico-chemical conditions, heavy metals and bacteriological contents in order to assess baseline quality of ground water. Ground water sampling locations and their distance and direction from the lease area are provided in Table 3.5 and the spatial occurrence of water sampling locations is shown in Figure 3.7. Table 3.6 summarizes ground water quality data of the eight samples.

Results for ground water samples in the Table 3.6 indicate that the physical, chemical and biological parameters are within permissible limits in comparison with standards of IS10500:2012.

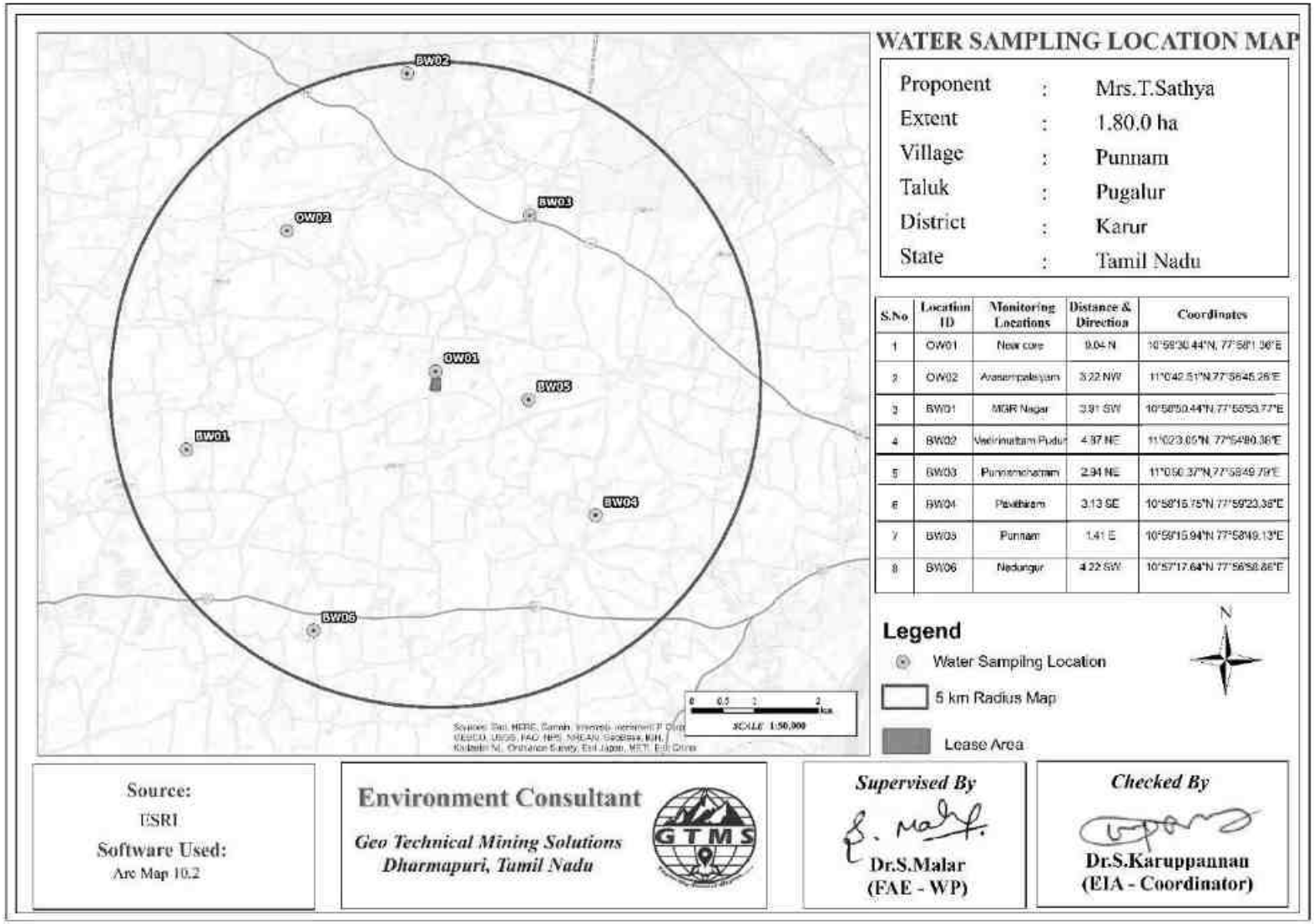


Figure 3.7 Toposheet Showing Water Sampling Locations within 5 km Radius around Proposed Project Site

Table 3.6 Ground Water Quality Result

S.No.	Parameters	Units	Result in core	Result in buffer		10500:2012 (Acceptable)	10500:2012 (Permissible)
				Minimum	Maximum		
1	*Coliforms Bacteria*	MPN	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
2	*E.Coli*	MPN	Absent	Absent	Absent	Shall not be detectable in any 100 ml sample	Shall not be detectable in any 100 ml sample
3	Aluminium (Al)	mg /l	<0.02	<0.02	<0.02	0.03	0.2
4	Ammonia (NH_3)	mg /l	<0.1	<0.1	<0.1	0.5	No relaxation
5	Anionic Detergents	mg /l	<0.01	<0.01	<0.01	0.2	1.0
6	Barium (Ba)	mg /l	<0.1	<0.1	<0.1	0.5	No relaxation
7	Boron (B)	mg /l	<0.1	<0.1	<0.1	0.5	1.0
8	Cadmium (Cd)	mg /l	<0.003	<0.003	<0.003	0.003	No relaxation
9	Calcium (Ca)	mg /l	112	58	146	75	200
10	Chloride (Cl)	mg /l	187	175	297	250	1000
11	Colour	Hazen	<1.0	<1.0	<1.0	5	15
12	Copper (Cu)	mg/l	<0.02	<0.02	<0.02	0.05	1.5
13	Cyanide (CN)	mg/l	<0.02	<0.02	<0.02	0.05	No relaxation
14	Fluoride (F)	mg/l	1.1	0.19	1.2	1.0	1.5
15	Free Residual Chlorine (RFC)	mg/l	<0.1	<0.1	<0.1	0.2	1.0
16	Iron (Fe)	mg/l	<0.05	<0.05	<0.05	0.3	No relaxation
17	Lead (Pb)	mg/l	<0.01	<0.01	<0.01	0.01	No relaxation

18	Magnesium (Mg)	mg/l	27	14	75	30	100
19	Manganese (Mn)	mg/l	<0.01	<0.01	<0.01	0.1	0.3
20	Mercury (Hg)	mg/l	<0.001	<0.001	<0.001	0.001	No relaxation
21	Molybdenum	mg/l	<0.05	<0.05	<0.05	0.07	No relaxation
22	Nitrate (NO_3)	mg/l	2.5	1.9	6.3	45	No relaxation
23	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
24	pH value @ 25°C	--	7.6	6.7	7.9	6.5-8.5	No relaxation
25	Phenolic Compounds	mg/l	<0.001	<0.001	<0.001	0.001	0.002
26	Selenium (Se)	mg/l	<0.01	<0.01	<0.01	0.01	No relaxation
27	EC @ 25°C	µS/Cm	1240	1340	3570	-	-
28	Sulphates (SO_4)	mg/l	111	102	247	200	400
29	Sulphide (H_2S)	mg/l	<0.05	<0.05	<0.05	0.05	No relaxation
30	Total Alkalinity	mg/l	245	283	615	200	600
31	Arsenic (As)	mg/l	<0.005	<0.005	<0.005	0.01	0.05
32	Chromium (Cr)	mg/l	<0.05	<0.05	<0.05	0.05	No relaxation
33	TDS	mg/l	654	560	1753	500	2000
34	TH ($CaCO_3$)	mg/l	388	204	1022	200	600
35	TSS @ 105°C	mg/l	<5.0	<5.0	<5.0	-	-
36	Turbidity	NTU	<0.01	<0.01	<0.01	1	5
37	Zinc (Zn)	mg/l	<0.05	<0.05	<0.05	5	15

* IS: 10500:2012-Drinking Water Standards. The water can be used for drinking purpose in the absence of alternate sources.

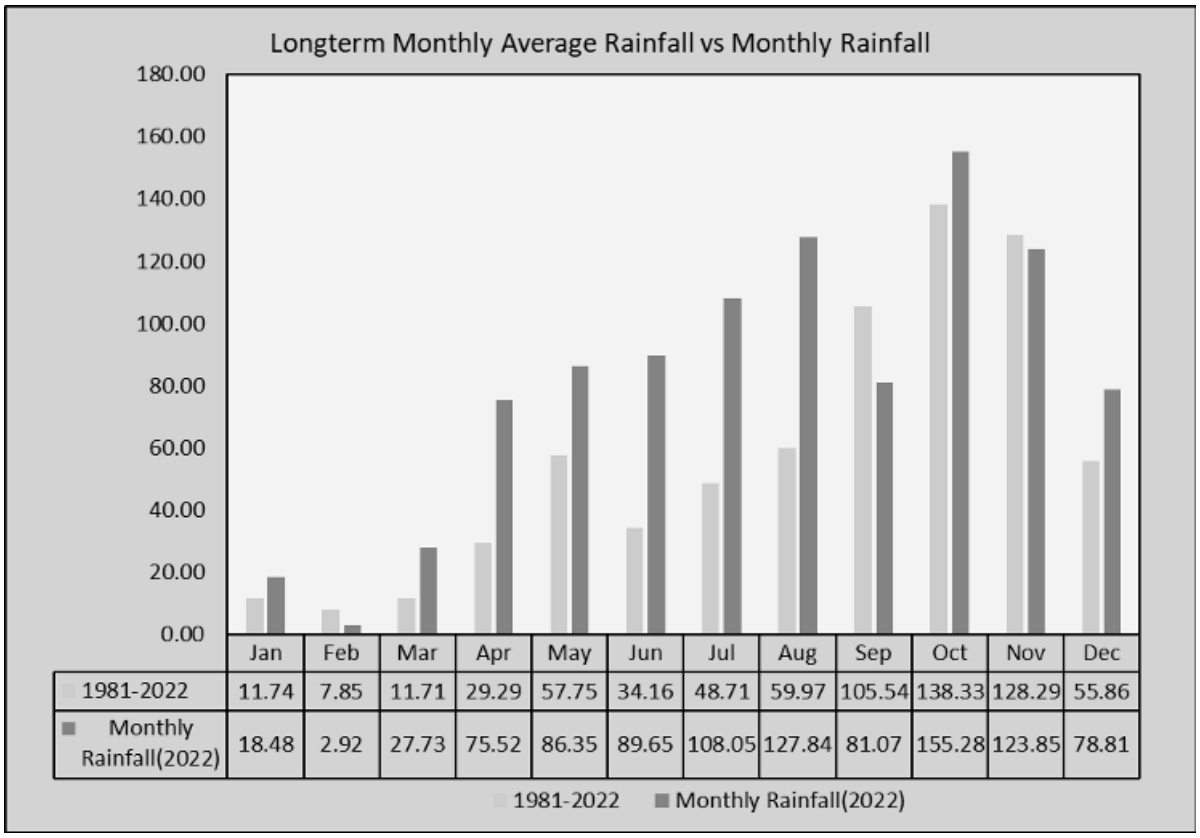
Source: On-site monitoring/sampling Excellence Laboratory, in association with GTMS.

3.2.2 Hydrogeological Studies

The area within 2 km radius consists of numerous open wells and deep wells. Groundwater level data were collected both from open wells and bore wells for two monsoon seasons as discussed in the following section.

3.2.2.1 Rainfall

Rainfall data for the study area were collected for the period of 1981-2022(POWER | Data Access Viewer (nasa.gov)). Long term monthly average rainfall was estimated from the data of 1981-2022 and compared with the monthly rainfall for the year 2022, shown in Figure 3.8. The Figure 3.13 shows that rainfall is generally high in the months of September through November in every year. Particularly, rainfall in April through August and October of 2022 is higher than the previous years.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1981-2022	11.74	7.85	11.71	29.29	57.75	34.16	48.71	59.97	105.54	138.33	128.29	55.86
Monthly Rainfall(2022)	18.48	2.92	27.73	75.52	86.35	89.65	108.05	127.84	81.07	155.28	123.85	78.81

Figure 3.8 Long-Term Monthly Average Rainfall Vs Monthly Rainfall

3.2.2.2 Groundwater Levels and Flow Direction

Data regarding depth to groundwater levels are essential to infer the direction of groundwater movement within the study area. Knowledge of groundwater flow direction is must in choosing location for background groundwater quality monitoring well and in locating recharge and discharge areas. Therefore, data regarding groundwater elevations were collected from 9 open wells and 9 bore wells at various locations within 2 km radius around the proposed project sites for the period from March through May 2023 (Pre-Monsoon Season) and from October through December 2023, (Post Monsoon Season).

The open well water level data thus collected onsite are provided in Tables 3.7 and 3.8. According to the data, average depths to the static water table in open wells range from 14.2 to 16.3 m BGL in pre monsoon and 10.6 to 11.3 m BGL in post monsoon. The bore well data thus

collected onsite are provided in Tables 3.9 and 3.10. The average depths to static potentiometric surface in bore wells for the period of October through December (Post-Monsoon Season) vary from 62.3 to 67.3 m and from 63.7 to 70.7 m for the period of March through May, (Pre-Monsoon Season). Data on the depths to static water table and potentiometric surface were used to draw contour lines connecting groundwater elevation (also known as equipotential hydraulic head) to determine the groundwater flow direction perpendicular to the contour lines.

Table 3.7 Pre-Monsoon Water Level of Open Wells within 2 km Radius

Station ID	Depth to Static Water Table BGL (m)				Latitude	Longitude
	Mar-2023	Apr-2023	May-2023	Average		
OW01	9.5	10.9	11.5	10.6	11° 0'9.19"N	77°57'21.43"E
OW02	10.5	11.7	12.5	11.5	11° 0'5.12"N	77°57'12.82"E
OW03	9.7	10.9	11.5	10.7	10°59'37.58"N	77°57'22.04"E
OW04	11	12.5	13.5	12.3	11° 0'7.08"N	77°58'18.74"E
OW05	10.5	11.7	12.9	11.7	10°59'47.33"N	77°57'54.37"E
OW06	12.7	13	13.5	13	10°59'41.53"N	77°59'0.97"E
OW07	13	14.5	15	14.1	10°58'51.51"N	77°57'56.17"E
OW08	10.6	11.9	12.4	11.6	10°58'59.07"N	77°59'6.91"E
OW09	12.7	13.5	14.5	13.5	10°58'25.98"N	77°57'47.58"E

Source: Onsite monitoring data

Table 3.8 Post-Monsoon Water Level of Open Wells within 2 km Radius

Station ID	Depth to Static Water Table BGL(m)				Latitude	Longitude
	Oct-2023	Nov- 2023	Dec-2023	Average		
OW01	12.5	11.9	10.4	20.00	11° 0'9.19"N	77°57'21.43"E
OW02	13.4	12.8	11.5	21.00	11° 0'5.12"N	77°57'12.82"E
OW03	12.2	11.5	10.2	19.00	10°59'37.58"N	77°57'22.04"E
OW04	14.5	13.5	12.4	18.00	11° 0'7.08"N	77°58'18.74"E
OW05	13.7	12.4	11.5	21.00	10°59'47.33"N	77°57'54.37"E
OW06	15.5	14.5	13.7	17.00	10°59'41.53"N	77°59'0.97"E
OW07	16.7	15.5	14.7	19.00	10°58'51.51"N	77°57'56.17"E
OW08	17.4	16.9	15.6	18.00	10°58'59.07"N	77°59'6.91"E
OW09	16.9	15.5	14.7	17.68	10°58'25.98"N	77°57'47.58"E

Source: Onsite monitoring data

Table 3.9 Pre-Monsoon Water Level of Bore Wells within 2 km Radius

Station ID	Depth to Static Potentiometric Surface BGL(m)				Latitude	Longitude
	Mar-2023	Apr-2023	May- 2023	Average		
BW01	65	66.5	68	66.1	11° 0'7.86"N	77°57'44.93"E
BW02	64.5	65.7	66.5	65.6	11° 0'1.38"N	77°58'16.31"E
BW03	65	66.2	67.5	66.2	10°59'26.65"N	77°58'19.99"E
BW04	66.2	67	68	67	10°59'40.40"N	77°57'9.97"E
BW05	66	67.5	68.5	67.3	10°59'18.39"N	77°56'48.72"E
BW06	61	62.5	63.5	62.3	11° 0'8.04"N	77°58'51.80"E
BW07	64.5	65	66	65.1	10°59'38.51"N	77°59'0.43"E
BW08	65.3	66.5	67.5	66.4	10°58'23.57"N	77°58'21.53"E

Source: Onsite monitoring data

Table 3.10 Post-Monsoon Water Level of Bore Wells within 2 km Radius

Station ID	Depth to Static Potentiometric Surface BGL(m)				Latitude	Longitude
	Oct-2023	Nov-2023	Dec-2023	Average		
BW01	69.7	68.5	67.2	68.4	11° 0'7.86"N	77°57'44.93"E
BW02	67.5	66.7	65.5	66.5	11° 0'1.38"N	77°58'16.31"E
BW03	68.9	77.2	66.2	70.7	10°59'26.65"N	77°58'19.99"E
BW04	69.7	68.2	67.2	68.3	10°59'40.40"N	77°57'9.97"E
BW05	69.5	68	67	68.1	10°59'18.39"N	77°56'48.72"E
BW06	64.7	63.5	62.2	63.4	11° 0'8.04"N	77°58'51.80"E
BW07	67.9	66.7	65.5	66.7	10°59'38.51"N	77°59'0.43"E
BW08	68.7	67.5	66.3	67.5	10°58'23.57"N	77°58'21.53"E

Source: Onsite monitoring data

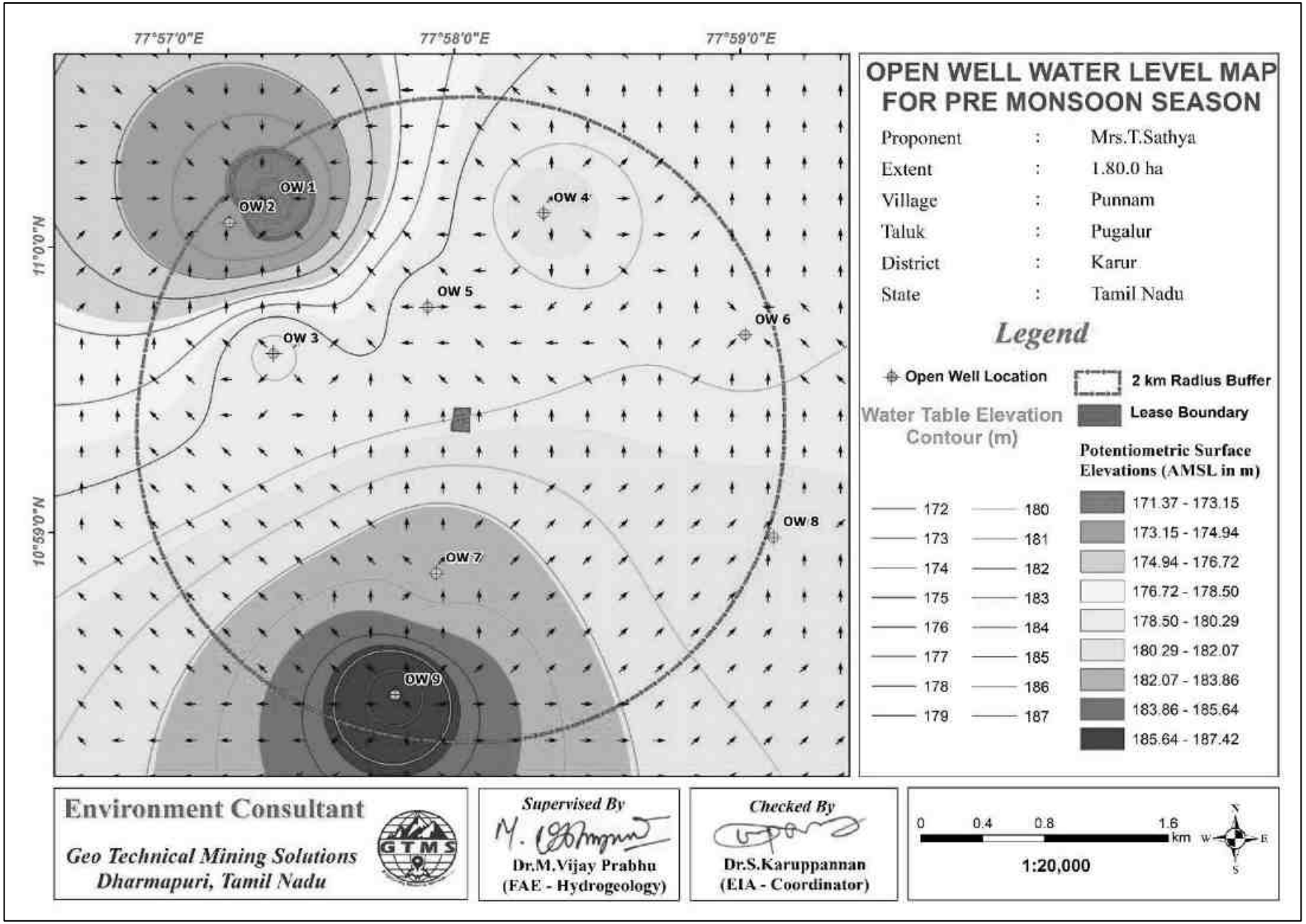


Figure 3.9 Open Well Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Pre-Monsoon Season

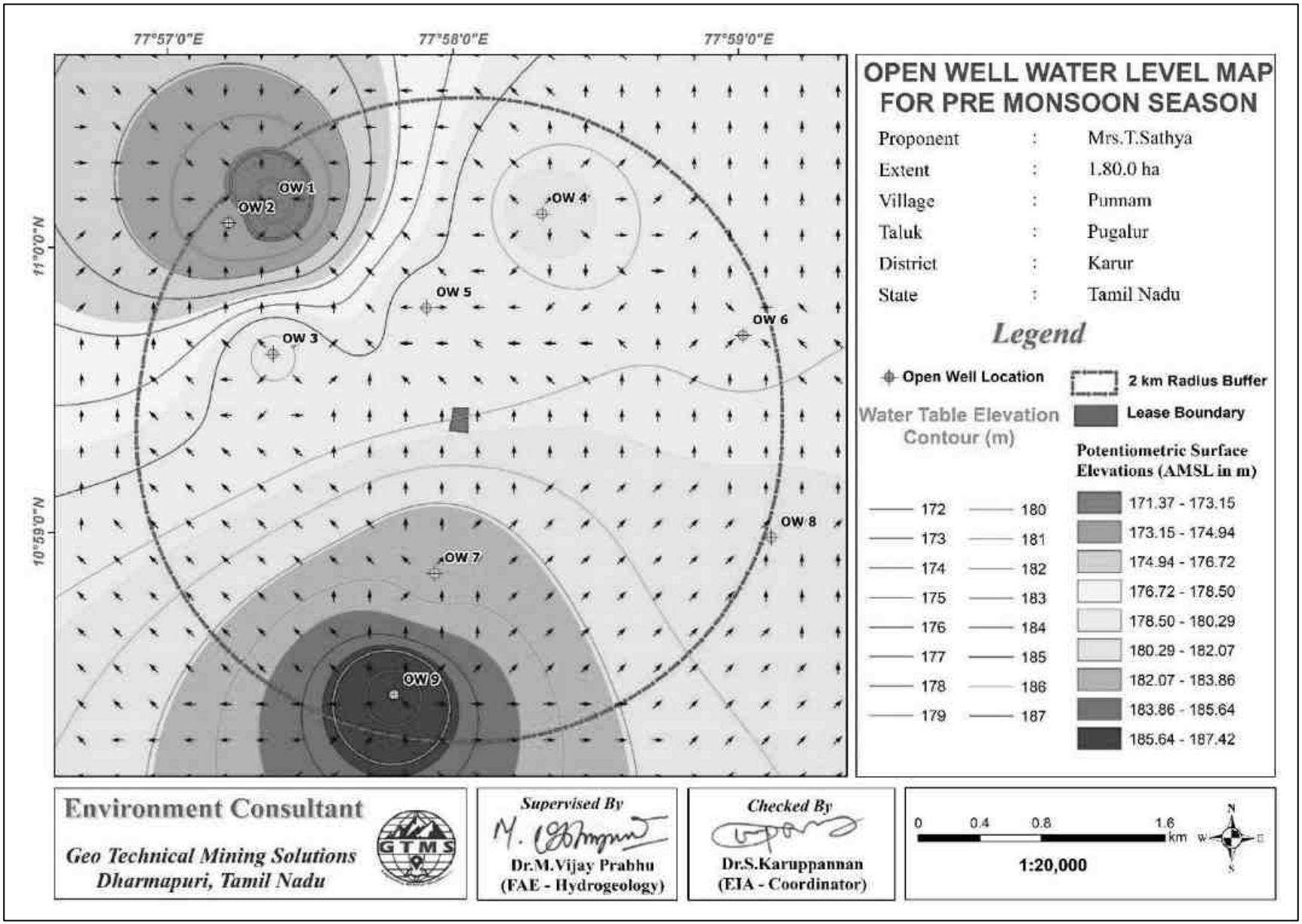


Figure 3.10 Open Well Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Post-Monsoon Season

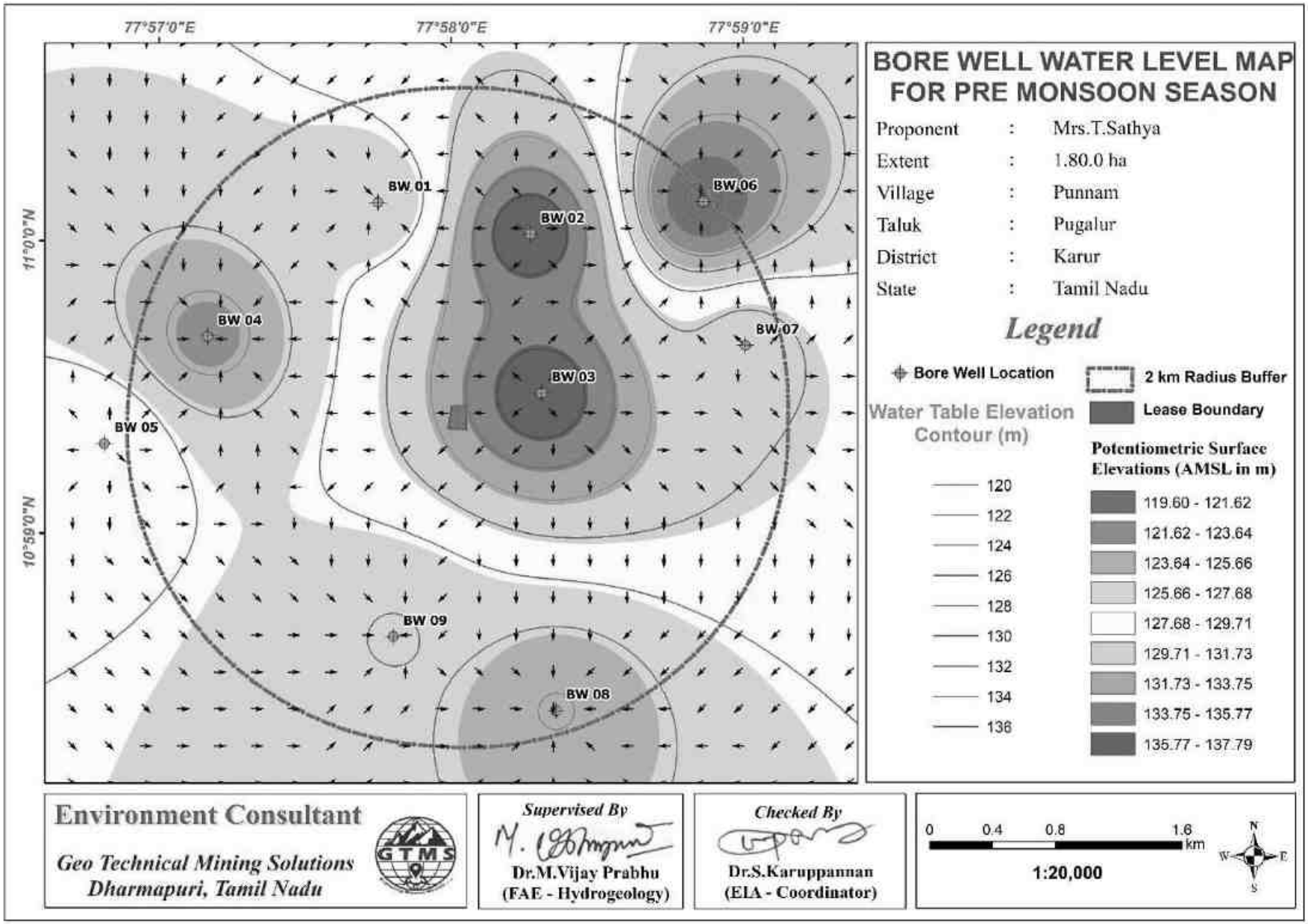


Figure 3.11 Borewell Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Pre-Monsoon Season

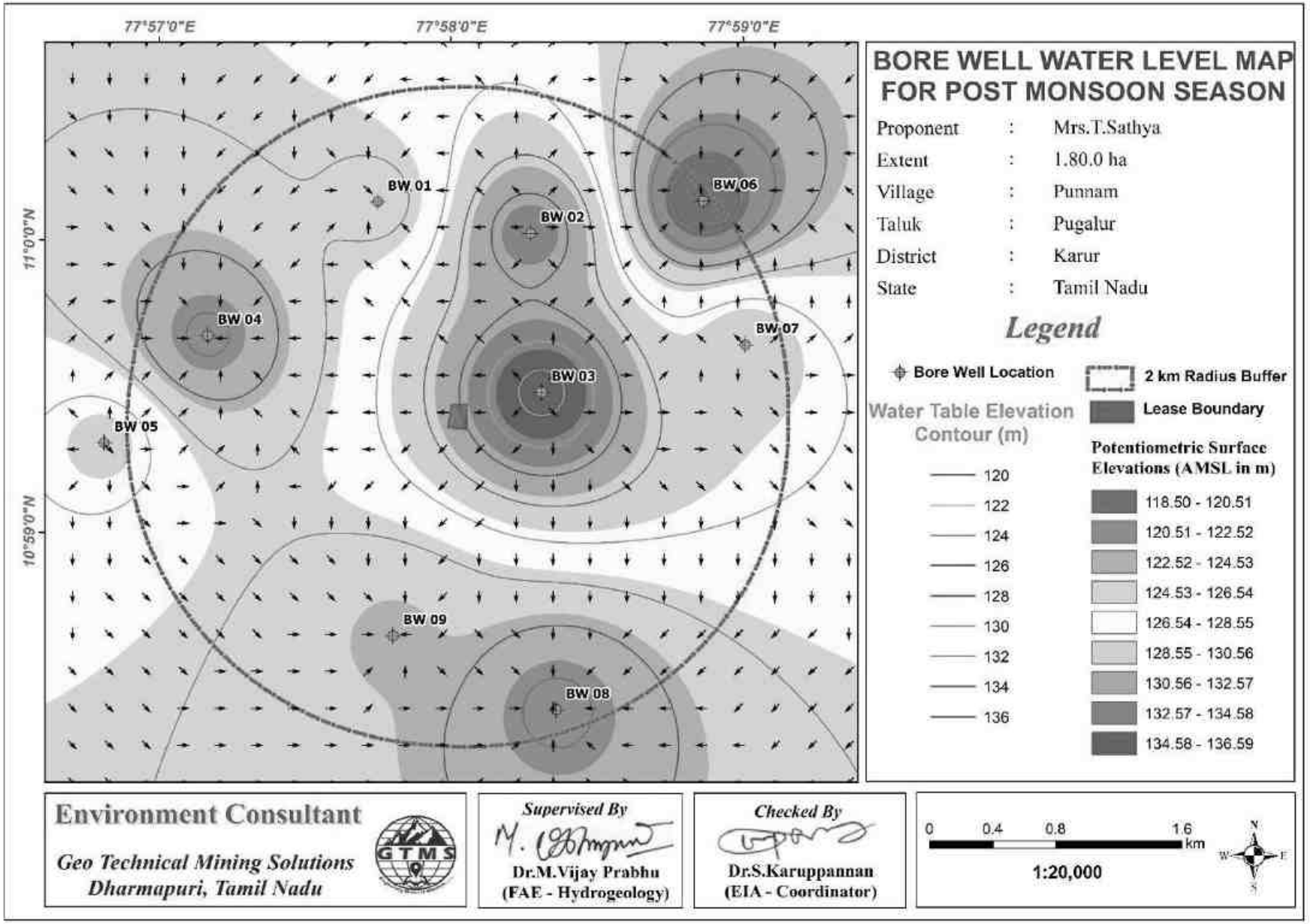


Figure 3.12 Borewell Static Groundwater Elevation Map Showing Direction of Groundwater Flow during Post-Monsoon Season

3.2.2.3 Electrical Resistivity Investigation

Electrical resistivity investigation is especially useful in the areas where there are no adequate exploratory well data about the aquifer conditions. The present study makes use of vertical electric sounding (VES) to delineate earth's subsurface layers. The electrical resistivity investigation uses four electrodes set up where current is sent through outer electrodes into the ground and the inner electrodes measure the potential difference.

Result

The Geophysical VES data obtained from the project site have been shown in Table 3.11. The field data obtained from a detailed geophysical investigation were plotted using excel spreadsheet for interpretation. The plot for the purpose of interpretation has been shown in Figure 3.13.

Table 3.11 Vertical Electrical Sounding Data

Location Coordinates - 10°58'50.14"N 77°56'10.61"E					
S. No.	**AB/2 (m)**	**MN/2 (m)**	**Geometrical Factor (G)**	**Resistance in Ω**	**Apparent Resistivity in Ωm**
1	2	2	11.78	0.89	156.06
2	4	2	49.46	8.07	303.04
3	6	5	112.26	28.51	441.97
4	8	5	200.18	71.54	560.1
5	10	5	75.36	8.38	678.01
6	15	10	173.49	33.44	900.07
7	20	10	310.86	87.37	1106.04
8	25	10	487.49	187.28	1268.94
9	30	10	274.75	54.94	1374.02
10	35	10	376.8	97.04	1463.11
11	40	10	494.55	156.50	1562.78
12	45	10	628	234.07	1684.92
13	50	10	777.15	399.97	1710.95
14	55	20	453.6	204.97	1462.22
15	60	20	989.1	373.10	1973.82
16	65	20	1256	1251.00	2662.33
17	70	20	1554.3	841.98	2869.24
18	80	20	1653.6	747.22	3659.42

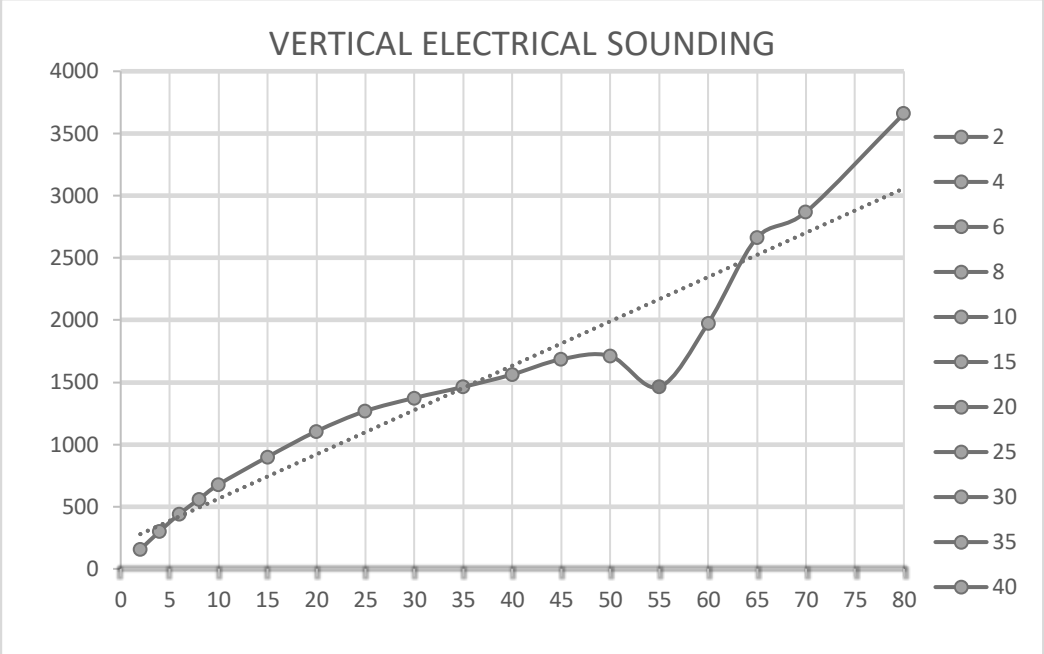


Figure 3.13 Graph Showing Occurrence of Water Bearing Fracture Zones at the Depth of 55 m Below Ground Level in Proposed Project

The rock formation of low resistivity values indicates occurrence of water at the depth of about 55 m below ground level. The maximum depth proposed for the proposed project is 25 m below ground level. Therefore, the mining operation will not affect the aquifer throughout the entire mine life period.

3.3 AIR ENVIRONMENT

The baseline studies on air environment include identification of specific air pollutants and their existing levels in ambient air. The sources of air pollution in the region are mostly due to vehicular traffic, dust arising from unpaved village road and domestic & agricultural activities.

3.3.1 Meteorology

3.3.1.1 Climatic Variables

A temporary meteorological station was installed at the project sites by covering cluster quarries. The station was installed at a height of 3 m above the ground level as there are no obstructions facilitating flow of wind, wind speed, wind direction, humidity and temperature. Meteorological data obtained from the onsite monitoring station are provided in Table 3.12.

According to the onsite data, the temperature in October,2023 varied from 21.74 to 37.41^{0}C with the average of 27.75^{0}C; in November, 2023 from 20.08 to 32.32^{0}C with the average of 26.08^{0}C; and in December ,2023 from 18.16 to 33.01^{0}C with the average of 25.13^{0}C. In October,2023, relative humidity ranged from 22.38 to 98.19% with the average of 72.91%;

in November, 2023, from 46.12 to 100 % with the average of 82.71%; and in December,2023, from 44.19 to 100% with the average of 81.02%. The wind speed in October,2023 varied from 0.02 to 9.47 m/s with the average of 2.29 m/s; in November, 2023 from 0.50 to 6.92 m/s with the average of 2.63 m/s; and in December,2023 from 0.05 to 7.37m/s with the average of 3.24m/s. In October,2023, wind direction varied from 3.99 to 359.75^0 with the average of 157.64^0; in November, 2023, from 0.00 to 359.23^0 with the average of 81.70^0; and in December,2023, 0.85 to 357.87^0 with the average of 89.41^0. In October,2023, surface pressure varied 98.04 to 99.01 kPa with the average of 98.61kPa; in November, 2023, from 98.24 to 99.07 kPa with the average of 98.66kPa; and in December,2023, from 98.02 to 99.25 kPa with the average of 98.70kPa

Table 3.12 Onsite Meteorological Data

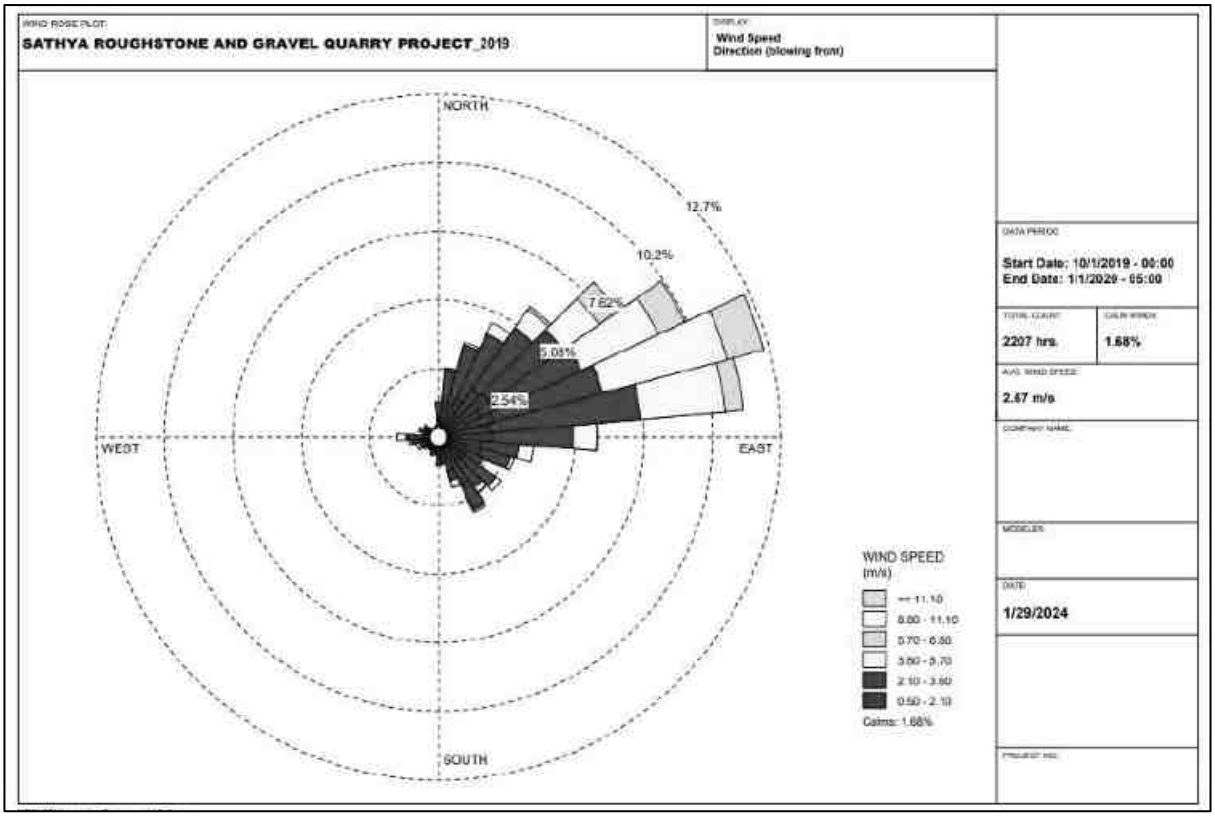
S. No.	Parameters		OCT,2023	NOV,2023	DEC,2022
1	Temperature (^{0}C)	Min	21.74	20.08	18.16
		Max	37.41	32.82	33.01
		Avg	27.75	26.08	25.13
2	Relative Humidity (%)	Min	22.38	46.12	44.19
		Max	98.19	100.00	100.00
		Avg	72.91	82.71	81.02
3	Wind Speed (m/s)	Min	0.02	0.50	0.05
		Max	9.47	6.92	7.37
		Avg	2.29	2.63	3.24
4	Wind Direction (degree)	Min	3.99	0.00	0.85
		Max	359.71	359.23	357.87
		Avg	157.64	81.70	89.41
5	Surface Pressure(kPa)	Min	98.04	98.24	98.02
		Max	99.01	99.07	99.25
		Avg	98.61	98.66	98.70

Source: On-site monitoring/sampling by ***Excellence Laboratory*** *in association with GTMS*

3.3.1.2 Wind Pattern

Wind pattern will largely influence the dispersion pattern of air pollutants and noise from the proposed project site. Analysis of wind pattern requires hourly site-specific data of wind speed and direction. Two types of wind rose were generated: historical seasonal wind rose for the period of October through December of the years from 2019 to 2022 and the seasonal wind rose for the study period of October through December 2023. The wind rose diagrams thus produced are shown in Figures 3.14-3.14a. Figure 3.15 reveals that:

- ❖ The measured average wind velocity during the study period is 2.72m/s.
- ❖ Predominant wind was dominant in the directions ranging from Northeast to Southeast.



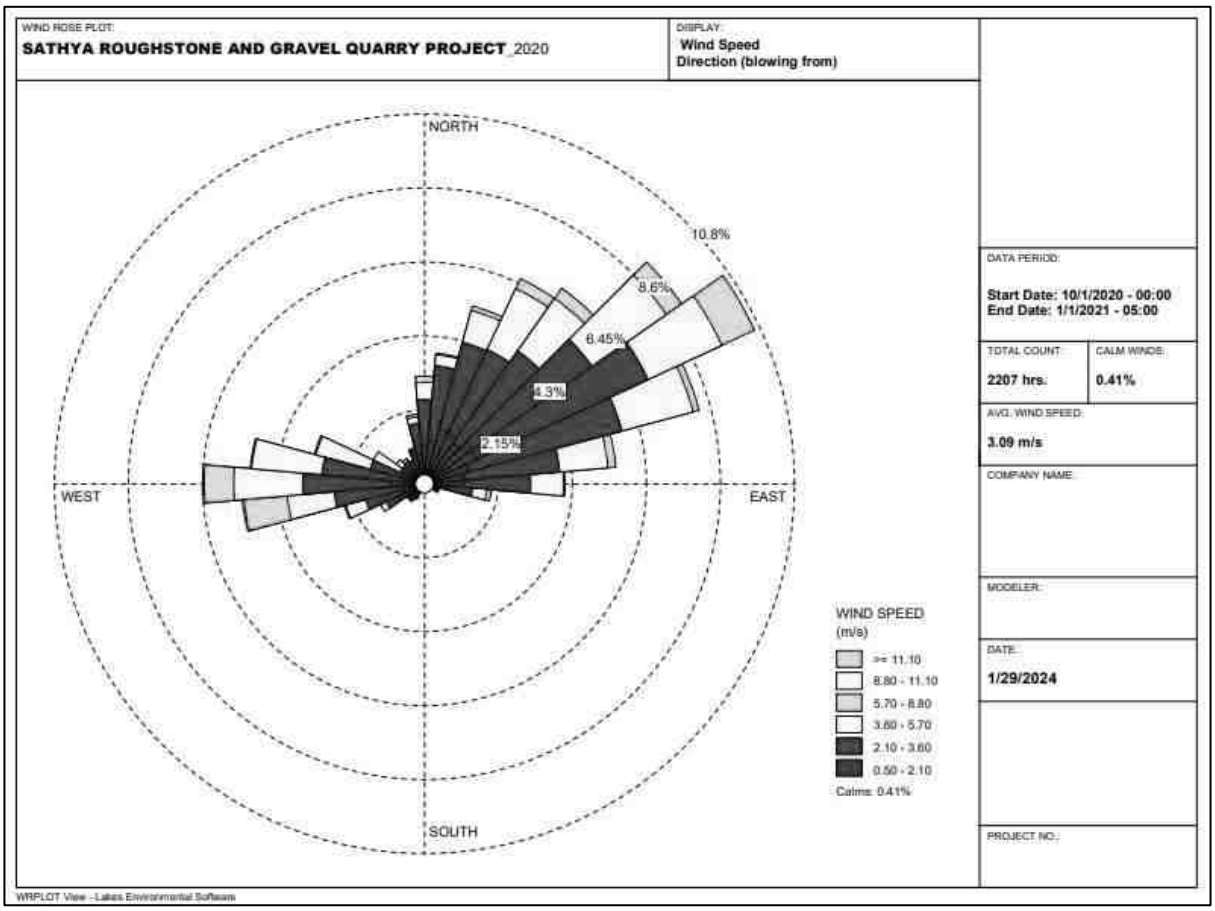
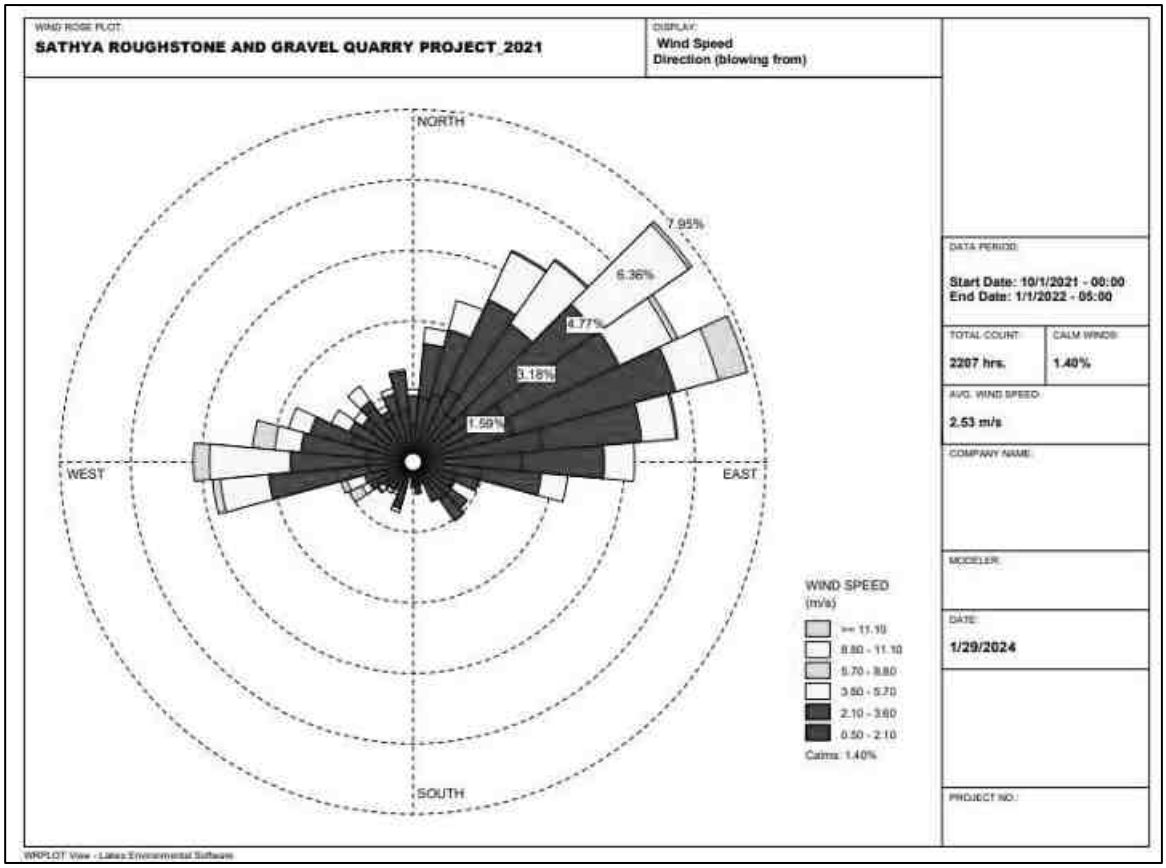


Figure 3.14 Windrose Diagram for 2019 and 2020 (October to December)



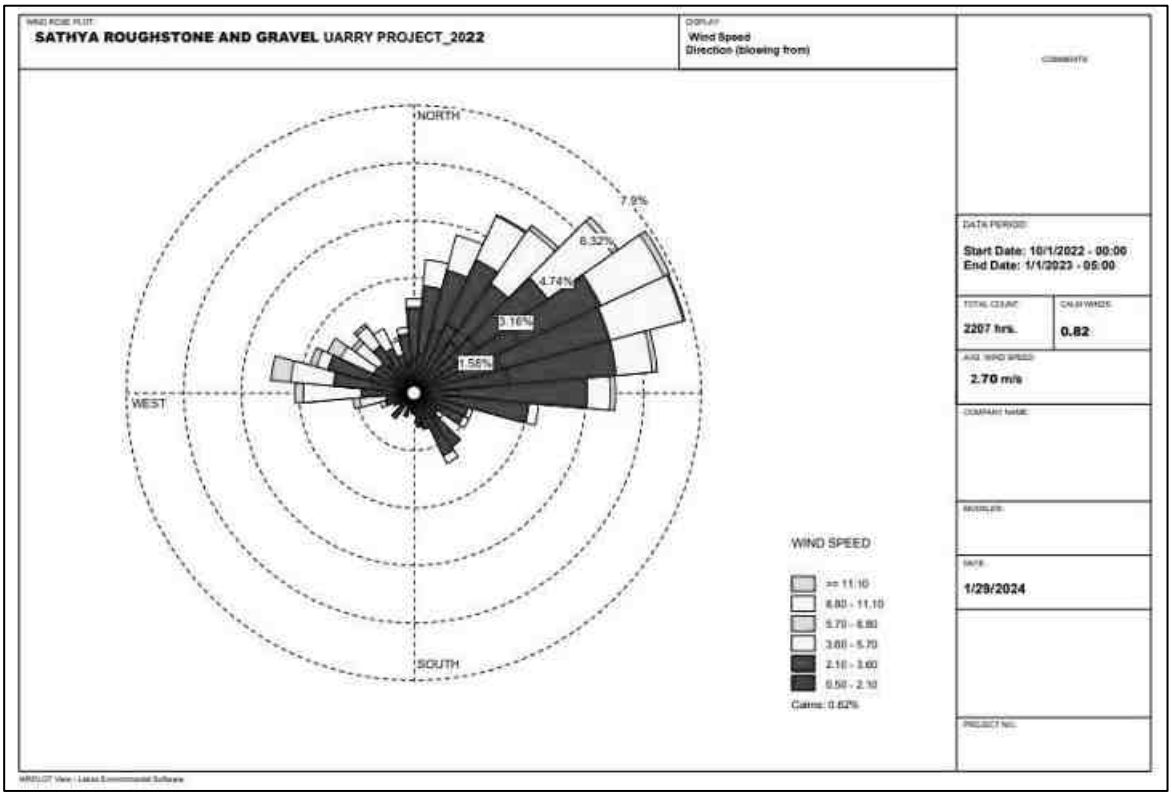


Figure 3.14a Windrose Diagram for 2021 and 2022 (October to December)

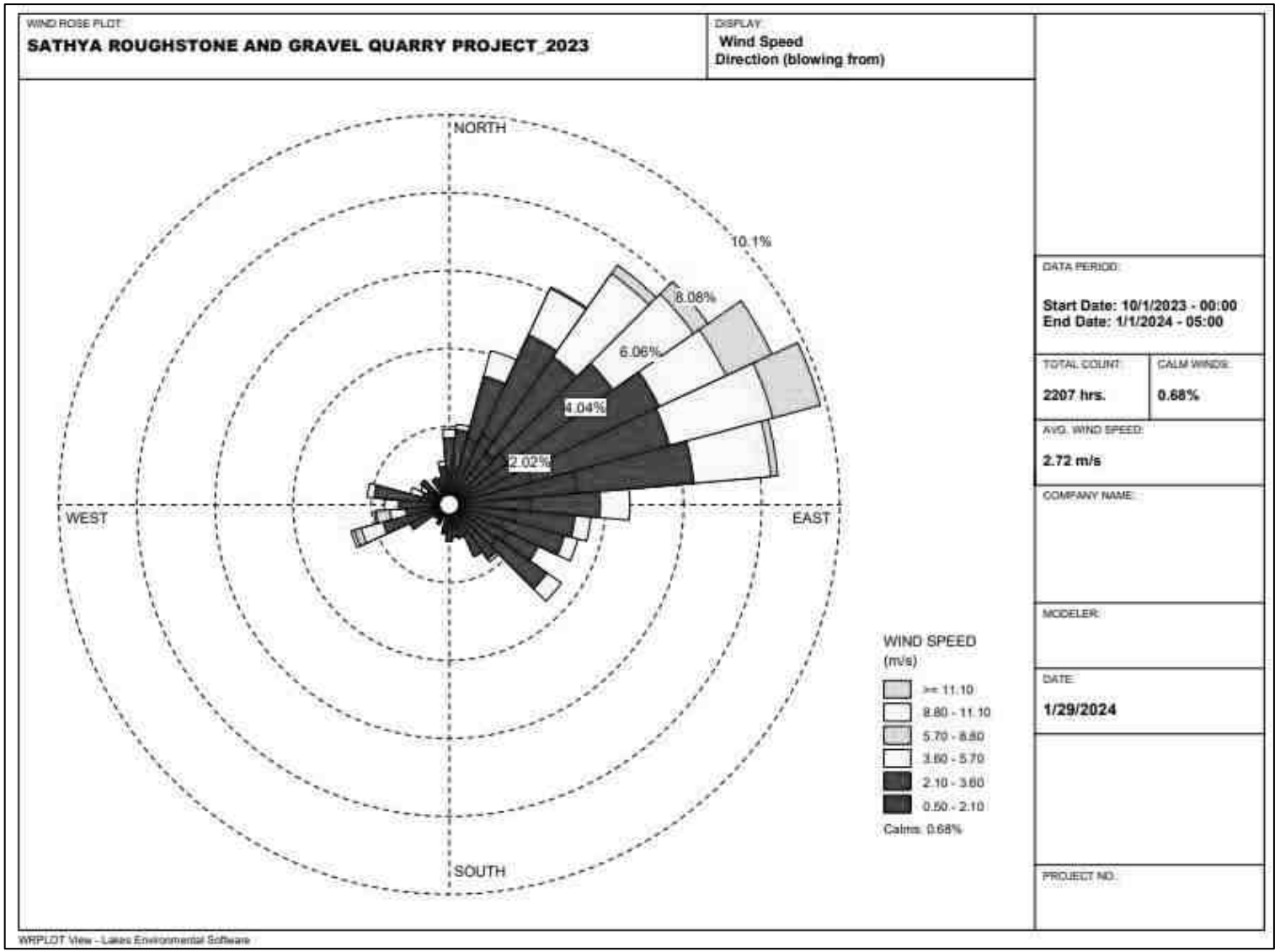


Figure 3.15 Onsite Wind Rose Diagram

3.3.2 Ambient Air Quality Study

The baseline ambient air quality is studied 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

Table 3.13 Methodology and Instrument Used for AAQ Analysis

Parameter	Method	Instrument
$PM_{2.5}$	Gravimetric method Beta attenuation method	Fine Particulate Sampler
PM_{10}	Gravimetric method Beta attenuation method	Respirable Dust Sampler
SO_2	IS-5182 Part II (Improved West & Gaeke method)	Respirable Dust Sampler with gaseous attachment
NOx	IS-5182 Part II (Jacob & Hoch heiser modified method)	Respirable Dust Sampler with gaseous attachment
Free Silica	NIOSH – 7601	Visible Spectrophotometry

*Source: Sampling Methodology based **Excellence Laboratory** & CPCB* Notification

Table 3.14 National Ambient Air Quality Standards

S. No.	Pollutant	Time Weighted Average	Concentration in ambient air	
			Industrial, Residential, Rural & other areas	Ecologically Sensitive area (Notified by Central Govt.)
1	SO_2 ($\mu g/m^3$)	Annual Avg.* 24 hours**	50.0 80.0	20.0 80.0
2	NO_x ($\mu g/m^3$)	Annual Avg. 24 hours	40.0 80.0	30.0 80.0
3	PM_{10} ($\mu g/m^3$)	Annual Avg. 24 hours	60.0 100.0	60.0 100.0
4	$PM_{2.5}$ ($\mu g/m3$)	Annual Avg. 24 hours	40.0 60.0	40.0 60.0

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

Methodology

Ambient air quality monitoring was carried out with a frequency of two samples per week at ten (10) locations, adopting a continuous 24 hourly (3 shift of 8-hour) schedule for the period October **to** December, 2023 as per the CPCB, MoEF guidelines and notifications.

It was ensured that the equipment was placed preferably at a height of at least 3 ± 0.5m above the ground level at each monitoring station for negating the effects of wind-blown ground dust. The equipment was placed at space free from trees and vegetation which otherwise act as a sink of pollutants resulting in lower levels in monitoring results. The baseline data of ambient air were generated for $PM_{2.5}$, PM_{10}, sulphur dioxide (SO_2) and nitrogen dioxide (NO_x). The sampling locations are shown in Figure 3.16 and average concentrations of air pollutants are summarized in Tables 3.15 and are shown in Figures 3.16-3.20.

Table 3.15 Ambient Air Quality (AAQ) Monitoring Locations

S. No.	Location Code	Monitoring Locations	Distance (km)	Direction	Coordinates	
					Latitude	Longitude
1	AAQ1	Near Core	0.20	NW	10°59'31.41"N	77°57'55.80"E
2	AAQ2	VST Blue Metals core	0.95	SE	10°58'53.04"N	10°58'53.04"N
3	AAQ3	Near ponvinayaga Blue Metals	2.58	SW	10°58'09.02"N	77°57'14.40"E
4	AAQ4	Andisangilipalayam	3.62	NW	11° 00'02.45"N	77°56'6.69"E
5	AAQ5	Punnam Velayuthampalayam	4.48	W	10°59'04.19"N	77°55'32.63"E
6	AAQ6	Punnam chatram	2.86	NE	11°00'48.64"N	77°58'47.07"E
7	AAQ7	Pavithiram	3.94	SE	10°57'30.93"N	77°59'9.93"E
8	AAQ8	Nochipalayam	4.97	E	10°59'21.43"N	78° 0'46.92"E
9	AAQ9	Sathiya Core	--	--	10°59'25.94"N	77°58'2.66"E
10	AAQ10	Selva vinayaga Core	0.84	W	10°59'26.67"N	77°57'32.13"E

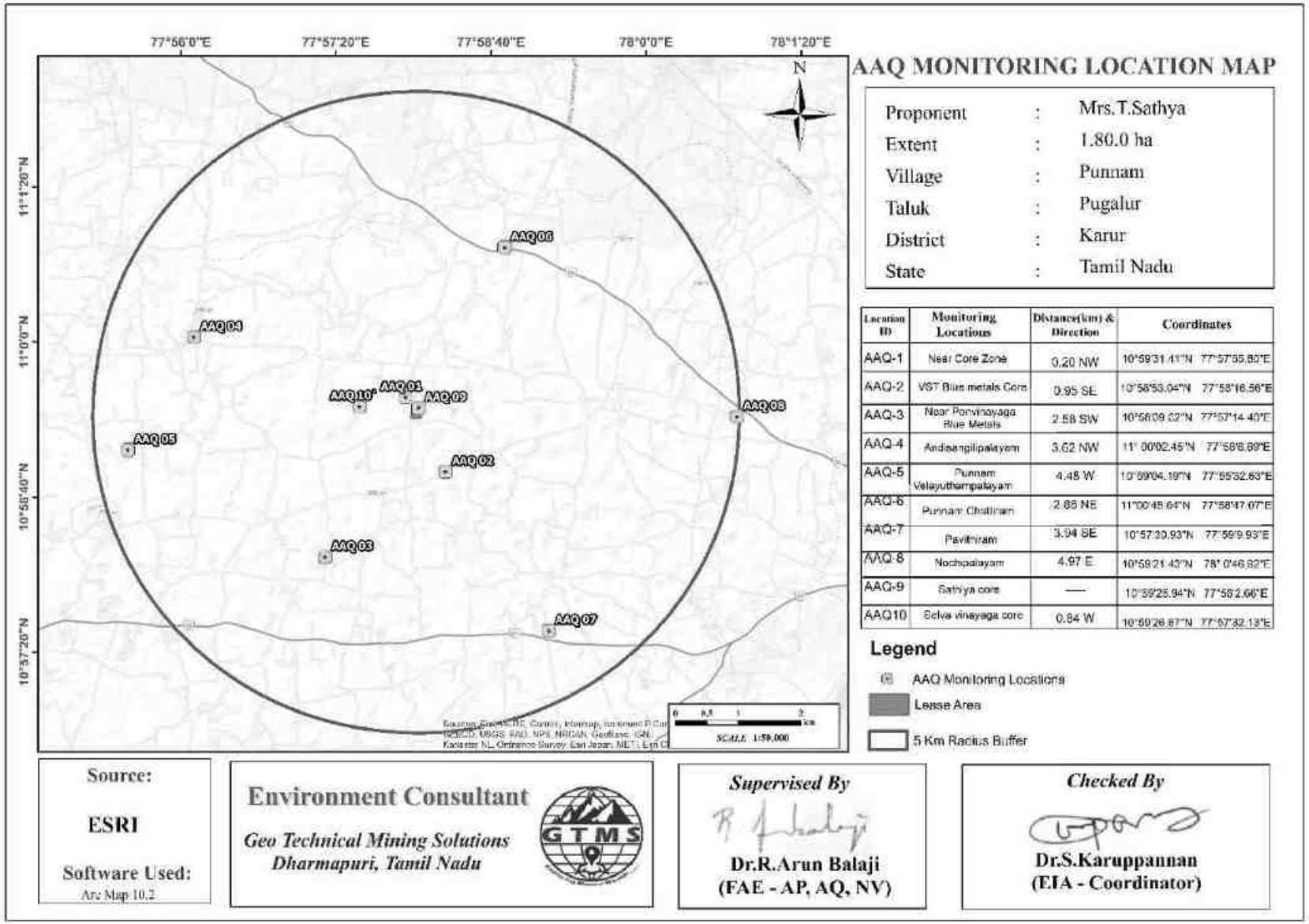
*Source: On-site monitoring/sampling by **Excellence Laboratory** in association with GTMS*

Results

As per the monitoring data, $PM_{2.5}$ ranges from 17.4µg/m^3 to 21.9µg/m^3; PM_{10} from 37.2µg/m^3 to 42.5µg/m^3; SO_2 from 6.5µg/m^3 to 9.4µg/m^3; NO_x from 15.7µg/m^3 to 17.4g/m^3. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

Air quality Index (AQI)

The AQI shows that the air quality of the study area falls within good category 40 causing minimal impact to human health.



Location ID	Monitoring Locations	Distance(km) & Direction	Coordinates
AAQ-1	Near Core Zone	0.20 NW	10°59'31.41"N 77°57'55.80"E
AAQ-2	VST Blue metals Core	0.95 SE	10°58'53.04"N 77°58'16.56"E
AAQ-3	Near Ponvinayaga Blue Metals	2.58 SW	10°58'09.02"N 77°57'14.40"E
AAQ-4	Andiasangilipalayam	3.62 NW	11° 00'02.45"N 77°56'6.89"E
AAQ-5	Punnam Velayuthampalayam	4.48 W	10°59'04.19"N 77°55'52.63"E
AAQ-6	Punnam Chattiram	2.85 NE	11°00'48.64"N 77°58'47.07"E
AAQ-7	Pavithiram	3.94 SE	10°57'30.93"N 77°59'9.93"E
AAQ-8	Nochipalayam	4.97 E	10°59'21.43"N 78° 0'46.92"E
AAQ-9	Sathiya core	—	10°59'25.94"N 77°58'2.66"E
AAQ10	Selva vinayaga core	0.84 W	10°59'26.87"N 77°57'32.13"E

Figure 3.16 Toposheet Showing Ambient Air Quality Monitoring Station Locations Around 5 km Radius from Proposed Project Site

Table 3.16 Summary of AAQ Result

	$PM_{2.5}$				PM_{10}			
Station ID	**Max**	**Min**	**Mean**	**98th Percentile**	**Max**	**Min**	**Mean**	**98th Percentile**
AAQ1	23.8	16.3	20.2	23.2	43.9	38.7	41.7	43.9
AAQ2	25.8	20.5	23.2	25.7	44.6	38.5	40.8	44.4
AAQ3	24.3	18.7	21.0	22.7	43.8	36.0	39.3	43.8
AAQ4	19.1	12.3	16.0	19.1	39.5	34.3	37.0	39.5
AAQ5	22.9	17.8	20.7	22.8	40.6	36.5	38.8	40.6
AAQ6	23.3	19.5	21.4	23.3	41.2	38.4	39.7	41.0
AAQ7	22.2	17.4	19.7	21.9	42.5	35.5	39.7	42.2
AAQ8	22.8	21.0	21.9	22.8	42.3	38.5	40.0	42.1
AAQ9	17.6	15.5	16.7	17.6	44.0	38.8	41.8	44.0
AAQ10	17.3	15.2	16.3	17.3	42.2	37.0	39.7	42.2
	SO_2				NO_x			
AAQ1	10.4	6.9	8.4	10.2	18.0	11.5	15.6	17.9
AAQ2	11.3	8.8	9.9	11.3	21.9	17.3	19.6	21.9
AAQ3	10.9	7.7	9.2	10.4	22.1	15.0	18.2	22.1
AAQ4	9.6	5.2	7.0	9.4	15.1	8.6	11.0	14.4
AAQ5	10.6	6.9	8.4	10.3	22.8	15.4	18.5	22.3
AAQ6	10.2	7.1	8.7	10.2	20.8	14.3	17.8	20.5
AAQ7	7.9	4.0	6.6	7.8	24.1	21.4	22.6	23.4
AAQ8	9.5	7.9	8.7	9.5	24.5	21.2	22.2	13.4
AAQ9	6.9	5.2	6.2	6.9	14.5	10.9	12.9	23.4
AAQ10	6.5	5.2	5.7	6.5	17.4	21.4	15.3	16.1

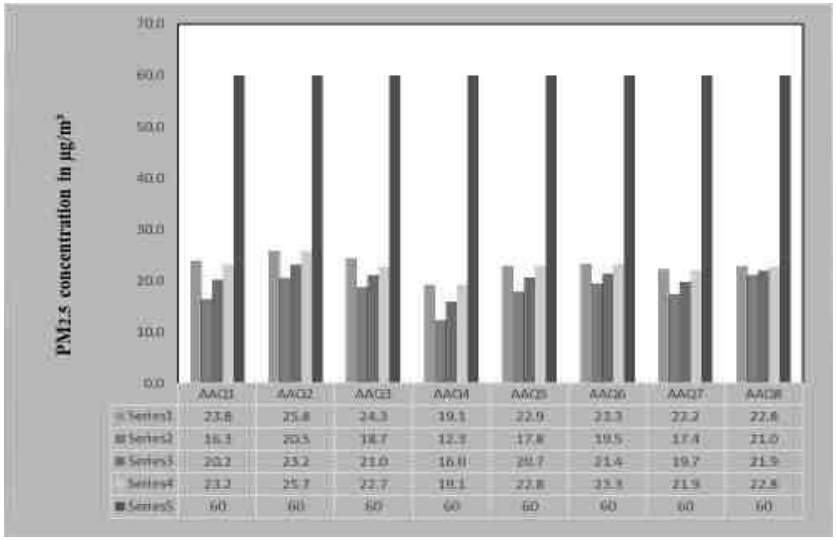


Figure 3.17 Bar Chart Showing Maximum, Minimum, and Average Concentrations of PM2.5 Measured from 10Air Quality Monitoring Stations within 5 km Radius

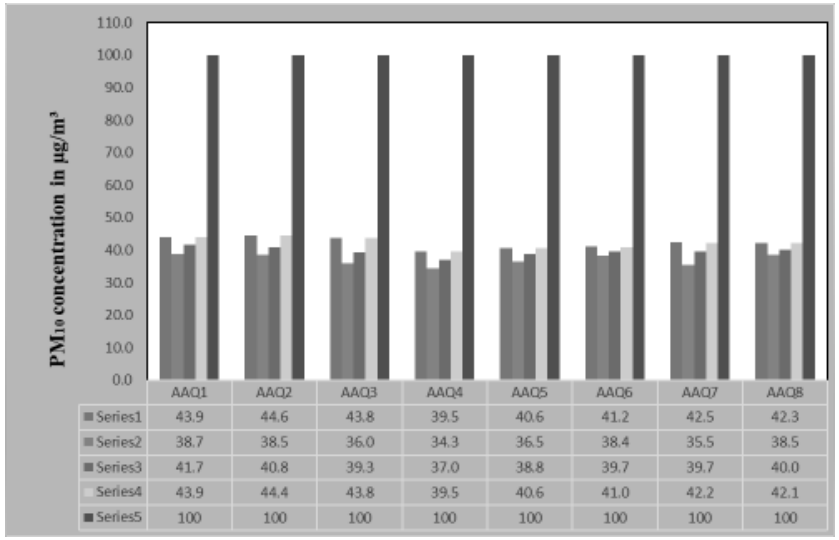


Figure 3.18 Bar Chart Showing Maximum, Minimum, and Average Concentrations of PM10 Measured from 10 Air Quality Monitoring Stations within 5 km Radius

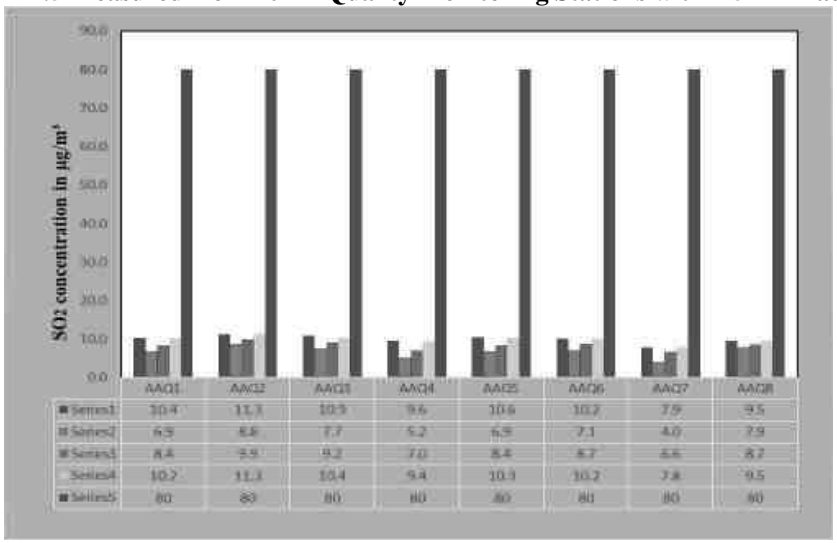


Figure 3.19 Bar Chart Showing Maximum, Minimum, and Average Concentrations of SO2 Measured from 10 Air Quality Monitoring Stations within 5 km Radius

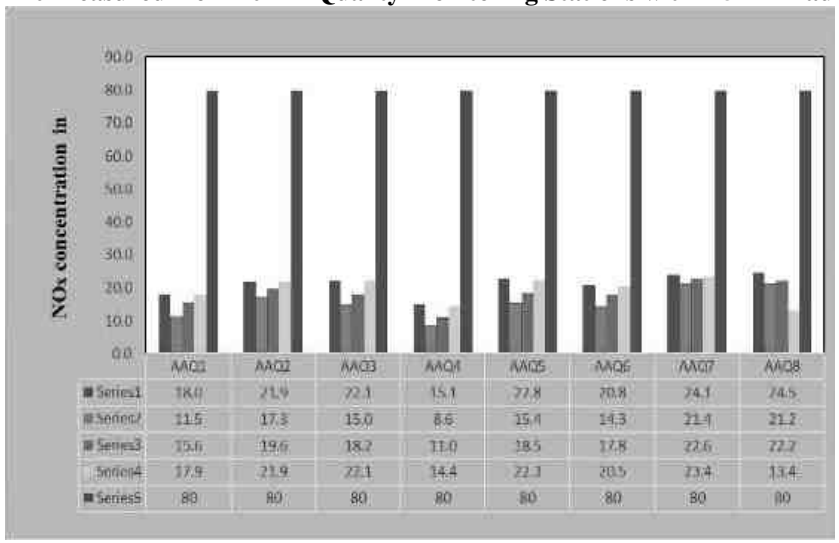


Figure 3.20 Bar Chart Showing Maximum, Minimum, and Average Concentrations of NOx Measured from 10 Air Quality Monitoring Stations within 5km Radius

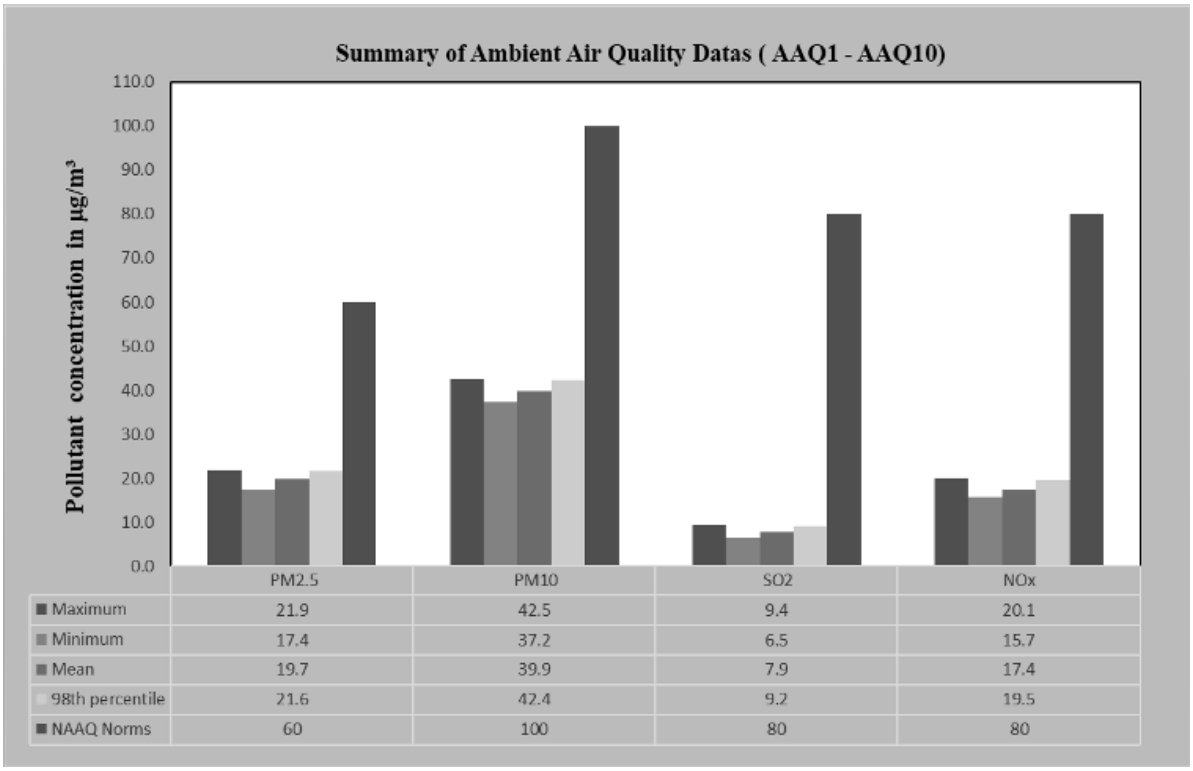


Figure 3.21 Bar Chart Showing Maximum, Minimum, And Average Concentrations of Pollutants in Atmosphere within 5 km Radius

3.4 NOISE ENVIRONMENT

The vehicular movement on road and mining activities is the major sources of noise in the study area. The main objective of noise monitoring in the study area is to establish the baseline noise level, which will in turn be used to assess the impact of the total noise expected to be generated during the project operations around the project site. In order to assess the ambient noise levels within the study area, noise monitoring was carried out at Eleven (11) locations covering commercial, residential, rural areas within the radius of 5 km. Details of noise monitoring locations are provided in Table 3.17 and spatial occurrence of the locations are shown in Figure 3.22.

Table 3.17 Noise Monitoring Locations

S. No.	Location Code	Monitoring Locations	Distance (km)	Direction	Coordinates	
					Latitude	Longitude
1	N1	Devaraj Core	0.21	NW	10°59'25.94"N	77°58'2.66"E
2	N2	Pullaiyampalayam	0.67	S	10°59'48.21"N	77°58'00.72"E
3	N3	VST Blue metals Core	0.95	SE	10°58'53.04"N	77°58'16.56"E

4	N4	Near Ponvinayaga Blue Metals	2.60	SW	10°58'09.02"N	77°57'14.40"E
5	N5	Andisangilipalayam	3.62	NW	11°00'02.45"N	77°56'06.69"E
6	N6	Punnam Velayuthampalayam	4.52	W	10°59'4.19"N	77°55'32.63"E
7	N7	Punnam Chattiram	2.15	NE	11°0.48'.64"N	77°58'47.07"E
8	N8	Pavithiram	3.94	SE	10°57'30.93"N	77°59'09.93"E
9	N9	Nochipalayam	5.0	E	77°59'21.43"E	78° 0'46.92"E
10	N10	Sathiya Core	--	--	10°59'26.67"N	77°57'32.13"E
11	N11	Selva Vinayaga Core	0.85	W	10°58'53.04"N	77°58'16.56"E

Source: On-site monitoring/sampling by ***Excellence Laboratory*** *in association with GTMS*

Table 3.18 Ambient Noise Quality Result

S. No.	Locations	Noise level (dB (A) Leq)		Ambient Noise Standards
		Day Time (6AM-10 PM)	Night Time (10 PM-6 AM)	
1	Devaraj Core	41.4	31.8	**Industrial Day Time- 75 dB (A) Night Time- 70 dB (A)**
2	Pullaiyampalayam	39.4	30.2	**Residential Day Time– 55 dB (A) Night Time- 45 dB (A)**
3	VST Blue metals Core	41.6	32.6	**Industrial Day Time- 75 dB (A) Night Time- 70 dB (A)**
4	Near Ponvinayaga Blue Metals	41.2	32.4	**Residential Day Time– 55 dB (A) Night Time- 45 dB (A)**
5	Andisangilipalayam	36.2	30.8	
6	Punnam Velayuthampalayam	39.6	30.1	
7	Punnam Chattiram	42.6	35.4	
8	Pavithiram	43.8	40.1	
9	Nochipalayam	41.3	36.2	
10	Sathiya Core	45.5	38.4	**Industrial Day Time- 75 dB (A) Night Time- 70 dB (A)**
11	Selva Vinayaga Core	44.8	36.8	

Source: On-site monitoring/sampling by ***Excellence Laboratory*** *in association with GTMS*

The Table 3.18 shows that noise level in core zone was 45.5 dB (A) Leq during day time and 38.4dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 36.2 to 44.8dB (A) Leq and during night time from 30.1 to 40.1dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB. The results are also depicted below in Figures 3.22 and 3.23.

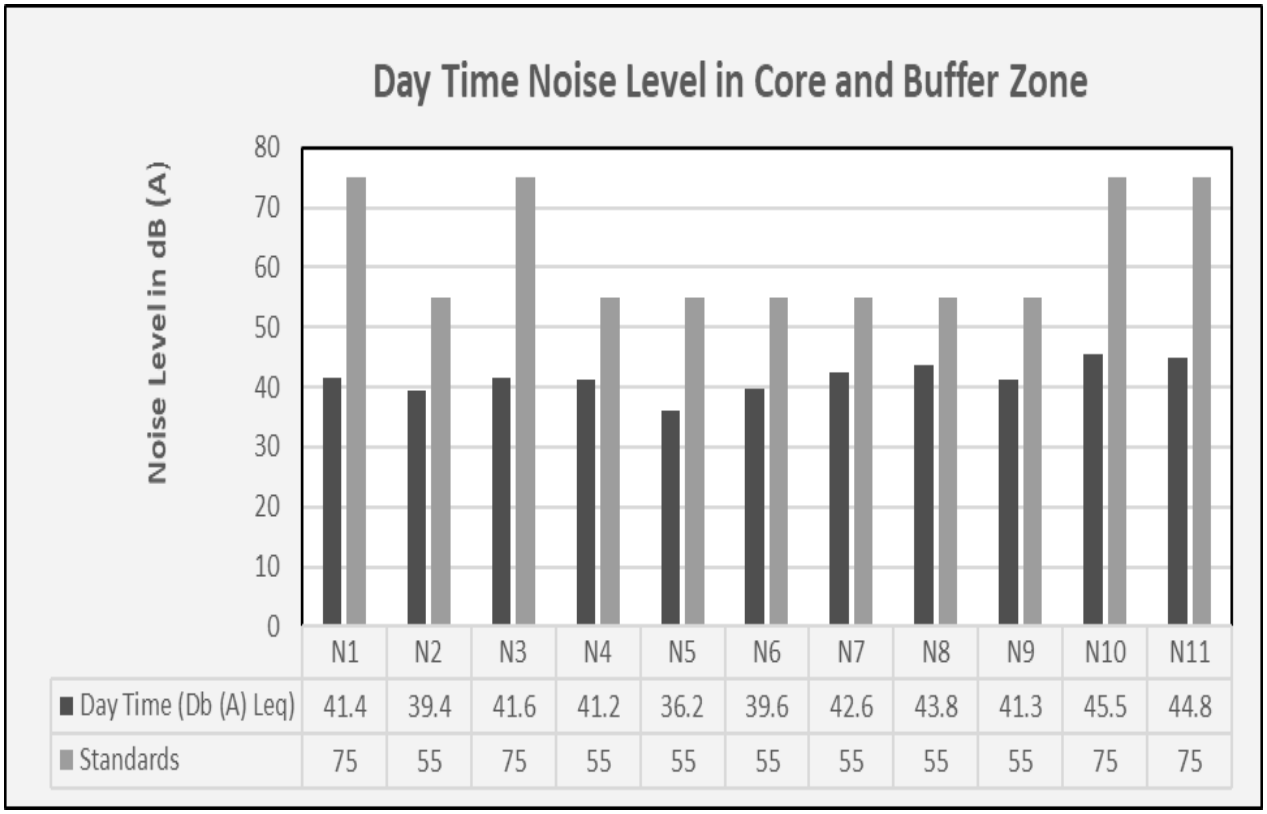


Figure 3.22 Bar Chart Showing Day Time Noise Levels Measured in Core and Buffer Zones

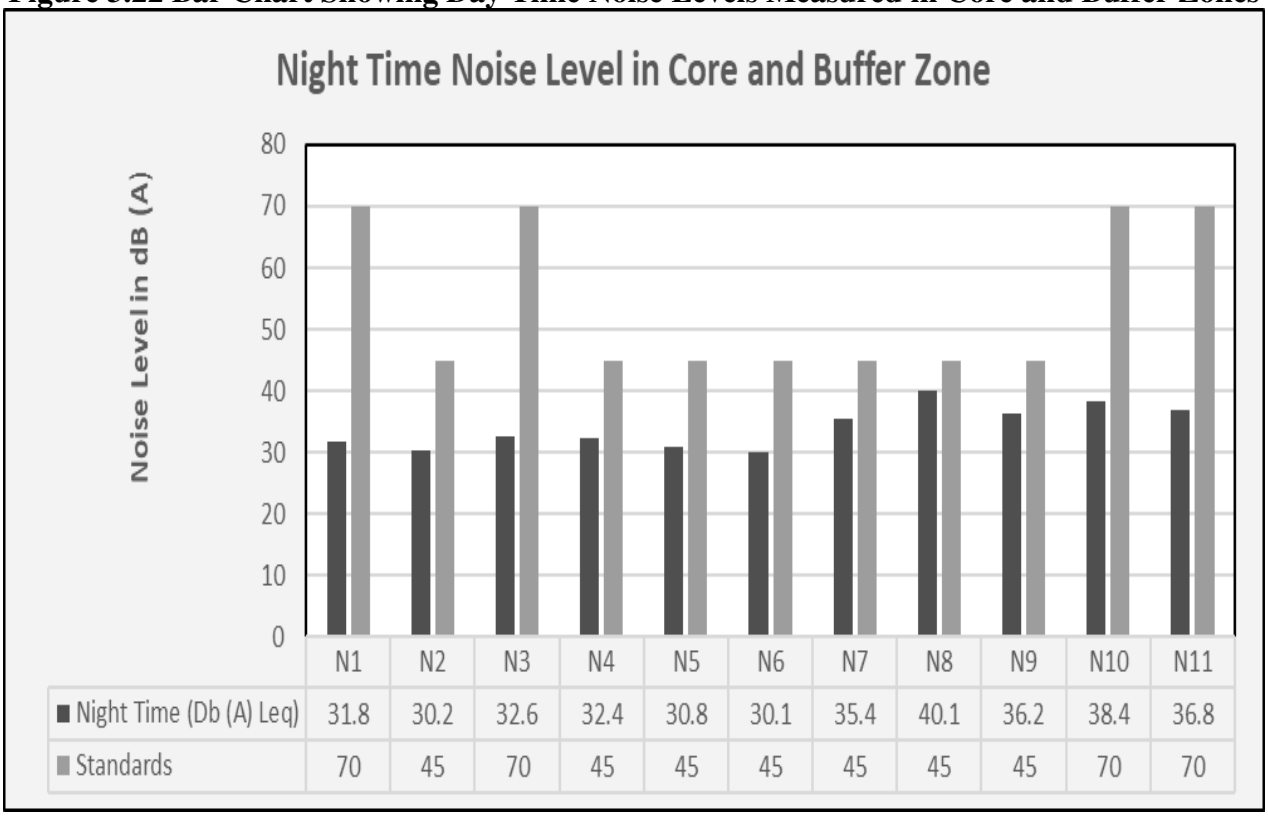


Figure 3.23 Bar Chart Showing Night Time Noise Levels Measured in Core and Buffer Zones

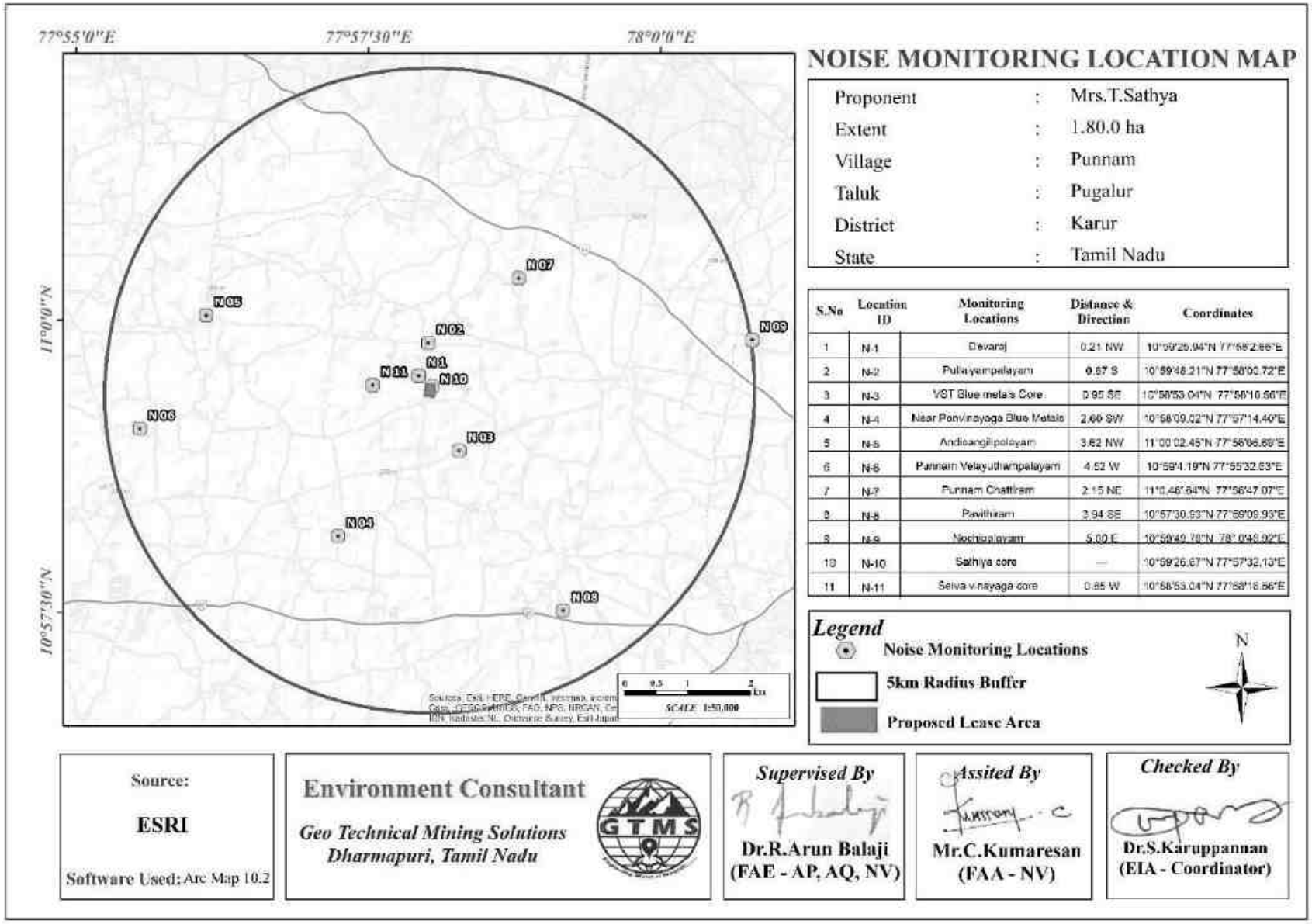


Figure 3.24 Toposheet Showing Noise Level Monitoring Station Locations around 5 km Radius from Proposed Project Site

3.5 BIOLOGICAL ENVIRONMENT

An ecological survey was conducted to collect the baseline data regarding flora and fauna in the study area of 10 km radius. Data were collected from different sources, i.e., government departments such as District Forest Office and Government of Tamil Nadu. On the basis of onsite observations as well as forest department records the checklist of flora and fauna was prepared.

Methodology

Sampling locations were selected with reference to topography, land use, vegetation pattern, etc. In this study**,** quadrats of 25 m × 25 m were laid down to assess trees and quadrats of 10 m × 10 m were laid down for shrubs, as shown in Figure 3.25.

Figure 3.25 Quadrates Sampling Methods of Flora

Phyto-Sociological Studies

Phyto sociological parameters, such as ***Density, Frequency, Abundance and Importance Value Index*** of individual species were determined in randomly placed quadrat of different sizes in the study area, as shown in Table 3.19. Relative frequency, and relative density were calculated and

the sum of these three represented Importance Value Index (IVI) for various species. For shrubs, herbs and grasses, *Density, Frequency, Relative Density & Relative Frequency were found*. Sample plots were selected in such a way to get maximum representation of different types of vegetation and plots were laid out in different part of the study area of 10 km radius. Analysis of the vegetation will help in determining the relative importance of each species in the study area and to reveal if any economically valuable species is threatened in the process.

Table 3.19 Calculation of Density, Frequency (%), Dominance, Relative Density, Relative Frequency, Relative Dominance & Important Value Index

Parameters	**Formula**
Density	Total No. of individuals of species/ Total No. of Quadrats used in sampling
Frequency (%)	(Total No. of Quadrats in which species occur/ Total No. of Quadrats studied)100
Abundance	Total No. of individuals of species/ No. of Quadrats in which they occur
Relative Density	(Total No. of individuals of species/Sum of all individuals of all species) * 100
Relative Frequency	(Total No. of Quadrats in which species occur/ Total No. of Quadrats occupied by all species) * 100
Important Value Index	Relative Density + Relative Frequency

Shannon – Wiener Index, Evenness and Richness

Biodiversity index is a quantitative measure that reflects how many different types of species, there are in a dataset, and simultaneously takes into account how evenly the basic entities (such as individuals) are distributed among those types of species. The value of biodiversity index increases both when the number of types increases and when evenness increases. For a given number of type of species, the value of a biodiversity index is maximized when all type of species is equally abundant. The corresponding formulas are given in Table 3.20.

Table 3.20 Calculation of Species Diversity by Shannon – Wiener Index, Evenness and Richness

Description	Formula
Species diversity – Shannon – Wien Index	**$H = \sum[(p_i)*\ln(p_i)]$** Where p_i: Proportion of total sample represented by species i: number of individuals of species i/ total number samples
Evenness	H/H max H_{max} = ln(s)= maximum diversity possible S=No. of species
Species Richness by Margalef	RI = S-1/ln N Where S = Total Number of species in the community N = Total Number of individuals of all species in the Community

3.5.1 Flora

Flora study was conducted using the above said methodology to inventory the existing terrestrial plants in both core and buffer zones. Details of plants have been described in the succeeding sections

Flora in core zone

There are no plant species in the mining lease area. It is a kind of dry land

Flora in 300 m radius zone

Vegetation species within 300 meters radius around the lease area. It is an arid landscape. There is no agricultural land nearby. It contains a total of 18 species belonging to 11 families have been recorded from the buffer zone. Trees 4 (22%), Shrubs 4 (22%) Herbs 10 (55%) were identified. Details of flora with the scientific name details and diversity species Rich ness index were mentioned in Table 3.21-3.23. There is no threat to the Flora and Fauna species in 300-meter radius

Flora in 10 km radius zone

Similar type of environment also in buffer area but with more flora diversity compare than core zone area because nearby agriculture land was found to dominate mostly in all the directions. Majority of the flat landscape around project unit is occupied by agriculture fields. It contains a total of 66 species belonging to 37 families have been recorded from the buffer zone consisting of 30 Trees (45%), 15 Shrubs (22%) Herbs and 21 (31%) Climbers, Creeper, Grass & Cactus were identified. Details of flora with the scientific name details mentioned in Table 3.24

Table 3.21 Flora in 300 Meter Radius

S. No	Local Name	Scientific Name	Family Name	Total No. Of Species	Total Of Quadrants with Species	Total No. Of Quadrants	Density	Frequency (%)	Abundance	Relative Density	Relative Frequency	Importance Value Index	IUCN Conservation Status
Trees													
1	Karuvelam	*Vachellia Nilotica*	Fabaceae	6	4	5	1.2	80.0	1.5	40.0	36.4	76.4	Not Listed
2	Usilai Wunja	*Albizia Amara*	Fabaceae	4	3	5	0.8	60.0	1.3	26.7	27.3	53.9	Not Listed
3	Vembu	*Azadirachta Indica*	Meliaceae	3	2	5	0.6	40.0	1.5	20.0	18.2	38.2	Not Listed
4	Vealli Vealan	*Vachellia Leucophloea*	Fabaceae	2	2	5	0.4	40.0	1.0	13.3	18.2	31.5	Lc
Shrubs													
1	Erukku	*Calotropis Gigantea*	Apocynaceae	7	6	8	0.9	75.0	1.2	26.9	30.0	56.9	Not Listed
2	Uumaththai	*Datura Metel*	Solanaceae	4	3	8	0.5	37.5	1.3	15.4	15.0	30.4	Not Listed
3	Thuthi	*Abutilon Indicum*	Meliaceae	8	6	8	1.0	75.0	1.3	30.8	30.0	60.8	Not Listed
4	Avarai	*Senna Auriculata*	Fabaceae	7	5	8	0.9	62.5	1.4	26.9	25.0	51.9	Not Listed
Herbs													
1	Nayuruv	*Achyranthes Aspera*	Amaranthaceae	5	4	15	0.3	26.7	1.3	3.4	3.1	6.5	Not Listed
2	Veetukaayapundu	*Tridax Procumbens*	Asteraceae	7	6	15	0.5	40.0	1.2	4.7	4.7	9.4	
3	Mukkirattai	*Boerhaavia Diffusa*	Nyctaginaceae	6	5	15	0.4	33.3	1.2	4.0	3.9	8.0	Not Listed
4	Thumbai	*Leucas Aspera*	Lamiaceae	8	7	15	0.5	46.7	1.1	5.4	5.5	10.9	Not Listed
5	Nai Kadugu	*Celome Viscosa*	Capparidaceae	5	4	15	0.3	26.7	1.3	3.4	3.1	6.5	Not Listed
6	Parttiniyam	*Parthenium Hysterophorus*	Asteraceae	7	6	15	0.5	40.0	1.2	4.7	4.7	9.4	Not Listed
7	Mukurattai	*Boerhavia Diffusa*	Nyctaginaceae	6	5	15	0.4	33.3	1.2	4.0	3.9	8.0	Not Listed
8	Kovakkai	*Trichosanthes Dioica*	Cucurbitaceae	8	7	15	0.5	46.7	1.1	5.4	5.5	10.9	Not Listed
9	Mookuthi Poondu	*Wedelia Trilobata*	Asteraceae	6	5	15	0.4	33.3	1.2	4.0	3.9	8.0	Not Listed
10	Perandai	*Cissus Quadrangularis*	Vitaceae	7	6	15	0.5	40.0	1.2	4.7	4.7	9.4	Not Listed

Table 3.22 Calculation of Species Diversity in 300 Meter Radius

S.No	Common Name	Scientific Name	No. Of Species	Pi	In (Pi)	Pi X In (Pi)
Trees						
1	Karuvelam	*Vachellia Nilotica*	6	0.40	-0.92	-0.37
2	Usilai Wunja	*Albizia Amara*	4	0.27	-1.32	-0.35
3	Vembu	*Azadirachta Indica*	3	0.20	-1.61	-0.32
4	Vealli Vealan	*Vachellia Leucophloea*	2	0.13	-2.01	-0.27
H (Shannon Diversity Index) =1.31						
Shrubs						
1	Erukku	*Calotropis Gigantea*	7	0.27	-1.31	-0.35
2	Uumaththai	*Datura Metel*	4	0.15	-1.87	-0.29
3	Thuthi	*Abutilon Indicum*	8	0.31	-1.18	-0.36
4	Avarai	*Senna Auriculata*	7	0.27	-1.31	-0.35
H (Shannon Diversity Index) =1.36						
Herbs						
1	Nayuruv	*Achyranthes Aspera*	10	0.13	-2.07	-0.26
2	Vetukaayapoondu	*Tridax Procumbens*	8	0.10	-2.29	-0.23
3	Mukkirattai	*Boerhaavia Diffusa*	9	0.11	-2.17	-0.25
4	Thumbai	*Leucas Aspera*	8	0.10	-2.29	-0.23
5	Nai Kadugu	*Celome Viscosa*	7	0.09	-2.42	-0.21
6	Parttiniyam	*Parthenium Hysterophorus*	8	0.10	-2.29	-0.23
7	Mukurattai	*Boerhavia Diffusa*	7	0.09	-2.42	-0.21
8	Kovakkai	*Trichosanthes Dioica*	7	0.09	-2.42	-0.21
9	Mookuthi Poondu	*Wedelia Trilobata*	9	0.11	-2.17	-0.25
10	Perandai	*Cissus Quadrangularis*	6	0.08	-2.58	-0.20
H (Shannon Diversity Index) =2.29						

Table 3.23 Species Richness (Index) In 300-Meter Radius

Details	H	H Max	Evenness	Species Richness
Tree	1.31	1.39	0.94	1.11
Shrubs	1.36	1.39	0.98	0.92
Herbs	2.29	2.30	1.00	2.06

Table 3.25 Flora in Buffer Zone

S. No	Local Name	Scientific Name	Family Name
Trees			
1	Manga	*Mangifera Indica*	Anacardiaceae
2	Puliyamaram	*Tamarindus Indica*	Legumes
3	Vadanarayani	*Delonix Elata*	Fabaceae
4	Thenpazham	*Muntingia Calabura*	Tiliaceae
5	Punnai	*Calophyllu Inophyllum*	Calophyllaceae
6	Ilanthai	*Ziziphus Jujubha*	Rhamnaceae
7	Vembu	*Azadirachta Indica*	Meliaceae
8	Thekku	*Tectona Grandis*	Verbenaceae
9	Pongam Oiltree	*Pongamia Pinnata*	Fabaceae
10	Thennai Maram	*Cocos Nucifera*	Arecaceae
11	Nochi	*Vitex Negundo*	Lamiaceae
12	Karimurungai	*Moringa Olefera*	Moraginaceae
13	Pappali Maram	*Carica Papaya L*	Caricaceae
14	Poovarasu	*Thespesia Populnea*	Malvaceae
15	Arasanmaram	*Ficus Religiosa*	Moraceae
16	Vilvam	*Aegle Marmelos*	Rutaceae
17	Alamaram	*Ficus Benghalensis*	Moraceae
18	Vazhaimaram	*Musa*	Musaceae
19	Karuvelam Maram	*Vachellia Nilotica*	Fabaceae
20	Nelli	*Emblica Officinalis*	Phyllanthaceae
21	Eucalyptus	*Eucalyptus Globules*	Myrtaceae
22	Maramalli	*Millingtonia Hortensis*	Bignoniaceae
23	Kuduka Puli	*Pithecellobium Dulce*	Mimosaceae
24	Karungali	*Acacia Sundra*	Legumes
25	Karuvelam	*Acacia Nilotica*	Mimosaceae
26	Nettilinkam	*Polylathia Longifolia*	Annonaceae
27	Arai Nelli	*Phyllanthus Acidus*	Euphorbiaceae
28	Panai Maram	*Borassus Flabellifer*	Arecaceae
29	Sapota	*Manilkara Zapota*	Sapotaceae
30	Navalmaram	*Sygygium Cumini*	Myrtaceae

Shrubs			
1	Avarai	*Senna Auriculata*	Fabaceae
2	Sundaika	*Solanum Torvum*	Solanaceae
3	Purapirakkai	*Chrozophora Rottleri*	Euphorbiaceae
4	Arali	*Nerium Indicum*	Apocynaceae
5	Seemaiagaththi	*Cassia Alata*	Caesalpinaceae
6	Chemparuthi	*Hibiscu Rosa-Sinensis*	Malvaceae
7	Kattamanakku	*Jatropha Curcas*	Euphorbiaceae
8	Chaturakalli	*Euphorbia Antiquorum*	Euphorbiaceae
9	Idlipoo	*Xoracoc Cinea*	Rubiaceae
10	Thuthi	*Abutilon Indicum*	Meliaceae
11	Nithyakalyani	*Cathranthus Roseus*	Apocynaceae
12	Uumaththai	*Datura Metel*	Solanaceae
13	Kundumani	*Abrus Precatorius*	Fabaceae
14	Erukku	*Calotropis Gigantea*	Apocynaceae
15	Neermulli	*Hydrophila Auriculata*	Acanthaceae
Herbs, Climber, Creeper & Grasses			
1	Nayuruv	*Achyranthes Aspera*	Amaranthaceae
2	Veetukaayapoondu	*Tridax Procumbens*	Asteraceae
3	Mukkirattai	*Boerhaavia Diffusa*	Nyctaginaceae
4	Kuppaimeni	*Acalypha Indica*	Euphorbiaceae
5	Karisilanganni	*Eclipta Prostata*	Asteraceae
6	Korai	*Cyperus Rotundus*	Cyperaceae
7	Thumbai	*Leucas Aspera*	Lamiaceae
8	Nai Kadugu	*Celome Viscosa*	Capparidaceae
9	Parttiniyam	*Parthenium Hysterophorus*	Asteraceae
10	Mukurattai	*Boerhavia Diffusa*	Nyctaginaceae
11	Thulasi	*Ocimum Tenuiflorum*	Lamiaceae
12	Arugampul	*Cynodon Dactylon*	Poaceae
13	Manathakkali	*Solanumnigrum*	Solanaceae
14	Kudai Korai	*Cyperus Difformis*	Cyperaceae
15	Thoiya Keerai	*Digeria Muricata*	Amarantheceae

16	Kovai	*Coccinia Grandis*	Cucurbitaceae
17	Perandai	*Cissus Quadrangularis*	Vitaceae
18	Mudakkotan	*Cardiospermum Helicacabum*	Sapindaceae
19	Kovakkai	*Trichosanthes Dioica*	Cucurbitaceae
20	Sangupoo	*Clitoriaternatia*	Fabaceae
21	Siru Puladi	*Desmodium Triflorum*	Fabaceae

Aquatic Vegetation

The Field Survey for Assessing the Aquatic Vegetation Was Also Undertaken During the Study Period. The List of Aquatic Plants Observed in The Study Area Is Given in Table 3.25

Table 3.25 Aquatic Vegetation

S. No.	Scientific Name	Common Name	Vernacular Name (Tamil)	IUCN Red List of Threatened Species
1	*Eichornia Crassipe*	Water Hyacinth	Agayatamarai	NA
2	*Aponogetonnatans*	Floating Lace Plant	Kottikizhangu	NA
3	*Nymphaea Nouchali*	Blue Water Lily	Nellambal	LC
4	*Carex Cruciata*	Cross Grass	Koraipullu	NA
5	*Cynodon Dactylon*	Scutch Grass	Arugampullu	LC
6	*Cyperus Exaltatus*	Tall Flat Sedge	Koraikizhangu	LC

*Lc- Least Concern, Na-Not Yet Assessed

Forest Vegetation

There are no biosphere reserves or wildlife sanctuaries or National parks or Important Bird Areas (IBAs), or migratory routes of fauna. The Thampalayam RF Located in 6.83 km SE Side. There Are Few Plants and No Endangered Species in Thampalayam Reserve Forest. The *Prosopis Juliflora, Azadirachta Indica, Vachellia Leucophloea, Albizia Amara* These Three Types of Plants Are Abundant in Thathmpalayam Reserve Forest. Thus, The Area Under Study (Mine Lease Area and the 10 Km Buffer Zone) Is Not Ecologically Sensitive.

3.5.2 Fauna

The faunal survey was carried out for Mammals, Birds, Reptiles, Amphibians and Butterflies. There are no rare, endangered, threatened (RET) and endemic species present in core area.

Table 3.26 Methodology applied during survey of fauna

S. No.	Taxa	Method of Sampling	References
1	Insects	Random walk, Opportunistic observations	Pollard (1977); Kunte (2000)
2	Reptiles	Visual encounter survey (Direct Search)	Daniel J.C (2002)
3	Amphibians	Visual encounter survey (Direct Search)	
4	Mammals	Tracks and Signs	Menon V (2014)
5	Avian	Random walk, Opportunistic observations.	Grimmett R (2011); Ali S (1941)

Fauna in Core Zone

A total of 18 varieties of species belonging to 18 families were observed in the core zone. Among them are 6 Insects, 3 Reptiles, 1 Mammal and 8 Avian. Number of species decreases towards the mining area due the lack of vegetation. None of these species are threatened or endemic. There is no Schedule I species and 6 species are under schedule IV according to Indian wild life Act 1972. There are no critically endangered, endangered, vulnerable and endemic species there. Details of fauna in core zone and their scientific name were mentioned in Table. 3.26.

Fauna in Buffer Zone

A total of 42 species belonging to 41 families were recorded in the buffer zone. Based on habitat classification the majority of species were 15 Birds (35%), followed by 13 Insects (30%), 7 Reptiles (16%), 4 Mammals (9%) and 3 Amphibians (7%). There are 4 schedule II species and 23 schedule IV species according to Indian wild life Act 1972. There are no critically endangered, vulnerable and endemic species observed. List of fauna in the buffer zone is mentioned in Table 3.27.

Table 3.27 Fauna in Core Zone

S. No	Common name/English Name	Family Name	Scientific Name	Schedule list wildlife Protection act 1972	IUCN Red List data
Insects					
1	Common Tiger	Nymphalidae	*Danaus genutia*	NL	NL
2	Red-veined darter	Libellulidae	*Sympetrum fonscolombii*	NL	LC
3	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
4	Blue tiger	Nymphalidae	*Tirumala limniace*	Schedule IV	LC
5	Stick insect	Lonchodidae	*carausius morosus*	NL	LC
6	Mottled emigrant	Peridae	*Catopsilia pyranthe*	NL	LC
Reptiles					
7	Garden lizard	Agamidae	*Calotes versicolor*	NL	LC

8	Common house gecko	Gekkonidae	*Hemidactylus frenatus*	NL	LC
9	Fan-Throated Lizard	Agamidae	*Sitanaponticeriana*	NL	LC
Mammals					
10	Indian Field Mouse	Muridae	*Mus booduga*	Schedule IV	NL
Aves					
11	Asian green bee-eater	Meropidae	*Meropsorientalis*	NL	LC
12	Koel	Cucalidae	*Eudynamys*	Schedule IV	LC
13	Common myna	Sturnidae	*Acridotheres tristis*	NL	LC
14	Cattle egret	Ardeidae	*Bubulcus ibis*	NL	LC
15	House crow	Corvidae	*Corvus splendens*	NL	LC
16	Crow Pheasant	Cucalidae	*Centropus sinensis*	Schedule IV	LC
17	Indian pond heron	Ardeidae	*Ardeola grayii*	Schedule IV	LC
18	Grey drongo	Dicruridae	*Dicrurus leucophaeus*	Schedule IV	LC

*NE- Not evaluated; LC- Least Concern, NT –Near Threatened, T-Threatened

Table 3.28 Fauna in Buffer Zone

S.No.	Common Name/English Name	Family Name	Scientific Name	Schedule List Wildlife Protection Act 1972	IUCN Red List Data
Insects					
1	Blue tiger	Nymphalidae	*Tirumala limniace*	Schedule IV	LC
2	Milkweed butterfly	Nymphalidae	*Danainae*	NL	LC
3	Tawny coster	Nymphalidae	*Danaus chrysippus*	Schedule IV	LC
4	Indian honey bee	Apidae	*Apis cerana*	Schedule IV	LC
5	Grasshopper	Acrididae	*Hieroglyphus sp*	NL	LC
6	Red-veined darter	Libellulidae	*Sympetrum fonscolombii*	NL	LC
7	Lime butterfly	Papilionidae	*Papilio demoleus*	Schedule IV	LC
8	Ant	Formicidae	*Camponotus Vicinus*	NL	NL
9	Dragonfly	Gomphidae	*Ceratogomphus pictus*	Schedule IV	LC
10	Common Tiger	Nymphalidae	*Danaus genutia*	Schedule IV	LC
11	Common Indian crow	Nymphalidae	*Euploea core*	Schedule IV	LC

12	Praying mantis	Mantidae	*mantis religiosa*	NL	NL
13	Striped tiger	Nymphalidae	*Danaus plexippus*	Schedule IV	LC
Reptiles					
14	Garden lizard	Agamidae	*Calotes versicolor*	NL	LC
15	Common house gecko	Gekkonidae	*Hemidactylus frenatus*	NL	LC
16	Indian chameleon	Chamaeleonidae	*Chamaeleo zeylanicus*	Sch II (Part I)	LC
17	Olive keelback water snake	Natricidae	*Atretium schistosum*	Sch II (Part II)	LC
18	Brahminy skink	Scincidae	*Eutropis carinata*	NL	LC
19	Rat snake	Colubridae	*Ptyas mucosa*	Sch II (Part II)	LC
20	Common skink	Scincidae	*Mabuya carinatus*	NL	LC
Mammals					
21	Indian palm squirrel	Sciuridae	*Funambulus palmarum*	Schedule IV	LC
22	Indian hare	Leporidae	*Lepus nigricollis*	Schedule IV	LC
23	Indian Field Mouse	Muridae	*Mus booduga*	Schedule IV	LC
24	Asian Small Mongoose	Herpestidae	*Herpestes javanicus*	Schedule (Part II)	LC
Aves					
25	Indian pond heron	Ardeidae	*Ardeola grayii*	Schedule IV	LC
26	Black drongo	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC
27	Asian green bee-eater	Meropidae	*Meropsorientalis*	NL	LC
28	Red-breasted parakeet	Psittaculidae	*Psittacula alexandri*	NL	LC
29	Common Coot	Rallidae	*Fulica atra*	Schedule IV	LC
30	Common myna	Sturnidae	*Acridotheres tristis*	NL	LC
31	Shikra	Accipitridae	*Accipiter badius*	NL	LC
32	Koel	Cucalidae	*Eudynamys*	Schedule IV	LC
33	Common Quail	Phasianidae	*Coturnix coturnix*	Schedule IV	LC
34	Red-vented Bulbul	Pycnonotidae	*Pycnonotuscafer*	Schedule IV	LC
35	Brahminy starling	Sturnidae	*Sturnia pagodarum*	Schedule IV	LC
36	White-breasted waterhen	Rallidae	*Amaurornis phoenicurus*	NL	LC
37	Two-tailed Sparrow	Dicruridae	*Dicrurus macrocercus*	Schedule IV	LC

38	Grey Francolin	Phasianidae	*Francolinus pondicerianus*	Schedule IV	LC
39	House crow	Corvidae	*Corvussplendens*	NL	LC
Amphibians					
40	Indian Burrowing frog	Dicroglossidae	*Sphaerotheca breviceps*	Schedule IV	LC
41	Green Pond Frog	Ranidae	*Rana hexadactyla*	Schedule IV	LC
42	Tiger Frog	Chordata	*Hoplobatrachus tigerinus (Rana tigerina)*	Schedule IV	LC

*NL-Not listed, LC-Least concern, NT-Near threatened.

3.5.3 Agriculture & Horticulture in Karur district:

The principal crops of the district are paddy, millets, pulses, oilseeds, sugarcane and banana. The major paddy area is in Kulithalai and Krishnarayapuram taluks. Pulses are grown in rice fallow areas. In uplands millets like sorghum, pearl millet pulses such as red gram, horse gram oilseeds such as groundnut, gingelly and sunflower are grown both under irrigated and rain fed conditions.

Major Agricultural Crops

Major horticulture crops cultivated in this district are vegetables crops like tomato, brinjal, chillies, onion and turmeric. Details of major field crops and horticulture in 1km radius is given in Table. 3.29.

Table 3.29 Major Crops in 1km radius

S. No	Major crops	Scientific name	Families
1	Sorghum	*Sorghum bicolor*	Poaceae
2	Gingelly	*Sesamum indicum*	Pedaliaceae
3	Groundnut	*Arachis hypogaea*	Legumes
4	Sugarcane	*Saccharum officinarum*	Poaceae
5	Millets	*Panicum miliaceum L*	Poaceae
6	Sesame	*Sesamum indicum*	Pedaliaceae
7	Cotton	*Gossypium herbaceum*	Malvaceae

Major Horticulture Crops

Horticulture includes cultivation of fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds and non-food crops such as grass and ornamental trees and plants. It also includes plant conservation, landscape restoration, landscape and garden design.

Horticulture

Major horticulture crops cultivated in Karur district are fruit crops like mango, banana, Sapota and guava, vegetables like tomato, brinjal, Veandai, chillies, onion and tapioca, spices like turmeric. Details of major field crops and horticulture cultivation in 1km radius is given in Table 3.30.

Table 3.30 Major Field Crops & Horticulture cultivation in 1km radius.

S. No	Common Name	Scientific Name	Family
Major Horticultural Crops			
1	Guava	*Psidium guajava*	Myrtaceae
2	Sapota	*Manilkara zapota*	Sapotaceae
3	Lemon	*Citrus × limon*	Rutaceae
4	Papaya	*Carica papaya*	Caricaceae
Vegetables			
8	Onion	*Allium cepa*	Amaryllidaceae
9	Tapioca	*Manihot esculenta*	Spurges
10	Brinjal	*Solanum melongena*	Nightshade
11	Tomato	*Solanum lycopersicum*	Nightshade
12	Bottle Gourd	*Lagenaria siceraria*	Cucurbits
13	Veandai kai	*Abelmoschus esculentus*	Mallows
14	Moringa	*Moringa oleifera*	Moringaceae

Results

Biological assessment of the site was done to identify ecologically sensitive areas and whether there are any rare, endangered, endemic or threatened (REET) species of flora & fauna in the core area as well its buffer zone to be impacted. The study has also been designed to suggest suitable mitigation measures, if necessary, for protection of wildlife habitats and conservation of REET species if any. The study found that there is no endemic, endangered migratory fauna found in the area. This area is not also a migratory path of any faunal species. Hence, this small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

3.6 SOCIO ECONOMICS ENVIRONMENT

3.6.1 Introduction

An essential part of environmental study is socio-economic environment incorporating various facts related to socio-economic conditions in the area, which deals with the total environment. Socio economic study includes demographic structure of the area, provision of basic amenities viz., housing, education, health and medical services, occupation, water supply, sanitation, communication, transportation, prevailing diseases pattern as well as feature of aesthetic significance such as temples, historical monuments etc. at the baseline level. This would help in visualizing and predicting the possible impact depending upon the nature and magnitude of the project. Socio-economic study of an area

provides a good opportunity to assess the socio-economic condition and possibly makes a change in living and social standards of the particular area benefitted due to the project.

3.6.2 Objectives of the Study

The main objectives of the study are as follows:

- To know the current socio-economic condition in the region to cover the sub sectors education, health, sanitation, and water & food security.
- To recommend practical strategic interventions in the sector.
- To help in providing better living standards.
- To understand skill sets and plan for employment opportunities which shall be created.

3.6.3 Scope of Work

- To study the socio-economic environment of the area from the secondary sources
- Data collection & Analysis
- Prediction of project impact
- Mitigation Measures

3.6.4 Socio-Economic Status of Study area

The study area covers 9 villages including Vettamangalam (west), Vettamangalam (East), K.Paramathi, Punnam, Kuppam, Munnur, Nedungur, Karudayampalayam, Pavithiram,. As Punnam is the village in which the proposed project site is located, the summary of population facts for the village is exclusively providedin Table 3.31 and for other 10 villages in Tables 3.32 - 3.34

Table 3.31 Punnam Village Population Facts

Punnam Village	
Number of Households	1,452
Population	5,446
Male Population	2,839
Female Population	2,607
Children Population	427
Sex-ratio	802
Literacy	73.30%
Male Literacy	84.86%
Female Literacy	60.86%
Scheduled Tribes (ST)	0
Scheduled Caste (SC)	906
Total Workers	2718
Main Worker	2665
Marginal Worker	53

Table 3.32 Population and Literacy Data of Stu

Name	Total Population Person	Total Population Male	Total Population Female	Population in the age group 0-6 Male	Population in the age group 0-6 Female	Scheduled Castes population Person	Scheduled Tribes population Person	Literates Population Person	Illiterate Persons
Vettamangalam (west)	5882	2887	2995	213	207	816	7	3953	1929
Vettamangalam (East)	2657	1310	1347	99	103	714	5	1521	1136
K.Paramathi	82268	40825	41443	3009	2866	21805	23	53384	28884
Punnam	5446	2839	2607	237	190	906	0	3679	1767
Kuppam	3503	1697	1806	127	137	600	0	1947	1556
Munnur	2582	1289	1293	86	88	931	0	1649	933
Nedungur	1190	586	604	33	28	298	6	800	390
Karudayampalayam	2347	1211	1136	62	70	438	0	1614	733
Pavithiram	5881	2862	3019	234	217	1546	0	3738	2143

Table 3.33 Details on Educational Facilities, Water, and Drainage & Health Facilities

Village Name	Govt Primary School	Govt Vocational Training School/ITI	Primary Health Sub Centre (Numbers)	Tap Water Untreated	Is the Area Covered under Total Sanitation (TSC)?	Telephone (landlines)	Public Bus Service	Gravel (kuchha) Roads	Commercial Bank	Agricultural Credit Societies	Self - Help Group (SHG)	Nutritional Centres-Anganwadi Centre	Community Centre with/without TV	Power Supply for Domestic Use
K. Paramathi	1	2	2	1	2	1	1	1	1	1	1	1	2	1
Karudayampalayam	1	2	1	1	1	1	1	1	2	2	1	1	1	1
Kuppam	1	2	1	1	1	1	1	1	2	2	1	1	1	1
Munnur	1	2	2	1	1	1	1	1	2	2	1	1	2	1
Nedungur	1	2	0	1	1	1	1	1	2	2	1	1	1	1
Pavithiram	1	2	1	1	2	1	1	1	2	2	1	1	1	1
Punnam	1	2	1	1	2	1	1	1	2	1	1	1	1	1
Vettamangalam (East)	1	2	2	1	1	1	1	1	2	1	1	1	1	1
Vettamangalam (west)	1	2	2	1	1	1	1	1	1	1	1	1	1	1

Table 3.34 Workers' Profile of Study Area

Village Name	Tractors	Carts Drivens by Animals	Black Topped (pucca) Road	ATM	Commercial Bank	Cooperative Bank	Agricultural Credit Societies	Public Distribution System (PDS) Shop	Mandis/Regular Market	Weekly Haat	Power Supply for Agriculture Use	Power Supply for Commercial Use	Agricultural Commodities (First)	Manufacturers Commodities (First)	Handicrafts Commodities (First)	Forest Area (in Hectares)	Net Area Sown (in Hectares)
K.Paramathi	2	2	1	2	1	1	1	1	2	1	1	1	Maize	Milk products	-	0	258.44
Karudayampalayam	2	2	1	1	2	1	2	1	2	2	1	1	Drum stick	Blue metal	-	0	326.73
Kuppam	2	2	1	2	2	1	2	1	2	2	1	1	Coconut	Blue metal	-	0	336.23
Munnur	2	2	1	2	2	2	2	1	2	2	1	1	Corn	Milk products	-	0	347.3
Nedungur	2	2	1	2	2	2	2	1	2	2	1	1	Drum stick	Textiles	-	0	307.83
Pavithiram	2	2	1	2	2	2	2	1	2	2	1	1	Paddy	Power loom	-	0	440.56
Punnam	2	2	1	2	2	2	1	1	2	1	1	1	Coconut	Milk products	-	0	585.36
Vettamangalam (East)	2	2	1	2	2	2	1	1	2	2	1	1	Sugarcane	-	-	0	735.58
Vettamangalam (west)	2	2	1	2	1	2	1	1	2	2	1	1	Sugarcane	-	Bricks	0	565.17

3.6.5 Recommendation and Suggestion

- Awareness program should be conducted to make the population aware of education and to get a better livelihood.
- Vocational training programme should be organized to make the people self - employed, particularly for women and unemployed youth.
- On the basis of qualification and skills local community may be preferred. Long term and short-term employments should be generated.
- Health care centre and ambulance facility should be provided to the population to get easy access to medical facilities. Apart from that, as these areas are prone to various diseases a hospital with modern facilities should be opened on a priority basis in a central place to provide better health facilities to the villagers around the project.
- While developing an Action Plan, it is very important to identify the population who falls under the marginalized and vulnerable groups. So that special attention can be given to these groups with special provisions while making action plans.

3.6.6 Summary & Conclusion

The socio-economic study in the study area gives a clear picture of its population, average household size, literacy rate and sex ratio etc. It is also found that a part of population is suffering from a lack of permanent job to run their day-to-day life. Their expectation is to earn some income for their sustainability on a long-term basis. 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.

3.7 TRAFFIC DENSITY

The traffic survey conducted based on the transportation route of material, the Rough Stone and gravel is proposed to be transported mainly through Village Road, Erode to Karur (NH-84) and Karappalayam to Kattur Road (NH-67) as shown in Table 3.35-3.38 and in Figure 3.26. Traffic density measurements 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. Direction for counting the traffic. At the end of each hour, fresh counting and recording was undertaken.

Table 3.35 Traffic Survey Locations

Station Code	Road Name	Distance and Direction	Type of Road
TS1	Village Road	7.49m-W	Village Road
TS2	Erode to Karur Road (SH-84)	2.72 Km-NNE	Erode to Karur Road (SH-84)
TS3	Karappalayam to Kattur Road (NH-67)	3.52 km-S	Karappalayam to Kattur Road (NH-67)

Source: On-site monitoring by GTMS FAE & TM

Table 3.36 Existing Traffic Volume

Station code	HMV		LMV		2/3 Wheelers		Total PCU
	No	PCU	No	PCU	No	PCU	
TS1	35	105	38	38	68	34	177
TS2	114	342	45	45	101	51	438
TS3	181	543	55	55	117	59	657

Source: On-site monitoring by GTMS FAE & TM

* PCU conversion factor: HMV (Trucks and Bus) = 3, LMV (Car, Jeep and Auto) = 1 and 2/3 Wheelers = 0.5

Table 3.37 Rough Stone Transportation Requirement

Transportation of Rough and Gravel per day		
Capacity of trucks	No. of Trips per day	Volume in PCU
15 tonnes	5	15

Source: Approved Mining Plan

Table 3.38 Summary of Traffic Volume

Route	Existing traffic volume in PCU	Incremental traffic due to the project	Total traffic volume	Hourly Capacity in PCU as per IRC – 1960guidelines
Village Road	177	15	192	1200
Erode to Karur Road (SH)	438	15	453	1200
Vellakoil to Karur Road (NH)	657	15	672	1500

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

- Due to these projects the existing traffic volume will not exceed the traffic limit. As per the IRC 1960 this existing village 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 proposed transportatio

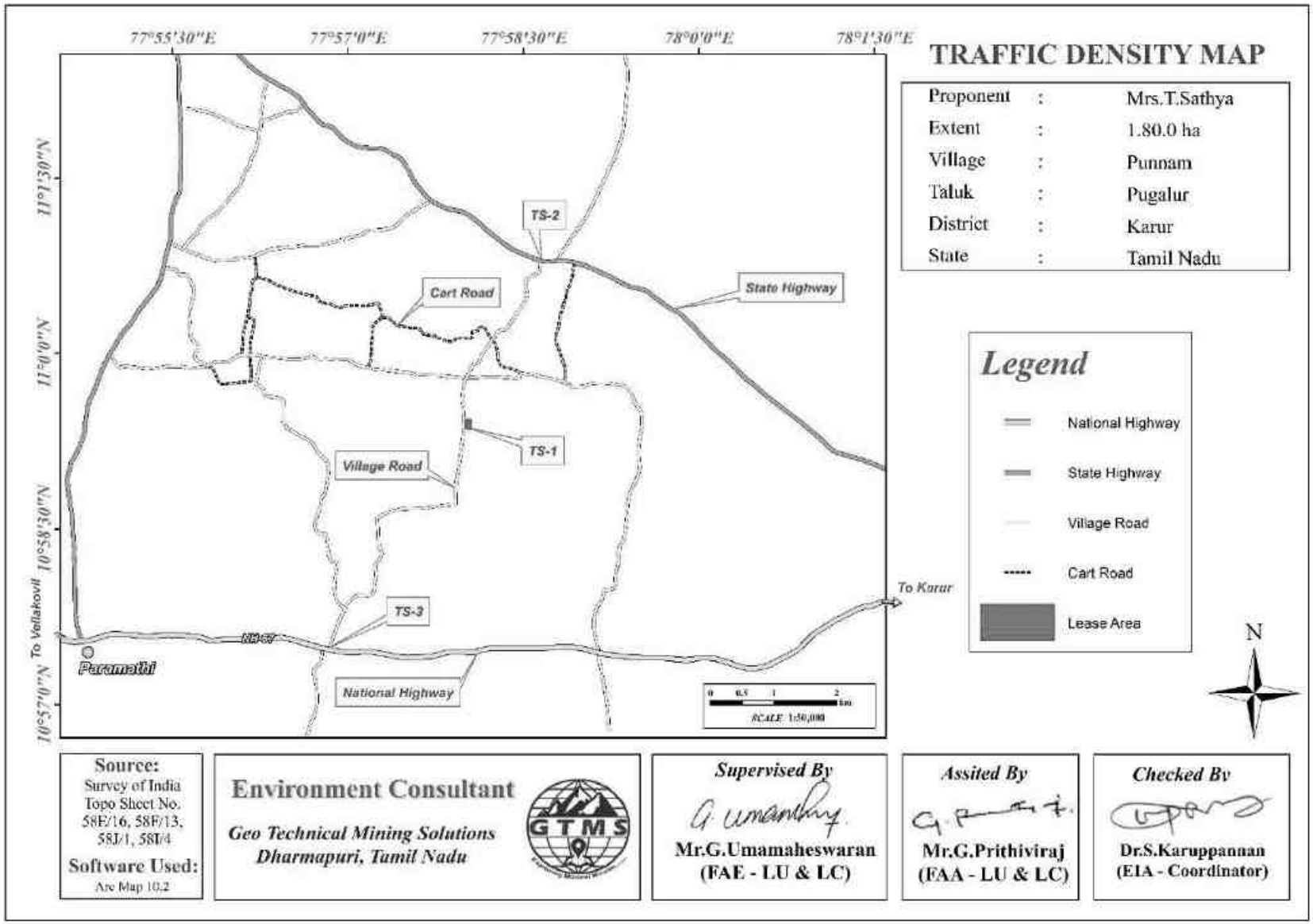


Figure 3.26 Traffic Density Map

3.8 SITE SPECIFIC FEATURES

There are no Wildlife Sanctuaries, Reserve Forest and National Park within 10 km radius. Therefore, there will be no need of acquisition/diversion of forest land. The details related to the environmentally sensitive areas around the proposed mine lease area i.e., 10 km radius and the nearby water bodies are given in the Table 3.39.

Table 3.39 Details of Environmentally Sensitive Ecological Features in the Study Area

S. No.	Sensitive Ecological Features	Name	Areal Distance in km
1	National Park / Wild life Sanctuaries	None	Nil within 10 km radius
		None	Nil within 10 km radius
2	Reserve Forest	Thathampalayam R. F	66 km SE
		Amaravathi River	8.98 km North
		Cauvery River	7.88 km SE
4	Tiger Reserve/Elephant Reserve/ Biosphere Reserve	None	Nil within 10 km radius
5	Densely Polluted Areas	None	Nil within 10 km radius
6	Mangroves	None	Nil within 10 km radius
7	Mountains/Hills	None	Nil within 10 km radius
8	Centrally Protected Archaeological Sites	None	Nil within 10 km radius
9	Industries/ Thermal Power Plants	TNPL Tamilnadu Newsprint and Papers Limited	7.37 km NE
10	Defence Installation	None	Nil within 10 km radius

Source: Survey of India Toposheet

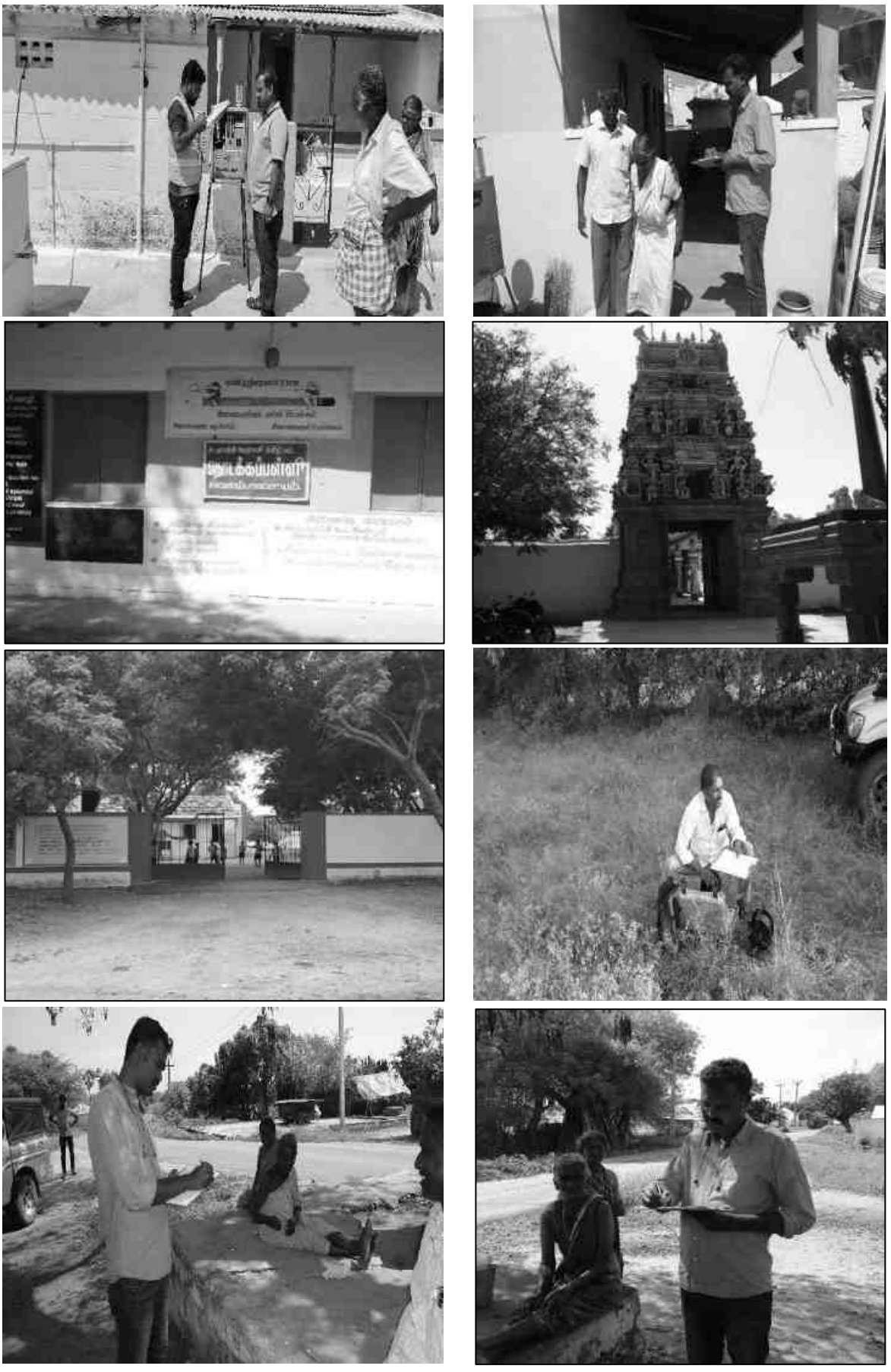


Figure 3.27 Field Study Photographs

CHAPTER IV

ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.0 GENERAL

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 sustainable resource extraction. This chapter discusses the anticipated impacts on soil, land, water, air, noise, biological, and socioeconomic environments.

4.1 LAND ENVIRONMENT

4.1.1 Anticipated Impact

- Permanent or temporary change on land use and land cover.
- Change in topography of the mine lease area will change at the end of the life of the mine.
- Problems to agricultural land and human habitations due to dust, and noise caused by movement of heavy vehicles
- Degradation of the aesthetic environment of the core zone due to quarrying
- Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season
- Siltation of water course due to wash off from the exposed working area

4.1.2 Common Mitigation Measures from Proposed Project

- The mining activity will be gradual confined in blocks and excavation will be undertaken progressively along with other mitigate 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 minimize 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.

4.2 SOIL ENVIRONMENT

No top soil will be removed in this project. However, some of the common mitigation measures is discussed in the following sections.

4.2.1 Anticipated Impact on Soil Environment

- Deterioration of soil quality in the surrounding area due to runoff from the project area
- Decrease in the agricultural productivity of the surrounding land due to soil quality degradation

4.2.2 Common Mitigation Measures from proposed project

- Construction of garland drains, settling pits, and check dams to prevent runoff and siltation
- Run-off diversion – Garland drains will be constructed around the project boundary to prevent surface flows from entering the quarry works areas and will be discharged into the settling tanks to reduce suspended sediment loads before runoff is discharged from the quarry site.
- Retain existing or re-plant the vegetation will be retained 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.

4.3 WATER ENVIRONMENT

4.3.1 Anticipated Impact

- Surface and ground water resources may be contaminated due to pit water discharge, domestic sewage, discharge of oil and grease bearing waste water from washing of vehicles and machineries, and washouts from surface exposure or working areas
- As the proposed project acquires 3.75 KLD of water from water vendors, it will not extract water by developing abstraction structures in the lease area. Therefore, the project will not have impact on depletion of aquifer beneath the lease area.

4.3.2 Common Mitigation Measures for the Proposed Project

- Rain water from mine pit will be treated in settling tanks before being used for dust suppression and tree plantation purposes

- ❖ Domestic sewage from site office will be discharged in septic tank and then directed to soak pits
- ❖ Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse
- ❖ The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage
- ❖ Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted
- ❖ Artificial recharge structures will be established in suitable locations as part of the rainwater harvesting management program

4.4 AIR ENVIRONMENT

The air borne particulate matter is the main air pollutant by opencast mining. The mining operation will be carried out by jack hammer drilling, excavation, loading and transportation.

4.4.1 Anticipated Impact from proposed project

- ❖ During mining at various stages of activities such as excavation, drilling 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

4.4.2 Emission Estimation

Emission resulting from different mining activities is estimated using relevant empirical formulae developed by Chaulya et al.,2001. The equations used for SPM, SO_2, and NO_X emission estimation have been given in Table 4.1.

Table 4.1 Empirical Formula for Emission Rate from Overall Mine

	Pollutant	Source Type	Empirical Equation	Parameters
Overall Mine	SPM	Area	E= [u0.4a0.2{9.7+ 0.01p+b/(4+0.3b)}]	u = Wind speed(m/s); p = Mineral production (Mt/yr); b = Overburden handling (Mm^3/yr);

				a = Lease area(km^2); E = Emission rate(g/s).
Overall Mine	SO_2	Area	E=a0.14{u/(1.83+0.93u)} [{p/(0.48+0.57p)} +{b/(14.37+1.15b)}]	u = Wind speed(m/s); p = Mineral production (Mt/yr); b = Overburden handling (Mm^3/yr); a = Lease area(km^2); E = Emission rate(g/s).
Overall Mine	NO_X	Area	E=a0.25{u/(4.3+32.5u)} [1.5p+{b/(0.06+0.08b)}]	u = Wind speed(m/s); p = Mineral production (Mt/yr); b= Overburden handling (Mm^3/yr); a = Lease area(km^2); E = Emission rate(g/s).

The emission rate thus calculated using the empirical formula is used as one of the inputs in the AERMOD modelling. As the SPM emission calculation for overall mine is not considering pollution control measures, one-third of the SPM value is taken for derivation of PM_{10} keeping in mind that proper control measures are followed. It is important to note that PM_{10} emission rate is derived from the SPM estimation in the background that PM_{10} constitutes 52% of SPM emission. The $PM_{2.5}$, PM_{10}, SO_2 and NO_X emission results have been given in Table 4.2.

Table 4.2 Estimated Emission Rate

Activity	Pollutant	Calculated Value (g/s)	Lease Area in m^2	Calculated Value (g/s/m^2)
Overall Mine	$PM_{2.5}$	0.167100758	18000	9.28338E-06
Overall Mine	PM_{10}	1.114005056	18000	6.18892E-05
Overall Mine	SO_2	0.014185174	18000	7.88065E-07
Overall Mine	NO_X	0.010824528	18000	6.01363E-07

4.4.2.1 Modelling of Incremental Concentration

Anticipated incremental concentration and net increase in emissions due to quarrying activities within 500 m around the project area is predicted by open pit source modelling using AERMOD Software and the incremental values of the air pollutants were added to the base line data monitored at the proposed site to predict total GLC of the pollutants, as shown in Tables 4.3-4.6.

4.4.2.2 Model Results

The post project resultant concentrations of PM_{10}, $PM_{2.5}$, SO_2 & NO_X (GLC) is given in Tables 4.3-4.6.

Table 4.3 Incremental & Resultant GLC of $PM_{2.5}$

Station ID	Distance to core area (km)	Direction	PM 2.5 concentrations(µg/m³)			Comparison against air quality standard (60 µg/m³)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.20	NW	20.2	1	21.2	Below standard	5.0	Not significant
AAQ2	0.95	SE	23.2	0.10	23.3		0.4	
AAQ3	2.58	SW	21.0	0	21		0.0	
AAQ4	3.62	NW	16.0	0	16		0.0	
AAQ5	4.48	W	20.7	0	20.7		0.0	
AAQ6	2.86	NE	21.4	0.5	21.9		2.3	
AAQ7	3.94	SE	19.7	0.5	20.2		2.5	
AAQ8	4.97	E	21.9	0	21.9		0.0	
AAQ9	--	--	16.7	3.49	20.19		20.90	
AAQ10	0.84	W	16.3	0.5	16.8		3.07	

Table 4.4 Incremental & Resultant GLC of PM_{10}

Station ID	Distance to core area (km)	Direction	PM10 concentrations(µg/m³)			Comparison against air quality standard (60 µg/m³)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.20	NW	41.7	1	42.7	Below standard	2.4	Not significant
AAQ2	0.95	SE	40.8	0.5	41.3		1.2	
AAQ3	2.58	SW	39.3	0	39.3		0.0	
AAQ4	3.62	NW	37.0	0	37		0.0	
AAQ5	4.48	W	38.8	0	38.8		0.0	
AAQ6	2.86	NE	39.7	0.5	40.2		1.3	
AAQ7	3.94	SE	39.7	0.5	40.2		1.3	
AAQ8	4.97	E	40.0	0	40		0.0	
AAQ9	--	--	41.8	5.32	47.12		12.73	
AAQ10	0.84	W	39.7	0.5	40.2		1.26	

Table 4.5 Incremental & Resultant GLC of SO_2

Station ID	Distance to core	Direction	SO_2 concentrations(µg/m^3)			Comparison against air quality standard (60 µg/m^3)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.20	NW	8.4	1	9.4	Below standard	11.9	Not significant
AAQ2	0.95	SE	9.9	0	9.9		0.0	
AAQ3	2.58	SW	9.2	0	9.2		0.0	
AAQ4	3.62	NW	7.0	0	7		0.0	
AAQ5	4.48	W	8.4	0	8.4		0.0	
AAQ6	2.86	NE	8.7	0	8.7		0.0	
AAQ7	3.94	SE	6.6	0	6.6		0.0	
AAQ8	4.97	E	8.7	0	8.7		0.0	
AAQ9	--	--	6.2	1.11	7.31		17.90	
AAQ10	0.84	W	5.7	0	5.7		0.00	

Table 4.6 Incremental & Resultant GLC of NO_X

Station ID	Distance to core	Direction	NOx concentrations(µg/m^3)			Comparison against air quality standard (60 µg/m^3)	Magnitude of change (%)	Significance
			Baseline	Predicted	Total			
AAQ1	0.20	NW	15.6	1	16.6	Below standard	6.4	Not significant
AAQ2	0.95	SE	19.6	0	19.6		0.0	
AAQ3	2.58	SW	18.2	0	18.2		0.0	
AAQ4	3.62	NW	11.0	0	11		0.0	
AAQ5	4.48	W	18.5	0	18.5		0.0	
AAQ6	2.86	NE	17.8	0	17.8		0.0	
AAQ7	3.94	SE	22.6	0	22.6		0.0	
AAQ8	4.97	E	22.2	0	22.2		0.0	
AAQ9	--	--	12.9	2.95	15.85		22.87	
AAQ10	0.84	W	15.3	0.5	15.8		3.27	

The values of cumulative concentration i.e., background + incremental concentration of pollutant in all the receptor locations are still within the prescribed NAAQ limits without effective mitigation measures. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be controlled further.

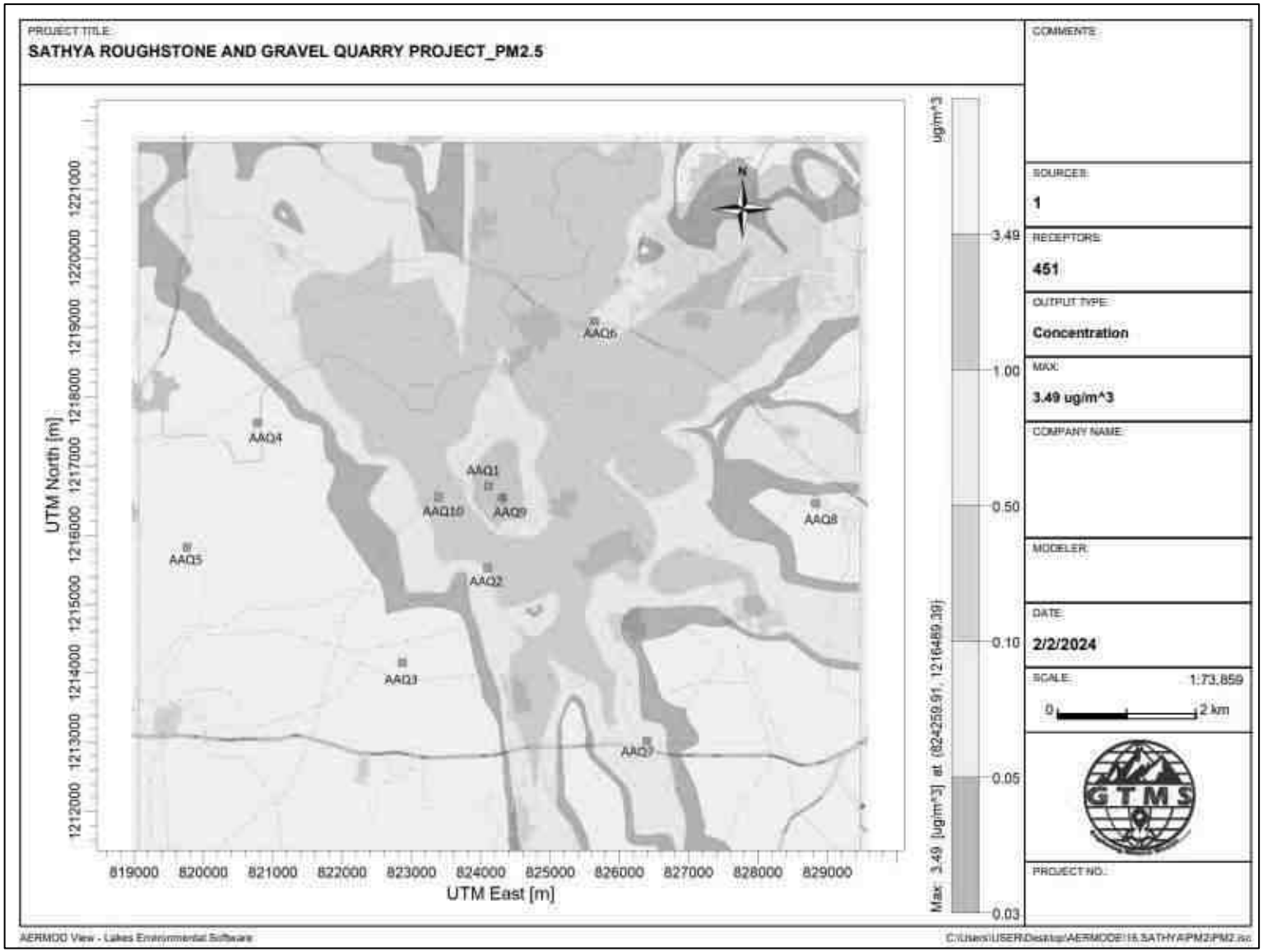


Figure 4.1 Predicted Incremental Concentration of $PM_{2.5}$

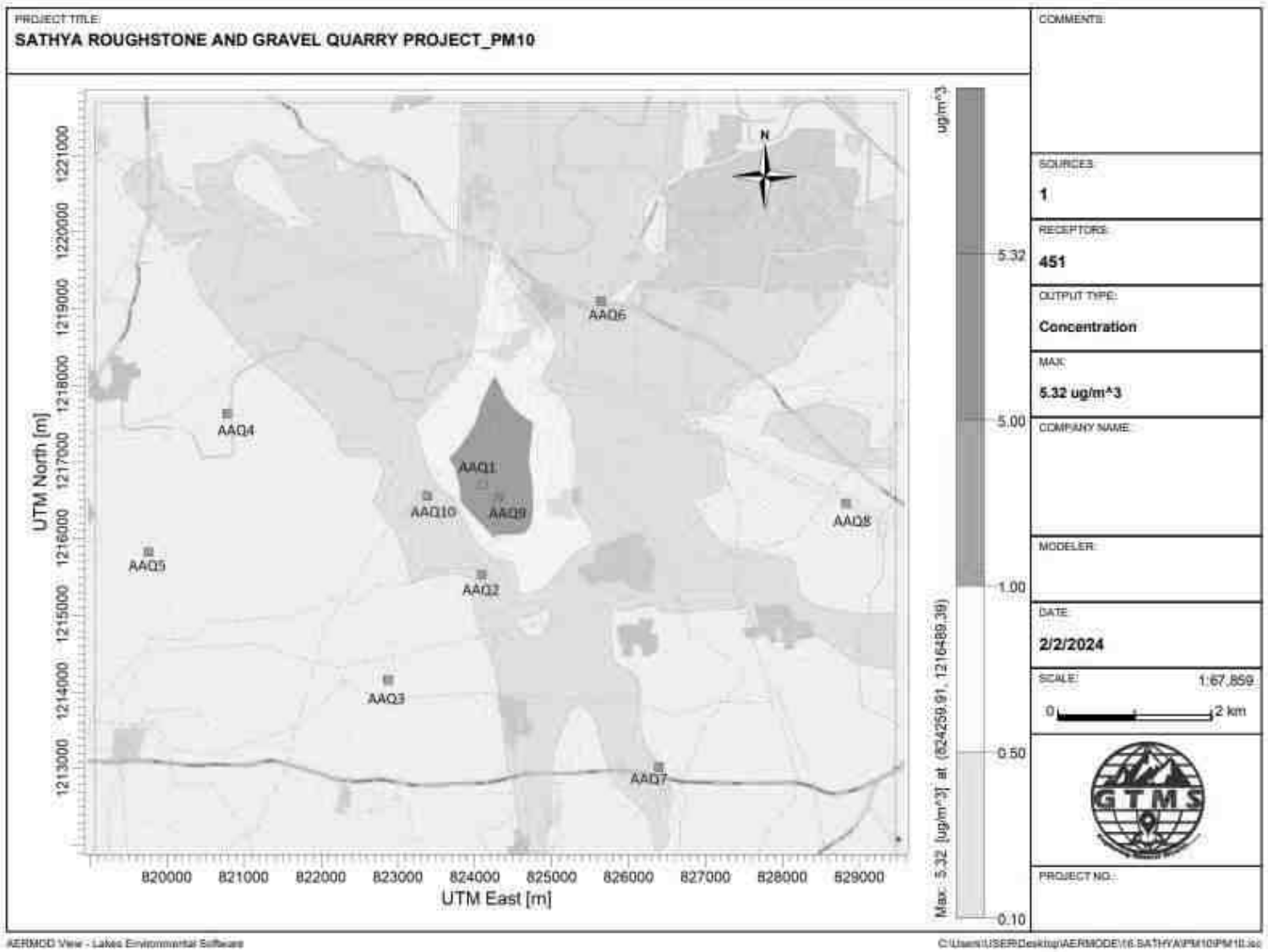


Figure 4.2 Predicted Incremental Concentration of PM_{10}

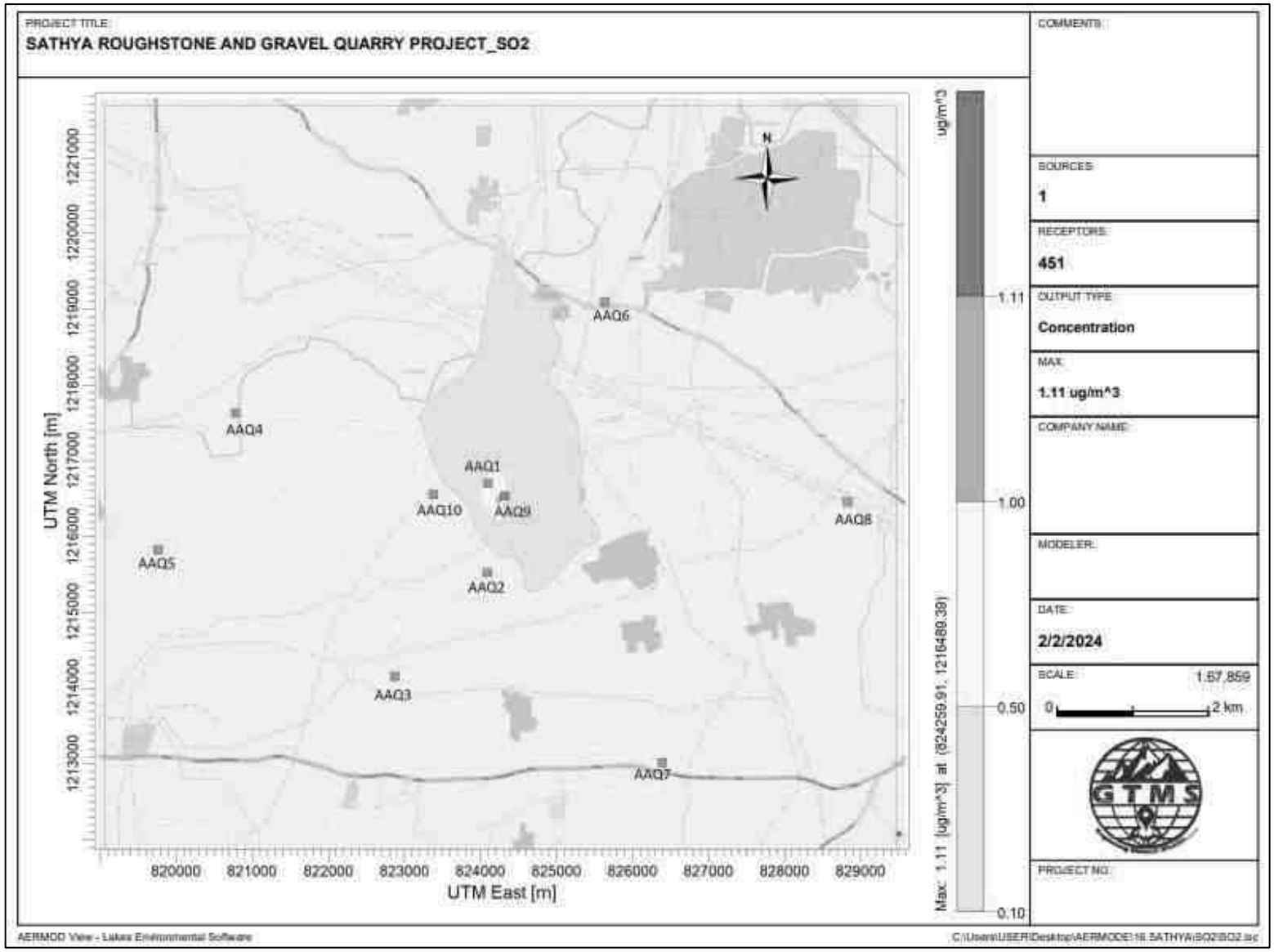


Figure 4.3 Predicted Incremental Concentration of SO_2

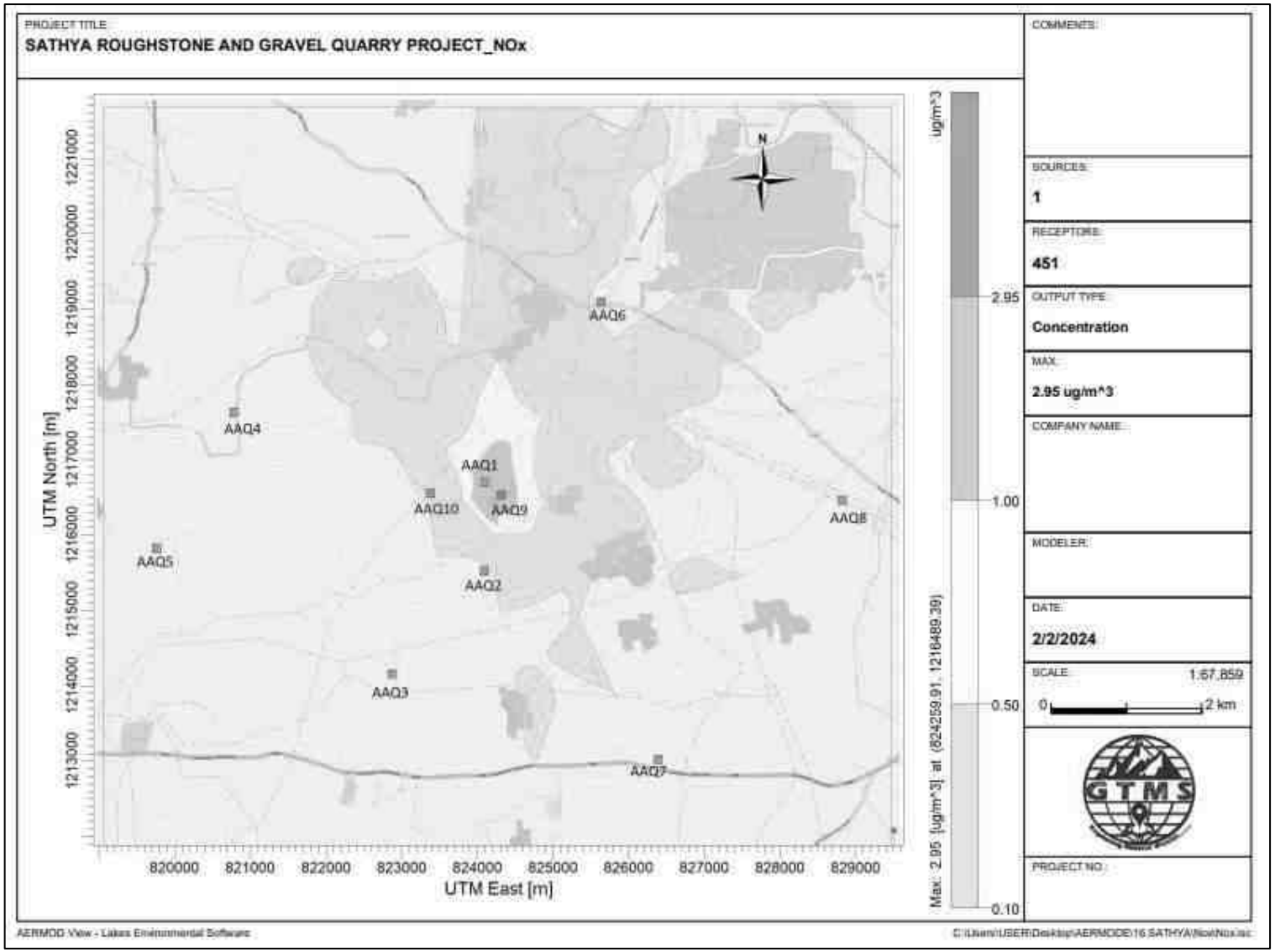


Figure 4.4 Predicted Incremental Concentration of NO_X

4.5 NOISE ENVIRONMENT

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 a mathematical model based on first principle.

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

Where,

Lp_1 & Lp_2 are sound levels at points located at distances r_1 and 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.

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

4.5.1 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 4.7.

Table 4.7 Activity and Noise Level Produced by Machinery

S. No.	Machinery / activity	Impact on environment?	Noise produced in dB(A) at 50 ft from source*
2	Jack hammer	Yes	88
3	Compressor	No	81
5	Tipper	No	84
Total			**90**

**50 feet from source = 15.24 meters*

The total noise to be produced by mining activity is calculated to be 90 dB (A). Generally, most mining operations produce noise between 90dB (A).

Table 4.8 Predicted Noise Incremental Values

Noise Monitoring Location	Distance From Project Site(m)	Baseline Noise Level (dBA)m During Day Time	Predicted Noise Level (dBA)	Total (dBA)
Core Zone	210	41.4	31.72	41.84
Pullaiyampalayam	670	39.4	21.64	39.47
VST Blue metals Core	950	41.6	18.61	41.62
Near Ponvinayaga Blue Metals	2600	41.2	9.86	41.20
Andisangilipalayam	3620	36.2	6.99	36.21
Punnam Velayuthampalayam	4520	39.6	5.06	39.60
Punnam Chattiram	2150	42.6	11.51	42.60
Pavithiram	3940	43.8	6.25	43.80
Nochipalayam	5000	41.3	4.18	41.30
Sathiya Core	100	45.5	38.16	46.24
Selva Vinayaga Core	850	44.8	19.57	44.81
NAAQ Standards	Industrial Day Time - 75 dB (A) & Night Time- 70 dB (A) Residential Day Time -55 dB (A) & Night Time- 45 dB (A)			

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. Therefore, no impact is anticipated on the noise environment due to the project

4.5.2 Common Mitigation Measures

The following noise mitigation measures are proposed for control of noise:

- Usage of sharp drill bits while drilling which will help in reducing noise
- Proper maintenance, oiling and greasing of machines will be done every week to reduce generation of noise
- Provision of sound insulated chambers for the workers working on machines (HEMM) producing higher levels of noise

- ❖ Silencers / mufflers will be installed in all machineries
- ❖ Greenbelt/Plantation will be developed around the project area and along the haul roads. The plantation minimizes propagation of noise
- ❖ Personal Protective Equipment (PPE) like ear muffs/ear plugs will be provided to the operators of HEMM and persons working near HEMM and their use will be ensured though training and awareness
- ❖ Regular medical check–up and proper training to personnel to create awareness about adverse noise level effects

4.6 ECOLOGY AND BIODIVERSITY

4.6.1 Impact on Ecology and Biodiversity

- ❖ During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly
- ❖ Carbon released from quarrying machineries and tippers during quarrying would be 332 kg per day, 89622 kg per year and 448112 kg over five years, as provided in Table 4.9.

Table 4.9 Carbon Released During Five Years of Rough Stone and Gravel Production

	Per day	Per year	Per five years
Fuel consumption of excavator	23	6132	30659
Fuel consumption of compressor	1.6	432	2160
Fuel consumption of tipper	100	26877	134387
Total fuel consumption in liters	124	33441	167206
CO_2 emission in kg	332	89622	448112

4.6.2 Mitigation Measures on Flora

- ❖ During conceptual stage, the top bench will be re-vegetated by planting local /native species and lower benches will be converted into rainwater harvesting structure following completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time.
- ❖ None of the plants in the lease area will be cut during operational phase of the mine. we recommend uprooting and planting of the 10 trees along the 7.5 m safety zone to prevent environmental pollution during quarrying. As the survival rate due to uprooting was only 30%, 100 seedlings will be procured at the rate of 10 seedlings per tree and planted in 7.5 m safety zone.
- ❖ Existing roads will be used; new roads will not be constructed to reduce impact on flora.
- ❖ To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester 21578 kg of carbon

per year. Therefore, we recommend planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.

- As per the greenbelt development plan as recommended by SEAC (Table 4.11), about 900 trees will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 2835 kg of the total carbon, as provided in Table 4.10.

Table 4.10 CO_2 Sequestration

CO_2 sequestration in kg	80	21578	107892
Remaining CO_2 not sequestered in kg	252	68044	340220
Trees required for environmental compensation	2835		
Area required for environmental compensation in hectares	6		

Table 4.11 Recommended Species for Greenbelt Development Plan

S. No	Botanical Name of the Plant	Family Name	Common Name	Category	Dust Capturing Efficiency Features
1	*Azadirachta indica*	Meliaceae	Neem, Vembu	Tree	Well distinct thick at both the layer Well distinct in Palisade & Spongy parenchyma. Spongy parenchyma is present at lower epidermis Many vascular bundles arranged almost parallel series
2	*Techtona grandis*	Lamiaceae	Teak	Tree	
3	*Polyalthia longifolia*	Annonaceae	Nettilingam	Tree	
4	*Albizia lebbeck*	Fabaceae	Vagai	Tree	
5	*Delonix regia*	Fabaceae	Cemmayir-konrai	Tree	
6	*Bauhinia racemose*	Fabaceae	Aathi	Tree	
7	*Cassia fistula*	Fabaceae	Sarakondrai	Tree	
8	*Aegle marmelos*	Rutaceae	Vilvam	Tree	
9	*Pongamia pinnata*	Fabaceae	Pungam	Tree	
10	*Thespesia populnea*	Malvaceae	Puvarasu	Tree	

Table 4.12 Greenbelt Development Plan

	No. of trees proposed for plantation	No. of trees expected to survive @ 80%	Area to be covered(m^2)
Plantation in the construction phase (3 months)	Number of plants inside the mine lease area		
	360	288	3240
	Number of plants outside the mine lease area		
	540	432	4860
Total	**900**	**720**	**8100**

Figure 4.5 Green belt development photos

4.6.3. Anticipated Impact on Fauna

- ❖ Direct impact is anticipated on fauna of core zone
- ❖ Insignificant impact is anticipated on fauna in the buffer area due to air emissions, noise, vibration, transportation, waste water discharges, and changes in land use

Mitigation Measures on Fauna

- ❖ Fencing will be constructed around the proposed mine lease area to restrict the entry of stray animals
- ❖ The workers shall be trained not to harm any wildlife near the project site

4.6.4. Aquatic Biodiversity

Impact

- ❖ There is a small pond and lake within 1km around the quarry lease area and the dust generated during the quarrying may affect water bodies.
- ❖ Dust generated during quarrying can affect aquatic plants and animals in water bodies.

Mitigation Measures

- ❖ Planting trees around quarries prevents dust from escaping and prevents dust from spreading into water bodies. Aquatic plants and animals in water bodies are not affected.

4.6.5 Impact on agriculture and horticulture crops in 1km Radius

- ❖ Problems to agricultural and horticulture land due to dust caused by movement of heavy vehicles.
- ❖ Soil erosion and sediment deposition in the nearby water bodies due to earthworks during the rainy season.
- ❖ The fugitive dust released from the mining operations may cause effect on the agricultural and horticulture land who are directly exposed to the fugitive dust.
- ❖ Dust from the quarries is likely to affect reproductive systems in nearby agricultural and horticulture lands.
- ❖ Dust from quarries can affect plant growth and reduce vegetable yields.

4.6.6 Mitigation Measures on agriculture and horticulture crops.

- ❖ The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. In order to compensate the loss of vegetation cover, it is suggested to carry out afforestation program mainly inside and outside of the lease area in different phases.
- ❖ It is a granite quarry, no explosives are used, there is no possibility of vibration and dust, thus there is no possibility of damage to the adjacent agricultural land.
- ❖ Quarry approach roads are sprayed with water 3 times a day to control dust. Thus, the damage to the nearby farmlands is controlled.
- ❖ A green belt will be created in 7.5 safety zone around the quarry to contain the dust from the quarry and prevent the dust from spreading to the adjacent agricultural land.
- ❖ 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 to < 20 km/hr to avoid generation of dust.

4.7 SOCIO ECONOMIC ENVIRONMENT

4.7.1 Anticipated Impact from Proposed and Existing 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.

4.7.2 Common Mitigation Measures for Proposed Project

- 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

4.8 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

4.8.1 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

4.8.2 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.

4.8.3 Physical Hazards

The following measures are proposed for control of physical hazards

- ❖ Specific personnel training on work-site safety management will be taken up;
- ❖ 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.

4.8.4 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.

4.9 MINE WASTE MANAGEMENT

No waste is anticipated from any of the proposed quarries.

4.10 MINE CLOSURE

Mine closure plan is the most important environmental requirement in mining project. 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.

4.10.1 Mine Closure Criteria

The criteria involved in mine closure are discussed below:

4.10.1.1 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.,

4.10.1.2 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 discharges 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.

4.10.1.3 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 re-vegetation, 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.
- Where it is desirable to get a quick growth response from the native flora during those times when moisture is not a limiting factor. For example, 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 V
ANALYSIS OF ALTERNATIVES (TECHNOLOGY AND SITE)

5.0 INTRODUCTION

Consideration of alternatives to a proposed project is a requirement of EIA process. During the scoping process, alternatives to a proposed project can be considered or refined, either directly or by reference to the key issues identified. A comparison of alternatives helps to determine the best method of achieving the project objectives with minimum environmental impacts or indicates the most environmentally friendly and cost-effective options.

5.1 FACTORS BEHIND THE SELECTION OF PROJECT SITE

The proposed project is site specific and has the 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, firefighting, 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.
- As the proposed project area falls in seismic zone II, there is no major history of landslides, earthquake, subsidence etc., recorded in the past history.

5.2 ANALYSIS OF ALTERNATIVE SITE

No alternatives are suggested as the mine site is mineral specific.

5.3 FACTORS BEHIND SELECTION OF PROPOSED TECHNOLOGY

Manual open cast mining method with secondary blasting will be applied to extract rough stone and gravel in the area. The proposed mining lease areas have following advantages:

- As the mineral deposition is homogeneous and batholith formation, opencast method of working is preferred over underground method.
- The material will be loaded with the help of excavators into tractors/tippers and transported to the need by customers.
- 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 VI

ENVIRONMENTAL MONITORING PROGRAMME

6.0 GENERAL

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. The main objective of environmental monitoring is to ensure that the obtained results in respect of environmental attributes and prevailing conditions during operation stage are in conformity with the prediction during the planning stage. In case of substantial deviation from the earlier prediction of results, this forms as base data to identify the cause and suggest remedial measures. Environmental monitoring is mandatory to meet compliance of statutory provisions under the Environment (Protection) Act, 1986, relevant conditions regarding monitoring covered under EC orders issued by the SEIAA-TN as well as the conditions set forth under the order issued by Tamil Nadu Pollution Control Board while granting CTE/CTO.

6.1 METHODOLOGY OF MONITORING MECHANISM

Implementation of EMP and periodic monitoring will be carried out by respective project proponents. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project; Environmental protection measures like dust suppression, control of noise and blast vibrations, maintenance of machinery and vehicles, housekeeping in the mine premises, plantation, implementation of Environmental Management Plan and environmental clearance conditions will be monitored by the respective mine management. On the other hand, implementation of area level protection measures like green belt development, environmental quality monitoring etc., are taken up by a senior executive who reports to their Mine Management.

An Environment monitoring cell (EMC) will be constituted to monitor the implementation of EMP and other environmental protection measures in the proposed quarry.

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 as compliance status reports.

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 half-yearly and yearly by the proposed project proponent. The half-yearly reports are submitted to Ministry of Environment and Forest, Regional Office and SEIAA-TN 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). The Environmental Monitoring Cell will be formed for the proposed project. The structure of the cell will be as shown in Figure 6.1.

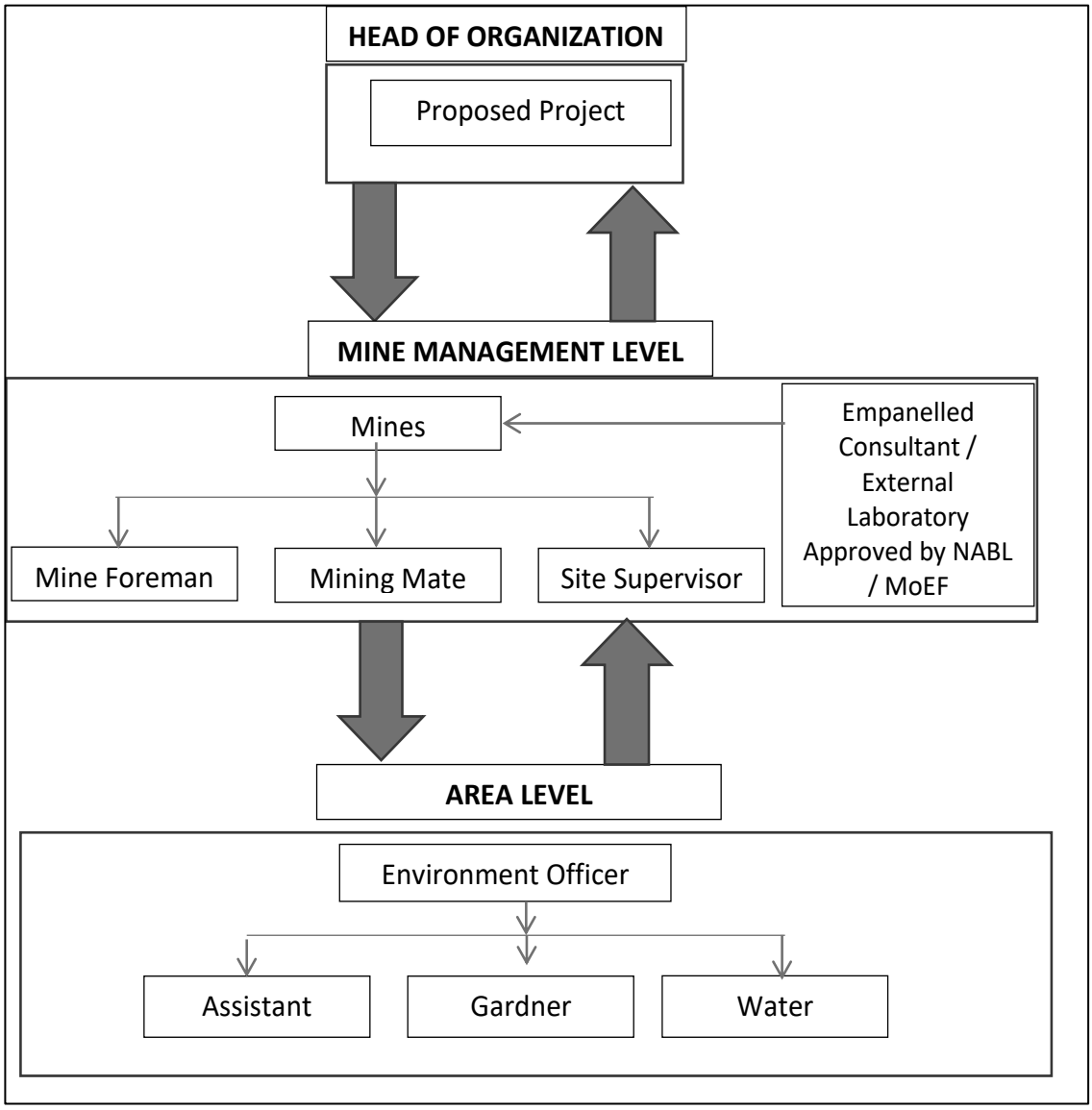


Figure 6.1 Proposed environmental monitoring chart

6.2 IMPLEMENTATION SCHEDULE OF MITIGATION MEASURES

The mitigation measures proposed in chapter IV 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 for Proposed Project

S. No.	Recommendations	Time Period	Schedule
1	Land Environment Control Measures	Before commissioning of the project	Immediately after the commencement of project
2	Soil Quality Control Measures	Before commissioning of the project	Immediately after the commencement of 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

Monitoring shall confirm that commitments are being met. This may take the form of direct measurement and recording of quantitative information, such as amounts and concentrations of discharges, emissions and wastes, for measurement against statutory standards. Monitoring may include socio-economic interaction, through local liaison activities or even assessment of complaints. 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 proposed monitoring schedule have been provided in Table 6.2.

Table 6.2 Proposed Monitoring Schedule Post EC for the Proposed Quarry

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, $PM_{2.5}$, PM_{10}, SO_2 and NO_x.
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 (1OW & 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 m 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 BUDGETARY PROVISION FOR ENVIRONMENT MONITORING PROGRAM

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 recurring cost for Environmental Monitoring Programme is **Rs 2,95,000** /- per annum for the proposed project site.

Table 6.3 Environment Monitoring Budget

S. No.	Parameter	Capital Cost	Recurring Cost per annum
1	Air Quality	-	Rs 60,000/-
2	Meteorology	-	Rs 15,000/-
3	Water Quality	-	Rs 20,000/-
4	Water Level Monitoring		Rs 10,000/-
5	Soil Quality	-	Rs 20,000/-
6	Noise Quality	-	Rs 10,000/-
7	Vibration Study	-	Rs 1,50,000/-
8	Greenbelt	-	Rs 10,000/-
Total		**-**	**Rs 2,95,000 /-**

Source: Field Data

6.5 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 Cluster Mine Management Coordinator and Respective Head of Organization for taking necessary corrective measures. 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

Besides the Mines Manager/Agent of respective project 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 VII
ADDITIONAL STUDIES

7.0 GENERAL

Additional studies deal with:

- Public Consultation for Proposed Project
- Risk Assessment
- Disaster Management Plan
- Cumulative Impact Study
- Plastic Waste Management

7.1 PUBLIC CONSULTATION FOR PROPOSED PROJECT

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 was made and the public opinions on the proposed project will be updated in the final EIA/EMP report.

7.2 RISK ASSESSMENT FOR PROPOSED PROJECT

Risk Assessment is all about prevention of accidents and to take necessary steps to prevent it from happening. The methodology for the risk assessment is based on the specific risk assessment guidance issued by the Directorate General of Mine Safety (DGMS), Dhanbad, vide circular No.13 of 2002, dated 31st 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 whole 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 for proposed project.

Factors of risks involved due to human induced activities in connection with these proposed mining & allied activities with detailed analysis of causes and control measures for the mine is given in Table 7.1.

Table 7.1 Risk Assessment & Control Measures for Proposed Project

S. No.	Risk factors	Causes of risk	Control measures
1	Accidents due to explosives and heavy mining machineries.	Improper handling and unsafe working practice	✓ 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. ✓ Workers will be sent to the Training in the nearby Group Vocational Training Centre Entry of unauthorized persons will be prohibited. ✓ Fire-fighting and first-aid provisions in the mine office complex and mining area. ✓ 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. ✓ Working of quarry, as per approved plans and regularly updating the mine plans. ✓ Cleaning of mine faces on daily basis shall be daily done in order to avoid any overhang or undercut. ✓ Handling of explosives, charging and firing shall be carried out by competent persons only under the supervision of a Mine Manager. ✓ Maintenance and testing of all mining equipment as per manufacturer's guidelines.
2	Drilling	Improper and unsafe practices; Due to high pressure of compressed air, hoses may burst; Drill Rod may break;	✓ Safe operating procedure established for drilling (SOP) will be strictly followed. ✓ Only trained operators will be deployed. ✓ 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, ✓ Drilling shall not be carried on simultaneously on the benches at places directly one above the other. ✓ Periodical preventive maintenance and replacement of worn-out accessories in the compressor and drill equipment as per operator manual.

			✓ All drills unit shall be provided with wet drilling shall be maintained in efficient working in condition. ✓ Operator shall regularly use all the personal protective equipment.
3	Transportation	Potential hazards and unsafe workings contributing to accident and injuries Overloading of material While reversal & overtaking of vehicle Operator of truck leaving his cabin when it is loaded.	✓ Before commencing work, drivers personally check the 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. ✓ Not allow any unauthorized person to ride on the vehicle nor allow any unauthorized person to operate the vehicle. ✓ Concave mirrors should be kept at all corners ✓ All vehicles should be fitted with reverse horn with one spotter at every tipping point ✓ Loading according to the vehicle capacity ✓ Periodical maintenance of vehicles as per operator manual
4	Natural calamities	Unexpected happenings	✓ Escape Routes will be provided to prevent inundation of storm water ✓ Fire Extinguishers & Sand buckets
5	Failure of Mine Benches and Pit Slope	Slope geometry, Geological structure	✓ Ultimate or over all pit slope shall be below 60° and each bench height shall be 5m.

Source: Analysed and Proposed by FAE & EC

7.3 DISASTER MANAGEMENT PLAN FOR PROPOSED PROJECT

Natural disasters like Earthquake, Landslides have not been recorded in the past history as the terrain is categorized under seismic zone II. 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. Structure of the team has been shown in Figure 7.1.

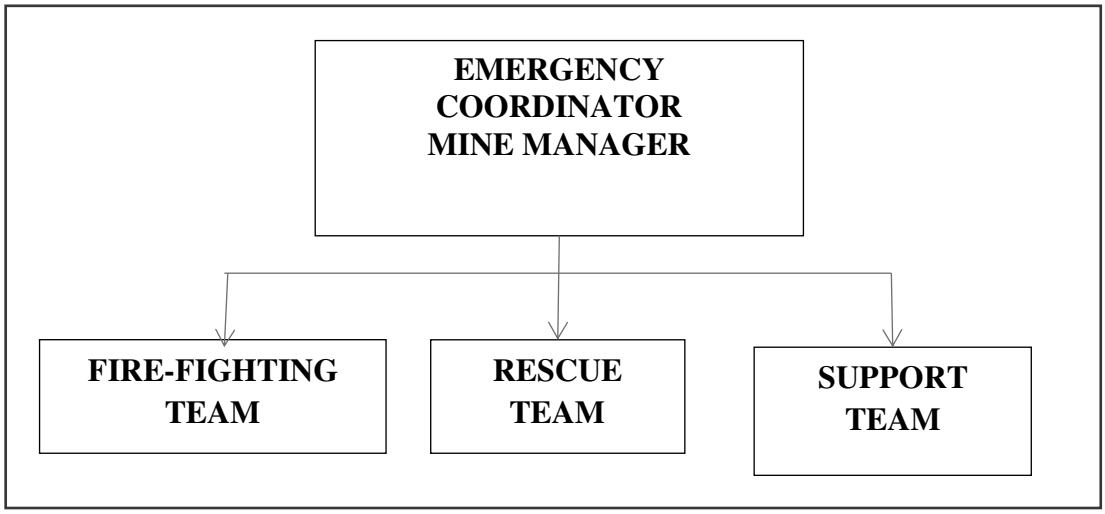


Figure 7.1 Disaster management team layout for proposed project

7.3.1 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

7.4 CUMULATIVE IMPACT STUDY

The Cumulative Impact is mainly anticipated due to drilling & blasting and excavation and transportation activities in all the quarries within the cluster and major impact anticipated is on Air & Noise Environment and Ground Vibrations due to blasting. For this cumulative study, 3 proposed projects, known as P1, P2, P3 are taken into consideration. The details of P1 have been given in Table 1.3 and the details of P2 and P3 are given in the Table 7.2 and 7.3

Table 7.2 Salient Features of the Proposed Project P2

Name of the Quarry	**Thiru. P. Devaraj Rough Stone and Gravel Quarry**	
Type of Land	Patta Land	
Extent	2.27.5 Ha	
S.F. No	104/1, 104/2A(Part), 104/2B1(Part), 105/1A(Part) & 105/2	
Toposheet No	58-F/13	
Latitude	10°59'23.69"N to 10°59'30.32"N	
Longitude	77°57'51.60"E to 77°57'59.63"E	
Highest Elevation	176 m AMSL	
Ultimate depth of Mining	35 m BGL	
Geological Resources	Rough Stone in m^3	Gravel in m^3
	586025	15550
Mineable Reserves	Rough Stone in m^3	Gravel in m^3
	106213	8136
Proposed reserves for five years	Rough Stone in m^3	Gravel in m^3
	106213	8136
Method of Mining	Open cast manual mining	
Topography	Undulated Topography	
Machinery proposed	Jack Hammer	4
	Compressor	2
	Hydraulic Excavator	1

Blasting Method	Controlled blasting method involving shot hole drilling and slurry explosives of 25 mm diameter is proposed for removal of rough stone.
Proposed Manpower Deployment	14
Project Cost	Rs.15,50,000
CER Cost	Rs. 5,00,000
Proposed Water Requirement	1.7 KLD

Table 7.3 Salient Features of the Proposed Project P3

Name of the Quarry	**Thiru.N.Sakthivel**	
Extent	3.87.0 ha	
S.F.No	105/1B(P),112/1A(P),112/2A(P)	
Toposheet No	58-F/13	
Latitude between	10°59'16.35"N to 10°59'28.13"N	
Longitude between	77°57'49.44"E to77°57'56.12"E	
Highest Elevation	200 m AMSL	
Proposed Depth of Mining	50 m BGL	
Geological Resources	Rough stone in m^3	Gravel in m^3
	14,05,076	45,568
Mineable Reserves	Rough stone in m^3	Gravel in m^3
	3,38,747	39,168
Proposed reserves for five years	Rough stone in m^3	Gravel in m^3
	3,38,747	39,168
Ultimate Pit Dimension (Proposed)	120 m (L) x 80 m (W) x 50 m (D)	
Water Level in the surrounding area	50 m BGL	
Method of Mining	Opencast Semi mechanized mining	
Topography	The proposed lease area exhibits almost flat terrain and at an average altitude of about 200m AMSL.	
Machinery proposed	Jacks Hammer	3
	Compressor	2
	Hydraulic Excavator	1
	Tippers	7

Blasting Method	Controlled blasting involving shot-holes and slurry explosives of 25 mm diameter.
Proposed Manpower Development	20
Project Cost	Rs.75,59,500
CER Cost	Rs. 5,00,000

7.4.1 Air Environment

As the production of rough stone and gravel plays a vital role in affecting the air environment. The data on the cumulative production resulting from the 3 proposed project have been given in Tables 7.4 and 7.5.

Table 7.4 Cumulative Production Load of Rough Stone

Proposed Production Details				
Quarry	**5 Years in m^3**	**Per Year in m^3**	**Per Day in m^3**	**Number of Lorry Load Per Day**
P1	37800	7560	28	5
P2	106213	21243	79	13
P3	338747	67749	251	42
Grand Total	**482760**	**96552**	**358**	**60**

Table 7.5 Cumulative Production Load of Gravel

Quarry	Production for 1 Year (m^3)	Yearly Production (m^3)	Daily Production (m^3)	Number of Lorry Loads Per Day
P1	2516	2516	9	1
P2	8136	8136	30	5
P3	39168	39168	145	24
Grand Total	**49820**	**49820**	**184**	**30**

The cumulative study shows that the overall production of rough stone from the quarry is 358 m^3 per day with a capacity of 60 trips of rough stone per day and that production of gravel from the 3 proposed quarry is 184 m^3 per day accounting for 30 trips/day.

7.4.1.1 Cumulative Impact of Air Pollutants

The results on the cumulative impact of the 3 proposed projects on air environment of the cluster have been provided in Table 7.6. The cumulative values resulting from the 3 projects for each pollutant do not exceed the permissible limits set by CPCB.

Table 7.6 Cumulative Impact Results from the 3 proposed projects

Pollutants	Baseline Data (µg/m^3)	Incremental Values (µg/m^3)			Cumulative Value (µg/m^3)
		P1	P2	P3	
$PM_{2.5}$	19.7	3.49	6.49	9.84	39.52

PM_{10}	39.9	5.32	10.40	14.32	69.94
SO_2	7.9	1.11	4.51	7.47	20.99
NO_x	17.4	2.95	4.06	6.49	30.9

7.4.2 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.

Table.7.7 Cumulative Impact of Noise from 3 Proposed Quarries

Location ID	Distance (m)	Direction	Background Value (Day) dB(A)	Incremental Value dB(A)	Total Predicted dB(A)	Residential Area Standards dB(A)
Habitation Near P1	670	N	39.4	21.64	39.47	**55**
Habitation Near P2	550	N	39.4	24.57	39.54	
Habitation Near P3	580	N	39.4	24.11	39.53	
Cumulative Noise (dB (A))					44.46	

Source: Lab Monitoring Data

The cumulative analysis of noise due to 3 proposed projects shows that habitation will receive about 44.46dB (A) respectively. The cumulative results for all the villages in consideration do not exceed the limit set by CPCB for residential areas for day time.

7.4.3 Socio Economic Environment

Socio Economic benefits of the proposed project were calculated and the results have been shown in Table 7.8 the project together will contribute Rs. 15,00,000/-towards CER fund.

Table 7.8 Socio Economic Benefits from 3 quarries

Location ID	Project Cost	CER Cost
P1	Rs.31,93,700	Rs. 5,00,000
P2	Rs.15,50,000	Rs. 5,00,000
P3	Rs.75,59,500	Rs. 5,00,000
Grand Total	**Rs.1,23,03,200**	**Rs. 15,00,000**

Table 7.9 Employment Benefits from 3 quarries

Location ID	Employment
P1	18
P2	14
P3	20
Grand Total	**52**

A total of 52 people will get employment due to 3 proposed mines in cluster

7.4.4 Ecological Environment

Table 7.10 Greenbelt Development Benefits from 3 quarries

Code	Number of Trees proposed	Area to be covered (m^2)	No. of Trees expected to be grown @ 80% survival rate	Species recommended
P1	900	8100	720	*Azadirachta indica, Albizia lebbeck, Delonix regia, Techtona grandis,* etc.,
P2	1138	10238	910	
P3	1935	17415	1548	
Total	**3973**	**35753**	**3178**	

Cumulative studies show that the proposed project will plant about 3973 native tree species like *Azadirachta indica*, *Albizia lebbeck*, *Delonix regia*, *Techtona grandis,* etc inside and outside the lease area. It is expected that 80 % of trees, i.e., 3178 trees will survive in this green belt development program.

7.5 PLASTIC WASTE MANAGEMENT PLAN FOR PROPOSED PROJECT

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.

7.5.1 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.

A detailed action plan to manage plastic waste has been provided in Table 7.11.

Table 7.11 Action Plan to Manage Plastic Waste

S. No.	Activity	Responsibility
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 FAEs and EC

CHAPTER VIII
PROJECT BENEFITS

8.0 GENERAL

The proposed project at Punnam Village aims to produce **37800 m^3** of rough stone and **2516 m^3** of gravel over a period of 5 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 18 persons for carrying out mining operations and give preference to the local people in providing employment in this cluster. In addition, there will be an opportunity for indirect employment to the form of contractual jobs, business opportunities, and service facilities etc. Because of this, the economic status of the local people will improve.

8.2 SOCIO-ECONOMIC WELFARE MEASURES PROPOSED

The impact of mining activity in the area will be more positive 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 quarry project is located in Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu. The area has already well-established communications roads and other facilities. The following physical infrastructure facilities will further improve due to proposed project.

- 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

Employment is expected during civil construction period, in trade, garbage lifting, sanitation and other ancillary services, Employment in these sectors will be primarily temporary or contractual and involvement of unskilled labour will be more. A major part of the labour force will be mainly from local villagers who are expected to engage themselves both in agriculture and mining activities. This will enhance their income and lead to overall economic growth of the area.

8.5 OTHER TANGIBLE BENEFITS

The proposed mine 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 mine 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.,

8.6 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 5 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 mainly contributing to education, health, training of women self-help groups and infrastructure etc., will be taken up in the Punnam Village. CSR budget is allocated.

8.7 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, being a green field project & capital investment is ≤ 100 crores, the proposed project shall contribute 2% of capital investment towards CER as per directions of EAC/SEAC. However, the SEAC has suggested to allocate CER fund on the basis of the extent of the project. Therefore, Rs. 5,00,000 is allocated for CER. The proposed utilization of the budget of CER activities is given in Table 8.1.

Table 8.1 CER Action Plan

S. No.	Activity	Budget (Rs.in Lakh)
1	The applicant Indents to involve in corporate environment responsibilities (CER) activities such as renovation of existing toilet, plantation within the school premises, donating environment related books to the nearby school library, etc.	Rs.5,00,000
	Total	**Rs.5,00,000**

Source: Field survey conducted by FAE in consultation with project proponent

8.8 SUMMARY OF PROJECT BENEFITS

The project would pay about **Rs.47,51,476** to the state government through various ways, as provided in Table 8.2.

Table 8.2 Project Benefits to the State Government

Particulars	Budget for Rough Stone (Rs.)	Budget for Gravel (Rs.)
CER	5,00,000	---
Seigniorage @ Rs.90/m^3 of rough stone/ Rs.56/m^3 of gravel	34,02,000	1,40,896
District Mineral Foundation Tax @ 10% of Seigniorage	3,40,200	14,090
Green Tax @ 10% of Seigniorage	3,40,200	14,090
Total	**45,82,400**	**1,69,076**

CHAPTER IX
ENVIRONMENTAL COST BENEFIT ANALYSIS

Not Applicable, Since Environmental Cost Benefit Analysis not recommended at the Scoping stage.

CHAPTER X

ENVIRONMENTAL MANAGEMENT PLAN

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 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, **Mrs.T.Sathya** will:

- 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.
- 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 monitoring programs 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.

10.1.1 Description of the Administration and Technical Setup

The environment monitoring cell discussed under chapter VI 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 program.
- ❖ 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 Budgetary Provision for Environmental Management

Adequate budgetary provision has been made by the company for execution of Environmental Management Plan. The Table 10.1 gives overall investment on the environmental safeguards and recurring expenditure for successful monitoring and implementation of control measures.

Table 10.1 EMP Budget for Proposed Project

Attribute	Mitigation measures	Provision for Implementation	Capital Cost (Rs.)	Recurring Cost/annum (Rs.)
Air Environment	Compaction, gradation and drainage on both sides	Rental Dozer & drainage construction on haul road @ Rs. 10,000/- per hectare and yearly maintenance @ Rs. 10,000/- per hectare	18000	18000
	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
	Air quality will be regularly monitored as per norms within ML area & ambient area	Yearly compliance as per CPCB norms	0	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	50000	5000
	No overloading of trucks/tippers/tractors	Manual Monitoring through Security guard	0	5000
	Stone carrying trucks will be covered by tarpaulin to avoid escape of fines to the atmosphere	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	20000	0
	Regular monitoring of exhaust fumes as per RTO norms	Monitoring of Exhaust Fumes	0	5000
	Regular sweeping and maintenance of roads for at least about 200 m from quarry entrance	Provision for 2 labours @ Rs.10,000/labour (Contractual) / hectare	0	36000
	Installing wheel wash system near exit gate of quarry	Installation + Maintenance + Supervision	50000	20000
Total Air Environment			**938000**	**204000**
Noise Environment	Source of noise will be transportation vehicles, and 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	Provision made in Operating Cost	0	0

	carry a fitness certificate.			
	Safety tools and implementations 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	0	0
	NONEL Blasting will be practiced to control Ground vibration and fly rocks	Rs. 30/- per 6 tons of blasted material	0	0
Total Noise Environment			**0**	**0**
Water Environment	Water Management	Provision for garland drain @ Rs. 10,000/- per hectare with maintenance of Rs. 5,000/- per annum (4.82.7 ha X 10000)	18000	9000
Total Water Environment			**18000**	**9000**
Waste Management	Waste management (Spent Oil, Grease etc.,)	Provision for domestic waste collection and disposal through authorized agency (capital cost, recurring cost for collection /disposal).	25000	20000
		Installation of dust bins	5000	2000
	Bio toilets will be made available outside mine	Provision made in Operating Cost	0	0

	lease on the land of owner itself			
Total Waste Management			**30000**	**22000**
Implementation of EC, Mining Plan & DGMS Condition	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	10000	1000
Total Implementation of EC, Mining Plan			**10000**	**1000**
Occupational Health and Safety	Workers will be provided with Personal Protective Equipment	Provision of PPE @ Rs. 4000/- per employee with recurring based on wear and tear (say, @ Rs. 1000/- per employee)	72000	18000
	Health checkup for workers will be provisioned	IME & PME Health checkup @ Rs. 1000/- per employee	0	18000
	First aid facility will be provided	Provision of 2 Kits per Hectare @ Rs. 2000/-	0	7200
	Mine will have safety precaution signages, boards.	Provision for signages and boards made	10000	2000
	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	360000	18000
	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	90000	18000
	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 (1st Class / 2nd 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
Total Occupational Health and Safety			**562000**	**866200**
Development of Green Belt	Green belt development - 500 trees per hectare (200 Inside Lease Area & 300 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))"	72000	10800
		Avenue Plantation @ 300 per plant (capital) for plantation outside the lease area and @ 30 per plant maintenance (recurring)	162000	16200
Total Development of Green Belt			**234000**	**27000**
Mine Closure	Closure includes 10% of the amount allotted for Greenbelt development, wire fencing, and garland drainage (Rule 27 in MCDR 2017 for Cat B mines will pay 2 lakhs per hectare or minimum amount of financial assurance of 5 lakhs)		0	61200
	G.O.(Ms)No.23, Dated: 28.09.2021	Section IVA of TNMMCR 1959 (@10% of Seigniorage Fee) (Seigniorage Fee for rough stone = Rs.90 and for gravel Rs.56)	354290	0
TOTAL			**2146290**	**1129200 (Exclude. Mine Closure)**

Table 10.2 Estimation of Overall EMP Budget after Adjusting 5% Annual Inflation

Ist Year	IInd Year	IIIrd Year	IVth Year	Vth Year (including Mine Closure Cost)	Total Recurring Cost	Total EMP Cost
1129200	1185660	1244943	1307190	1433750	6300743	8447032

In order to implement the environmental protection measures, an amount of **Rs.2146290** as capital cost and recurring cost as **Rs.1129200** as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be **Rs.8447032** as shown in Table 10.2.

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 XI
SUMMARY AND CONCLUSION

11.1 INTRODUCTION

As the proposed rough stone mining project (P1) falls within the quarry cluster of 500 m radius with the total extent of 10.77.50 ha, it requires submission of EIA report for grant of Environmental Clearance (EC) after conducting public hearing. The proposed project falling in S.F.No.1287/1(Part) & 1287/3 over the extent of 1.80.0 ha is situated in the cluster falling in Punnam Village, Pugalur Taluk, Karur District and Tamil Nadu. The quarries involved in the calculation of cluster extent are three proposed quarries and two expired quarry.

11.2 PROJECT DESCRIPTION

The proposed project area is located between Latitudes from 10°59'21.05"N to 10°59'26.37"N and Longitudes from 77°57'59.23"E to 77°58'03.34"E in Punnam Village, Pugalur Taluk, Karur District and Tamil Nadu. According to the approved mining plan, about 37800 m^3 of rough stone and 2516 m^3 of gravel will be mined up to the depth of 25 m BGL in the five years. The quarrying operation is proposed to be carried out by open cast manual mining method involving drilling and formation of benches of the prescribed dimensions.

11.3 DESCRIPTION OF THE ENVIRONMENT

Baseline data were collected to evaluate the existing environmental condition in the core and buffer areas during October to December, 2023 as per CPCB guidelines. The data were collected by both the FAEs and NABL accredited and MoEF notified Excellence Laboratory for the environmental attributes including soil, water, noise, air and by FAEs for ecology and biodiversity, traffic, and socio-economy.

11.3.1 Land Environment

Land use pattern of the area of 5 km radius was studied using Sentinel II imagery. LULC types and their extent are given in Table 1.

Table 11.1 LULC Statistics of the Study Area

S. No.	LU/LC Type	Extend (ha)	Percentage
1	Crop Land	6958.63	91.06
2	Dense Forest	65.87	0.86
3	Land with/without scrub	181.51	2.38
4	Mining/Industrial lands	216.95	2.84
5	Plantations	213.52	2.79
6	Settlement	5.29	0.07
Total		**7641.76**	**100.0**

Source: Sentinel II Satellite Imagery

11.3.2 Soil Environment

The soil samples in the study area sandy loam textures varying between, silty loam and sandy loam. pH of the soil varies from 6.5 to 7.7 indicating slightly acidic to slightly alkaline nature. Electrical conductivity of the soil varies from 161 to 338 µS/Cm. Bulk density ranges between 1.2 and 9.2 g/cm3. Nitrogen ranges between 1.04 and 2.05 %. Potassium ranges between 0.12 and 0.27 %. Calcium ranges between 301 and 512 mg/kg. Organic matter content ranges between 0.25 and 4.2 %. Manganese ranges between 1.5 and 45 mg/kg.

11.3.3 Water Environment

Groundwater in the study area occurs in the crystalline rocks of Archaean age and recent alluvium. The movement of the groundwater is controlled by the intensity of weathering and fracturing of crystalline rocks. Dug wells and bore wells are the most common ground water abstraction structures in the area. However, in dry season, people in the study area heavily rely on bore wells for their domestic and agriculture purpose.

Eight groundwater samples, known as OW01, OW02, BW01, BW02, BW03, BW04, BW05 and BW06 were collected from bore wells and open wells were analysed for physico-chemical conditions, heavy metals and bacteriological contents in order to assess baseline quality of ground water. Ground water sampling locations and their distance and direction from the lease area are provided in Table 3.5 and the spatial occurrence of water sampling locations is shown in Figure 3.7. Table 3.6 summarizes ground water quality data of the eight samples.

Results for ground water samples in the Table 3.6 indicate that the physical, chemical and biological parameters are within permissible limits in comparison with standards of IS10500:2012.

Data regarding depth to groundwater levels are essential to infer the direction of groundwater movement within the study area. Knowledge of groundwater flow direction is must in choosing location for background groundwater quality monitoring well and in locating recharge and discharge areas. Therefore, data regarding groundwater elevations were collected from 9 open wells and 9 bore wells at various locations within 2 km radius around the proposed project sites for the period from March through May 2023 (Pre-Monsoon Season) and from October through December 2023, (Post Monsoon Season).

The open well water level data thus collected onsite are provided in Tables 3.7 and 3.8. According to the data, average depths to the static water table in open wells range from 14.2 to 16.3 m BGL in pre monsoon and 10.6 to 11.3 m BGL in post monsoon. The bore well data thus collected onsite are provided in Tables 3.9 and 3.10. The average depths to static potentiometric surface in bore wells for the period of October through December (Post-Monsoon Season) vary from 62.3 to 67.3 m and from 63.7 to 70.7 m for the period of March through May, (Pre-Monsoon Season). Data on the depths to static water table and potentiometric surface were used to draw contour lines connecting groundwater elevation (also known as equipotential hydraulic head) to determine the groundwater flow direction perpendicular to the contour lines

11.3.4 Air Environment

As per the monitoring data, $PM_{2.5}$ ranges from 17.4µg/m^3 to 21.9µg/m^3; PM_{10} from 37.2µg/m^3 to 42.5µg/m^3; SO_2 from 6.5µg/m^3 to 9.4µg/m^3; NO_x from 15.7µg/m^3 to 17.4g/m^3. The concentration levels of the pollutants fall within the acceptable limits of NAAQS prescribed by CPCB.

11.3.5 Noise Environment

Noise level in core zone was 45.5 dB (A) Leq during day time and 38.4dB(A) Leq during night time. Noise levels recorded in buffer zone during day time varied from 36.2 to 44.8dB (A) Leq and during night time from 30.1 to 40.1dB (A) Leq. Thus, the noise level for industrial and residential area meets the requirements of CPCB.

11.3.6 Biological Environment

The study found that there is no endemic, endangered migratory fauna found in the area. This area is not also a migratory path of any faunal species. Hence, this small mining operation over short period of time will not have any significant impact on the surrounding flora and fauna.

Flora in core zone

There are no plant species in the mining lease area. It is a type of dry land

Flora in 300 m radius zone

Vegetation species within 300 meters radius around the lease area. It is an arid landscape. There is no agricultural land nearby. It contains a total of 18 species belonging to 11 families have been recorded from the buffer zone. Trees 4 (22%), Shrubs 4 (22%) Herbs 10 (55%) were identified. Details of flora with the scientific name details and diversity species Rich ness index were mentioned. There is no threat to the Flora and Fauna species in 300-meter radius

Fauna in Core Zone

A total of 18 varieties of species belonging to 18 families were observed in the core zone. Among them are 6 Insects, 3 Reptiles, 1 Mammal and 8 Avian. Number of species decreases towards the mining area due the lack of vegetation. None of these species are threatened or endemic. There is no Schedule I species and 6 species are under schedule IV according to Indian wild life Act 1972. There are no critically endangered, endangered, vulnerable and endemic species there.

11.3.7 Socio Economic Environment

The proposed project will provide direct and indirect employment and improve the infrastructural facilities in that area, thus leading to the improvement of people's standard of living.

11.4 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

11.4.1 Land Environment

Anticipated Impact

- Change in land use and land cover and topography of the mine lease area
- Problems to human habitations due to dust and noise caused by movement of heavy vehicles
- Soil erosion and sediment deposition in the nearby water bodies during the rainy season
- Siltation of water course due to wash off from the exposed working area
- Deterioration of soil quality in the surrounding area due to runoff from the project area
- Decrease in the agricultural productivity of the surrounding land due to soil quality degradation

Mitigation Measures

- Construction of garland drains, settling pits, and check dams to prevent runoff and siltation
- Runoff water will be discharged into the settling tanks to reduce suspended sediment loads before runoff is discharged from the quarry site
- The vegetation will be retained at the site wherever possible
- Weekly monitoring and daily maintenance of erosion control systems so that they perform as specified specially during rainy season

11.4.2 Water Environment

Anticipated Impact

- Surface and ground water resources may be contaminated due to pit water discharge, domestic sewage, discharge of oil and grease bearing waste water from washing of vehicles and machineries, and washouts from surface exposure or working areas
- As the proposed project acquires 3.75 KLD of water from water vendors, it will not extract water by developing abstraction structures in the lease area. Therefore, the project will not have impact on depletion of aquifer beneath the lease area.

Mitigation Measures

- Rain water from mine pit will be treated in settling tanks before being used for dust suppression and tree plantation purposes
- Domestic sewage from site office will be discharged in septic tank and then directed to soak pits
- Water from the tipper wash-down facility and machinery maintenance yard will be passed through interceptor traps/oil separators prior to its reuse
- The garland drainage will be connected to settling tank and sediments will be trapped in the settling tanks and only clear water will be discharged to the natural drainage
- Periodic (every 6 month once) analysis of ground water quality of quarry pit water and ground water of nearby villages will be conducted
- Artificial recharge structures will be established in suitable locations as part of the rainwater harvesting management program

11.4.3 AIR ENVIRONMENT

Anticipated Impact

Anticipated increase of the air pollutants due to quarrying activities have been predicted using AERMOD software. The values of cumulative concentration i.e., background + incremental concentration of pollutant in all the receptor locations are still within the prescribed NAAQ limits without effective mitigation measures. By adopting suitable mitigation measures, the pollutant levels in the atmosphere can be controlled further

Mitigation Measures

- 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
- Controlled blasting will be carried out using suitable explosive charge and short delay detonators, adequate stemming of holes at collar zone
- Blasting will be restricted to a particular time of the day i.e., at the time of lunch hours
- 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
- 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 to < 20 km/hr to avoid generation of dust
- The un-metaled haul roads will be compacted weekly before being put into use
- It will be ensured that all transportation vehicles carry a valid PUC certificate
- Haul roads and service roads will be graded to clear accumulation of loose materials
- Planting of trees all along main mine haul roads and around the project site will be practiced to prevent the generation of dust
- Dust mask will be provided to the workers and their use will be strictly monitored

11.4.4 Noise Environment

Anticipated Impact

Total noise level in all the sampling areas is well below the CPCB standards for industrial and residential areas. The peak particle velocity produced by below that of 0.3

mm/s as per Directorate General of Mines Safety for safe level criteria through Circular No. 7 dated 29/8/1997.

Mitigation Measures

- The blasting operations in the cluster quarries will use shallow holes and delay detonators to reduce the ground vibrations
- Proper quantity of explosives, suitable stemming materials and appropriate delay system will be used during 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
- 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, 2nd Class Mines Manager/ 1st 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
- Vibration monitoring will be carried out every 6 months to check the efficacy of blasting practices.

11.4.5 Biological Environment

Anticipated Impact

- During loading the truck, dust generation will be likely. This shall be a temporary effect and not anticipated to affect the surrounding vegetation significantly
- The Number of plants in the mining lease area is given in chapter 3 table 3.21 which vegetation in the lease area may be removed during mining.

- Carbon released from quarrying machineries and tippers during quarrying would be 332 kg per day, 89622 kg per year and 448112 kg over five years, as provided in Table 4.11.

Mitigation Measures

- During conceptual stage, the top bench will be re-vegetated by planting local /native species and lower benches will be converted into rainwater harvesting structure following completion of mining activities, which will replace habitat resources for fauna species in this locality over a longer time
- Quarry approach roads are sprayed with water 3 times a day to control dust. Thus, the damage to the nearby farmlands is controlled
- Existing roads will be used; new roads will not be constructed to reduce impact on flora
- To mitigate carbon emission due to mining activities, we recommend planting trees around the quarry to offset the carbon emission during quarrying. A tree can sequester 21578 kg of carbon per year. Therefore, we recommend planting large number of trees around the quarry and near school campuses, government wasteland, roadsides etc.
- As per the greenbelt development plan as recommended by SEAC (Table 4.13), about 900 trees will be planted within three months from the beginning of mining. These trees, when grown up would sequester carbon of about 2835 kg of the total carbon

11.4.6 Socio Economic Environment

Anticipated Impact

- 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

Mitigation Measures

- 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

11.4.7 Occupational Health

- All the persons will undergo pre-employment and periodic medical examination
- Employees will be monitored for occupational diseases by conducting medical tests: General physical tests, Audiometric tests, Full chest, X-ray, Lung function tests, Spiro metric tests, Periodic medical examination – yearly, Lung function test – yearly, those who are exposed to dust and 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.

11.5 Environment Monitoring Program

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, $PM_{2.5}$, PM_{10}, SO_2 and NO_x.
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 (1OW & 1 GW)	-	Once in 6 months	Parameters specified under IS:10500, 1993 & CPCB Norms
4	Hydrology	Water level in open	-	Once in 6	Depth in m BGL

		wells in buffer zone around 1 km at specific wells		months	
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

11.6 ADDITIONAL STUDIES

11.6.1 Risk Assessment

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. The whole 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 for proposed project.

11.6.2 Disaster Management Plan

The objective of the disaster management plan is to make use of the combined resources of the mine and the outside services to:

- Rescue and treat 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.

11.6.3 Cumulative Impact Study

The results on the cumulative impact of the four proposed projects on air environment of the cluster do not exceed the permissible limits set by CPCB for air pollutants.

- The cumulative results of noise for the habitation in consideration do not exceed the limit set by CPCB for residential areas for day time
- PPV resulting from three proposed project is well below the permissible limit of Peak Particle Velocity of 5 mm/s
- The proposed three projects will allocate Rs. 15,00,000/- towards CER as recommended by SEAC
- The proposed three projects will directly provide jobs to 52 local people, in addition to indirect jobs
- The proposed three projects will plant 3973 about trees in and around the lease area
- The proposed three projects will add 270 PCU per day to the nearby roads.

11.7 Project Benefits

Various benefits are envisaged due to the three proposed mine and benefits anticipated from the proposed project to the locality, neighbourhood, region and nation as a whole are:

- Direct employment to 18 local people
- Creation of community assets (infrastructure) like school buildings, village roads/ linked roads, dispensary & health Centre, community Centre, market place etc.,
- Strengthening of existing community facilities through the Community Development Program
- Skill development & capacity building like vocational training.
- Rs. 5,00,000 will be allocated for CER

11.8 ENVIRONMENT MANAGEMENT PLAN

In order to implement the environmental protection measures, an amount of Rs.2146890 as capital cost and recurring cost as Rs.1129200 as recurring cost/annum is proposed considering present market price considering present market scenario for the proposed project. After the adjustment of 5% inflation per year, the overall EMP cost for 5 years will be Rs.8447032.

CHAPTER XII

DISCLOSURES OF CONSULTANT

The Project Proponent, **Tmt.T.Sathya** has engaged **Geo Technical Mining Solutions**, a NABET accredited consultancy for carrying out the EIA study as per the ToR issued.

Address of the consultancy:

No: 1/213B Natesan Complex,
Oddapatti, Dharmapuri – 636705,
Tamil Nadu, India.
Email:info.gtmsdpi@gmail.com
Web: www.gtmsind.com
Phone: 04342 232777.

The accredited experts and associated members who were engaged in this EIA study are given below:

S.No.	Name of the expert	In house/ Empanelled	Sector	Functional Area	Category
Approved Functional Area Experts & EC					
1.	Dr. S. Karuppannan	EIA Coordinator (EC) In-house	1(a)(i)	Mining	B
2.	Dr. M. Vijayprabhu	In-house FAE	1(a)(i)	HG	B
3.	Dr. J. Rajarajeswari	In-house, FAE	1(a)(i)	EB	B
4.	Dr. G. Prabakaran	In-house, FAE	1(a)(i)	SE	B
5.	Dr. R. Arunbalaji	In-house, FAE	1(a)(i)	AQ, NV	B
6.	J.N. Manikandan	Empanelled FAE	1(a)(i)	RH, SH, AP	B
7.	Dr. S. Malar	In-house, FAE	1(a)(i)	WP	B
8.	G. Umamaheswaran	In-house, FAE	1(a)(i)	LU	B
9.	S. Gopalakrishnan	In-house, FAE	1(a)(i)	GEO	B
10.	P. Venkatesh	In-house, FAE	1(a)(i)	AP	B
11.	Dr. D.Kalaimurugan	In-house, FAE	1(a)(i)	SC	B
Approved Functional Area Associates					
12.	G. Prithiviraj	FAA	1(a)(i)	LU, HG	B
13.	C. Kumaresan	FAA	1(a)(i)	NV	B
14.	P. Vellaiyan	FAA	1(a)(i)	GEO	B
15.	P. Dhatchayini	FAA	1(a)(i)	AQ	B
16.	V. Malavika	FAA	1(a)(i)	NV, SHW	B
Abbreviations					

EC	EIA Coordinator	NV	Noise and Vibration
FAE	Functional Area Expert	SE	Socio Economics
FAA	Functional Area Associates	HG	Hydrology, ground water and water conservation
TM	Team Member	SC	Soil conservation
GEO	Geology	RH	Risk assessment and hazard management
WP	Water pollution monitoring, prevention and control	SHW	Solid and hazardous wastes
AP	Air pollution monitoring, prevention and control	MSW	Municipal Solid Wastes
LU	Land Use	ISW	Industrial Solid Wastes
AQ	Meteorology, air quality modelling, and prediction	HW	Hazardous Wastes
EB	Ecology and bio-diversity	GIS	Geographical Information System

DECLARATION BY EXPERTS CONTRIBUTING TO THE EIA & EMP

I, hereby, certify that I was a part of the EIA team in the following capacity that developed the EIA & EMP report.

Signature : 

Date :

Name : **Dr. S. Karuppannan**

Designation : EIA Coordinator

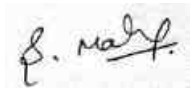
Name of the EIA Consultant Organization : Geo Technical Mining Solutions

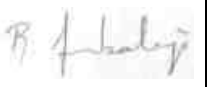
Period of Involvement : Till date

We, the FAEs and FAAs hereby declare that information furnished in this EIA/EMP report for Tmt.T.Sathya rough stone and gravel quarry project with the extent of 1.80.0 ha situated in the cluster with the extent of **10.77.50** ha in Punnam Village, Pugalur Taluk, Karur District of Tamil Nadu is true and correct to the best of our knowledge.

List of Functional Area Experts Engaged in this Project

S. No.	Functional Area	Involvement	Name of the Experts	Signature
1	AP	o Identification of different sources of air pollution due to the proposed mine activity o Prediction of air pollution and propose mitigation measures / control measures	J.N. Manikandan	
			P.Venkatesh	

2	WP	o Suggesting water treatment systems, drainage facilities o Evaluating probable impacts of effluent/waste water discharges into the receiving environment/water bodies and suggesting control measures.	Dr.S. Malar	
3	HG	o Interpretation of ground water table and predict impact and propose mitigation measures. o Analysis and description of aquifer Characteristics	Dr.M. VijayPrabhu	
4	GEO	o Field Survey for assessing the regional and local geology of the area. o Preparation of mineral and geological maps. o Geology and Geo morphological analysis/description and Stratigraphy/Lithology.	G.Gopala Krishnan	
5	SE	o Revision in secondary data as per Census of India, 2011. o Impact Assessment & Preventive Management Plan o Corporate Environment Responsibility.	Dr. G. Prabhakaran	
6	EB	o Collection of Baseline data of Flora and Fauna. o Identification of species labelled as Rare, Endangered and threatened as per IUCN list. o Impact of the project on flora and fauna. o Suggesting species for greenbelt development.	Dr.J.Rajarajeshwari	
7	RH	o Identification of hazards and hazardous substances o Risks and consequences analysis o Vulnerability assessment	J.N. Manikandan	

		○ Preparation of Emergency Preparedness Plan ○ Management plan for safety.		
8	LU	○ Construction of Land use Map ○ Impact of project on surrounding land use ○ Suggesting post closure sustainable land use and mitigative measures.	G.Uma Maheswaran	
9	NV	○ Identify impacts due to noise and vibrations ○ Suggesting appropriate mitigation measures for EMP.	Dr.R. Arun Balaji	
10	AQ	○ Identifying different source of emissions and propose predictions of incremental GLC using AERMOD. ○ Recommending mitigations measures for EMP	Dr.R. Arun Balaji	
11	SC	○ Assessing the impact on soil environment and proposed mitigation measures for soil conservation	Dr. D.Kalaimurugan	
12	SHW	○ Identify source of generation of non-hazardous solid waste and hazardous waste. ○ Suggesting measures for minimization of generation of waste and how it can be reused or recycled.	J.N. Manikandan	

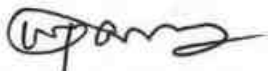
List of Functional Area Associate Engaged in this Project

S.No.	Name	Functional Area	Involvement	Signature
1	G. Prithiviraj	LU, HG	○ Site visit with FAE ○ Provide inputs & Assisting FAE for LU and HG	
2	C. Kumaresan	NV	○ Assistance to FAE in both primary and secondary data collection	

			○ Assistance in noise prediction modelling	
3	P. Vellaiyan	GEO	○ Field visits along with FAE ○ Assistance to FAE in both primary and secondary data collection	
4	P. Dhatchayini	AQ	○ Site visit with FAE ○ Assistance to FAE in collection of both primary and secondary data	
5	V. Malavika	NV, SHW	○ Site visit along with FAE ○ Assistance in report preparation	

DECLARATION BY THE HEAD OF THE ACCREDITED CONSULTANT ORGANIZATION

I, **Dr. S. KARUPPANNAN,** Managing Partner, **Geo Technical Mining Solutions**, hereby, confirm that the above-mentioned functional area experts and team members prepared the EIA/EMP report for Tmt.T.Sathya rough stone and gravel quarry project with the extent of 1.80.0 ha situated in the cluster with the extent of **10.77.50** ha in Punnam Village, Pugalur Taluk, Karur District of Tamil Nadu is true and correct to the best of my knowledge.

Signature : 

Date :

Name : **Dr. S. Karuppannan**

Designation : Managing Partner

Name of the EIA Consultant Organization : Geo Technical Mining Solutions

NABET Certificate No & Issue Date : NABET/EIA/2124/SA 0184

Validity : Till 02.04.2024

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.10406/SEAC/ToR-1602/2023 Dated: 06.11.2023

To

Tmt. T. Sathya,
W/o. Thangarasu,
Door No.2, Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk, Karur District - 639 136.

Sir / Madam,

Sub: SEIAA, Tamil Nadu – Terms of Reference with Public Hearing (ToR) for the Proposed Rough Stone and Gravel quarry over an extent of 1.80.0 Ha at S.F.Nos. 1287/1 (Part) & 1287/3 of Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu by Tmt. T. Sathya - 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/442933/2023, dated: 20.09.2023
2. Your application submitted for Terms of Reference dated: 20.09.2023
3. Minutes of the 416th SEAC meeting held on 13.10.2023
4. Minutes of the 670th SEIAA meeting held on 06.11.2023

Kindly refer to your proposal submitted to the State Level Impact Assessment Authority for Terms of Reference.

The proponent, Tmt. T. Sathya has submitted application for Terms of Reference (ToR) on 20.09.2023, in Form-I, Pre-Feasibility report for the Proposed Rough Stone and Gravel quarry over

MEMBER SECRETARY
SEIAA-TN

an extent of 1.80.0 Ha at S.F.Nos. 1287/1 (Part) & 1287/3 of Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu.

Discussion by SEAC and the Remarks:-

Proposed Rough Stone and Gravel quarry over an extent of 1.80.0 Ha at S.F. Nos. 1287/1 (Part) & 1287/3 of Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu by Tmt. T. Sathya - For Terms of Reference.

The proposal was placed for appraisal in this 416th meeting of SEAC held on 13.10.2023. The details of the project furnished by the proponent are available in the website (parivesh.nic.in).

The SEAC noted the following:

1. The Project Proponent, Tmt. T. Sathya has applied seeking Terms of Reference for the proposed Rough Stone and Gravel quarry over an extent of 1.80.0 Ha at S.F. Nos. 1287/1 (Part) & 1287/3 of Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu.
2. The proposed quarry/activity is covered under Category "B1" of Item 1(a) "Mining Projects" of the Schedule to the EIA Notification, 2006, as amended.
3. The precise area communication was issued for the period of 5 Years. The mining plan is for 5 Years. The annual peak production shall not exceed 8414 m^3 of Rough Stone for the ultimate depth of 25m below ground level.
4. Earlier, EC was accorded to the proponent vide Lr. No. SEIAA-TN/F.No.4274/1(a)/EC. No:3883/2016 dated: 05.06.2017 for the quantity of 42254 cu.m of Rough Stone upto a depth of 14m.

Based on the presentation made by the project proponent, **SEAC decided to recommend for grant of 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 additional ToR conditions given in **ANNEXURE-I** are to be included in EIA/EMP Report:

1. The PP shall obtain Certified Compliance Report (CCR) from Integrated Regional Office, MoEF&CC, Chennai for the earlier Environmental Clearance obtained from SEIAA-TN.
2. The proponent is requested to carry out a survey and enumerate on the structures located within 50m, 100m, 150m, 200m, 250m, 300m and 500m from the boundary of the mine lease area.
3. The PP shall furnish the slope stability action plan approved by the AD (Mines) during the EIA appraisal.

MEMBER SECRETARY
SEIAA-TN

4. The PP shall mark the DGPS reference pillars painted with blue & white colour indicating the safety barrier of 7.5 m to be left under the Rule 13 (1) of MCDR, 1988 within the lease boundary and protective bunds.
5. The PP shall develop Green belt/plantation all along the mining lease boundary in a safety barrier.
6. The PP shall furnish the total manpower required for the proposed mining project including Statutory officials, Geologist, Supervisory staff, Skilled, Semi-skilled & Unskilled staff with showing the representation of the local people as per their eligibility and experience.

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.

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5. The Proponent shall carry out Bio diversity study through reputed Institution and the same shall be included in EIA Report.
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.

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- Highest production achieved in any one year
- Detail of approved depth of mining.
- 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.

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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.
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.

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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.
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.

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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.
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

List of Native Trees Suggested for Planting

1. ***Aegle marmelos*** – Vilvam
2. ***Adenaanthera pavonina*** - Manjadi
3. ***Albizia lebbeck*** – Vaagai
4. ***Albizia amara*** - Usil
5. ***Bauhinia purpurea*** - Mantharai
6. ***Bauhinia racemosa*** - Aathi
7. ***Bauhinia tomentosa*** – Iruvathi
8. ***Buchanania axillaris*** - 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

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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 tiliaceus*** – 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
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** – Ugaa Maram
49. **Sapindus emarginatus** - Manipungan, Soapu kai

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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. **Walsuratrifoliata** – valsura
60. **Wrightia tinctoria** – Veppalai
61. **Pithecellobium dulce** – Kodukkapuli

Discussion by SEIAA and the Remarks:-

The proposal was placed in the 670th Authority meeting held on 06.11.2023. The authority noted that this proposal was placed for appraisal in 416th SEAC meeting held on 13.10.2023, 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 minutes.

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.

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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.

Agriculture & Agro-Biodiversity

13. Impact on surrounding agricultural fields around the proposed mining Area.

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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.
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.

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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.
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.

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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.
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

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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 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

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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

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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 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

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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

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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.

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

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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

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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 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 is acquisition, nearby (in 2-3 km.) water body, population, with in 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 safety system provided to mitigate the risk.
20. Likely impact of the project on air, water, land, flora-fauna and nearby population

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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

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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 2nd December, 2009, 18th March 2010, 28th May 2010, 28th June 2010, 31st December 2010 & 30th 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 29th August, 2017.

MEMBER SECRETARY
SEIAA-TN

Copy to:

1. The Additional Chief Secretary to Government, Environment, Climate Change and 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 - 110 032.
3. The Chairman, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032.
4. The APCCF (C), Regional Office, MoEF & CC (SZ), 34, HEPC Building, 1st & 2nd 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, Karur District.
7. Stock File.

From
Dr.P.Jayapal, M.Sc., Ph.D.,
Deputy Director,
Geology and Mining,
Karur.

To
Tmt.T.Sathya,
W/o.Thangarasu,
Door No.2,
Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur,
Moolimangalam,
Pugalur Taluk,
Karur District.

Rc.No.494/Mines/2022, Dated:28.08.2023

Sir,

Sub: Mines and Minerals – Minor Mineral – Karur District – Pugalur Taluk – Punnam Village - S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) Over an extent 1.80.0 hectares - Quarry lease application for Rough Stone and Gravel – Preferred by Tmt.T.Sathya, – Mining Plan approved - requested for the details of Existing/ proposed/ abandoned quarries situated within 500 mts radial distance - furnished – Regarding.

Ref:
1. Quarry lease application for Rough stone and Gravel preferred by Tmt.T.Sathya, W/o.Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District dated:29.09.2022.
2. Precise Area Communication Memorandum Rc.No.494/Mines/2022, Dated:24.07.2023
3. Mining Plan submitted by Tmt.T.Sathya letter Dated: 08.08.2023
4. The Deputy Director, Geology and Mining, Karur letter Rc.No.494/Mines/2022, Dated:11.08.2023
5. Tmt.T.Sathya, letter dated:18.08.2023

In the reference 1st cited, Tmt.T.Sathya has applied quarry lease for quarrying Rough stone and Gravel in S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) Over an extent 1.80.0 hectares of patta land in Punnam Village, Pugalur Taluk, Karur District. The

T. Sathya

Deputy Director of Geology and Mining, Karur had issued precise area Memorandum to the proposed lease area vide reference 2nd cited.

Accordingly, the applicant has submitted the 3 copies of draft Mining Plan and the same was approved by the Deputy Director, Geology and Mining, Karur vide reference 4th cited.

In the reference 5th cited, the applicant has requested the Deputy Director of Geology and Mining, Karur to provide the details of existing, proposed and abandoned quarries situated within 500 meter radial distance from subject area and the same has been furnished as follows:-

I. Existing Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	--- Nil--					

II. Proposed Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	Tmt.T.Sathya, W/o.Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District	Rough Stone & Gravel	Pugalur Taluk Punnam Village,	1287/1 (P) 1287/3	**1.80.0**	Proposed Area
2	Thiru.P.Devaraj, S/o.Pitchaimuthu, Pullaiyampalayam, Punnamchatram Post, Pugalur Taluk, Karur District	Rough Stone & Gravel	Pugalur Taluk Punnam Village,	104/1 105/2 105/1A(P) 104/2B1(P) 104/2A(P)	**2.27.50**	Adjacent area applied for quarry lease
3	Thiru.N.Sakthivel, S/o.Nallappagounder, Andipatty, Karudaiyampalayam, Kuppam village, Pugalur Taluk, Karur District.	Rough Stone & Gravel	Pugalur Taluk Punnam Village,	105/1B(P) 112/1A 112/2A	**3.87.00**	Adjacent area applied for quarry lease

T. Sathya

III. Lease Expired Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
	R.Natrayan S/o. Ramasamy Gounder Suriyampalayam Karudaiyampalayam Aravakurichi Taluk Karur District.	Rough Stone	Pugalur Taluk, Kuppam	112/1B 112/2B 112/3	1.45.5	06.09.2017 to 05.09.2022
	Thiru.M.Arunachalam, S/o.Maraappan, Kariyam Patty, Punnam Village, Aravakurichi Taluk, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	104/2B2, 104/2B3	1.37.5	21.2.2018 to 20.2.2023

IV. Abandoned Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	K.Ponnusamy S/o.Karuppan Athipalayam Aravakurichi Taluk, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	108/2	2.83.0	5.5.2006 to 4.5.2011
2	R.Murugesan S/o.Raman Vadamalaigoundanur Athur Karur District.	Rough Stone	Pugalur Taluk, Kuppam	108/1	5.82.0	15.5.2006 to 14.5.2011
3	V.K.Subramani, S/o.KaruppannaGounder, Velliyampalayam, PunnamChadram, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	99/2(P)	0.63.0	21.10.2010 to 20.10.2015
4	K.Chellappan, Thalaiyeethupatti Kuppam Post, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	106/2	2.25.0	8.6.2012 to 7.6.2017

28/8/23

Deputy Director,
Geology and Mining,
Karur

28/08/2023

T. Sathya

From
Dr.P.Jayapal M.Sc., Ph.D.,
Deputy Director,
Geology and Mining,
Karur.

To
Tmt.T.Sathya,
W/o.Thangarasu,
Door No.2,
Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk,
Karur District.

Rc.No.494/Mines/2022, Dated: .08.2023

Sir,

Sub: Mines and Minerals – Minor Mineral – Karur District – Pugalur Taluk – Punnam Village - S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) Over an extent 1.80.0 hectares - Quarry lease application for Rough Stone and Gravel – Preferred by Tmt.T.Sathya - Precise area communicated - mining plan submitted for approval – Approved – Regarding.

Ref:
1. Quarry lease application for Rough stone and Gravel preferred by Tmt.T.Sathya, W/o.Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District dated:29.09.2022.
2. Order of the Hon'ble Supreme Court of India in I.A.Nos.12-13/2011 in SLP (C) No.19628-19629/2009, dt: 27.02.2012.
3. Government of India, Ministry of Environment and Forest Office Memorandum, Dated:18.05.2012.
4. The Chairman, State Level Environment Impact Assessment Authority, Tamil Nadu D.O.Lr.No.SEIAA-TN/Minor Minerals/2012, Dated: 17.09.2012.
5. The Commissioner of Geology and Mining, Chennai letter Rc.No.3868/LC/2012, dt: 19.11.2012.
6. Deputy Director, Geology and Mining, Karur Notice Rc.No.494/Mines/2022, Dated:24.07.2023
7. Mining Plan submitted by Tmt.T.Sathya letter Dated: 08.08.2023.

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Tmt.T.Sathya applied for quarry lease to quarry Rough Stone and Gravel vide in the reference 1st cited and Precise area

T. Sathya

communicated to the applicant regarding to submit the mining plan for approval as per rule 41 and also submit the Environmental Clearance as per Rule 42 of Tamil Nadu Minor Mineral Concession Rules

Accordingly, Tmt.T.Sathya has submitted three copies of draft mining plan for approval in respect of Rough stone and Gravel quarry lease applied areas, over an extent of 1.80.0 hectares of patta lands in S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) of Punnam Village, Pugalur Taluk, Karur District in the reference 7th cited.

The above submitted mining plan for the grant of Rough stone and Gravel quarry lease in S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) Over an extent 1.80.0 hectares of patta lands in Punnam Village, Pugalur Taluk, Karur District has been examined in detail.

As per the guidelines/ instructions issued by the Commissioner of Geology and Mining, Chennai vide letter Rc.No.3868/LC/2012, date: 19.11.2012., the mining plan submitted by the applicant 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 imply 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

K T. Sathya

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) As per the Deputy Director, Geology and Mining, Karur notice in Rc.No.494/Mines/2022, Dated.24.07.2023 the following conditions are incorporated in the Mining Plan plates.

1. விண்ணப்ப புலத்திற்கு மேற்கில் தென்வடலாக செல்லும் தார் சாலைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

2. விண்ணப்ப புலத்திற்கு வடமேற்கில் தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

3. விண்ணப்ப புலங்களுக்கு அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு நிலத்திற்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

4. குத்தகைக்காலத்தில் கைத்துளைப்பான் கருவி கொண்டு பாறைகளை துளையிட்டும், மிதமான வெடிபொருள் பயன்படுத்தியும், பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமுமின்றி விதிமுறைகளின்படி குவாரிப்பணி செய்ய வேண்டும்.

5. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettaliferrous Mines, விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்றுவரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.

6. குவாரி குத்தகை வழங்க ஏதுவாக துணை இயக்குநர் (சுரங்கம்) அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினையும், மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (SEIAA) இசைவினை பெற்று மாவட்ட நிர்வாகத்திற்கு விண்ணப்பதாரர் நிறுவனத்தினரால் சமர்ப்பிக்கப்பட வேண்டும்.

(V) Quarrying shall be done as per the approved Mining Plan and that the mining plan is approved without prejudice to any other

T. Sathy

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.

Encl: Two copies of Approved Mining Plan.

11/8/23

Deputy Director,
Geology and Mining,
Karur.

11/05/2023

Copy to:
Dr.S.Karuppannan, M.Sc., Ph.D,
RQP/MAS/263/2014/A,
GEO Technical Mining Solutions,
No.1/213-B Ground Floor,
Natesan Complex,
Oddapatti, Collectorate Post Office,
Dharmapuri - 636 705.

K T Sathy

MINING PLAN

FOR PUNNAM VILLAGE ROUGH STONE AND GRAVEL MINING LEASE WITH PROGRESSIVE QUARRY CLOSURE PLAN

Patta- Ryotwari land/Opencast - Manual mining/ Non- Forest/Non - Captive Use – "B2' Category

Lease period 5 Years from the date of lease execution

(Prepared under rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959)

LOCATION OF THE LEASE AREA

STATE	:	**TAMILNADU**
DISTRICT	:	**KARUR**
TALUK	:	**PUGALUR**
VILLAGE	:	**PUNNAM**
S.F. NO'S	:	**1287/1 (Part) and 1287/3**
EXTENT	:	**1.80.0 HECTARES**

ADDRESS OF THE APPLICANT

Mrs.T.Sathya,
W/o.Thangarasu,
Door No.2, Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk,
Karur District.

This Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 494/mines/2022 Dated: 11/08/2023

PREPARED BY

Dr.S.KARUPPANNAN.M.Sc., Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
No: 1/213 -B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office,
Dharmapuri -636705. Tamil Nadu.
Mob. : +91 9443937841, +917010076633,
E-mail: info.gtmsdpi@gmail.com ,
Website: www.gtmsind.com

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Sl. No.	Description	Annexure No.
1.	Copy of precise area communication letter	I
2.	Copy of Previous Lease Particulars a. Environmental Clearance b. Proceeding Letter	II
	c. Lease Deed	
3.	Copy of **FMB** (Field Measurement book)	III
4.	Copy of combined sketch	IV
5.	Copy of "A" registered	V
6.	Copy of Chitta & adangal	VI
7.	Photocopy of the proposed lease area	VII
8.	Copy of ID Proof of the authorized signature	VIII
9.	Copy of RQP certificate	IX

T. Sathya

LIST OF PLATES

S. No	Description	Plate No.	Scale
1	Key map	I	Not to scale
2	Location plan	I-A	Not to scale
3	Toposheet map	I-B	Scale 1:1,00,000
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7.	Surface, Geological plan and sections	III	Plan scale: 1:1000 **Section:** HOR 1:1000 VER 1:500
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9.	Mine layout plan and land use pattern	V	Plan scale: 1:1000
10.	Conceptual plan and sections	VI	Plan scale: 1:1000 **Section:** HOR 1:1000 VER 1:500

T. Sathya

Mrs.T.Sathya,
W/o.Thangarasu,
Door No.2, Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk,
Karur District.

CONSENT LETTER FROM THE APPLICANT

The Mining Plan for rough stone and gravel quarry lease in S.F.No's: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an extent of 1.80.0hectares, Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu State has been prepared by

Dr. S. KARUPPANNAN. M.Sc., Ph.D. (Regn. No. RQP/MAS/263/2014/A)

I request the **Deputy Director, Department of Geology and Mining, Karur District** to make further correspondence regarding modifications of the Mining Plan with the said Recognized Qualified Person on this following address.

Dr. S. KARUPPANNAN. M.Sc., Ph.D.
(Regn. No. RQP/MAS/263/2014/A)
GEO TECHNICAL MINING SOLUTIONS
(A NABET accredited & ISO certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841, +91 7010076633
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

I hereby assure that all modifications so made in the Mining Plan by the Recognized Qualified Person may be deemed to made with my knowledge and consent and shall be acceptable and binding on me in all respects.

Place: Karur, TN

Date:

K T. Sathy
Signature of the applicant
(T.Sathya)

K T. Sathy

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Mrs.T.Sathya,
W/o.Thangarasu,
Door No.2, Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk,
Karur District.

DECLARATION

The Mining Plan of rough stone and gravel quarry lease in S.F.No's: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an extent of 1.80.0hectares, Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu State have been prepared with my consultation and I have understood the contents and agree to implement the same in accordance with the Mining Laws.

Place: Karur, TN

Date:

Signature of the applicant
(T.Sathya)

Dr. S. KARUPPANNAN. M.Sc., Ph.D.
(Regn. No. RQP/MAS/263/2014/A)
GEO TECHNICAL MINING SOLUTIONS
(A NABET accredited & ISO certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841, +91 7010076633
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

CERTIFICATE

This is to certify that the provisions of 19(1), 20 and 22 of Tamil Nadu Minor Minerals Concession Rules, 1959 have been observed in the mining plan for the grant of rough stone and gravel quarry lease in S.F.No's: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an extent of 1.80.0hectares, Punnam Village, Pugalur Taluk, Karur District, Tamilnadu State applied to **Mrs.T.Sathya**, Karur District, Tamil Nadu.

Wherever specific permission / exemptions / relaxations or approvals are required the applicant will approach the concerned authorities of State and Central governments for granting such permissions etc.

Place: Dharmapuri, TN
Date: 4/8/23

Signature of the Recognized Qualified Person

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Dr. S. KARUPPANNAN. M.Sc., Ph.D.
(Regn. No. RQP/MAS/263/2014/A)
GEO TECHNICAL MINING SOLUTIONS
(A NABET accredited & ISO certified Company)
No: 1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office, Dharmapuri-636705
Ph: +91 9443937841, +91 7010076633
E-mail: info.gtmsdpi@gmail.com,
Website: www.gtmsind.com

CERTIFICATE

I certify that the preparation of Mining Plan for rough stone and gravel quarry lease in S.F.No's: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an extent of 1.80.0hectares, Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu prepared to **Mrs.T.Sathya**, Karur District, Tamil Nadu, covers all the provisions of Mines Act, Rules and Regulations etc. made there in and if any specific permission is required the applicant will approach **"The Director General of Mines Safety"**, Chennai. The standards prescribed by DGMS regarding Mines Health will be strictly implemented.

Place: Dharmapuri, TN
Date: 4/8/23

Signature of the Recognized Qualified Person

Dr. S. KARUPPANNAN. M.Sc., Ph.D.,
GEO TECHNICAL MINING SOLUTIONS
1/213-B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office,
Dharmapuri-636705.
E-mail: info.gtmsdpi@gmail.com
website : www.gtmsind.com

L T. Sathya

MINING PLAN

FOR PUNNAM VILLAGE ROUGH STONE AND GRAVEL MINING LEASE WITH PROGRESSIVE QUARRY CLOSURE PLAN

Patta- Ryotwari land/Opencast - Manual mining/ Non- Forest/Non - Captive Use – "B2' Category

Lease period 5 Years from the date of lease execution

(Prepared under rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959)

INTRODUCTORY NOTES:

1) **Introduction:** The applicant Mrs.T.Sathya W/o.Thangarasu residing at Door No.2, Masagoundanpudhur, Punjaipugalur South, Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District, Tamil Nadu State. The applicant was submit application on 29.09.2022 for request to the Deputy Director, Department of Geology and Mining, Karur, renewed to be continued quarrying operation for rough stone and gravel at S.F.No's: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an extent of 1.80.0hectares of Punnam Village, Pugalur Taluk, Karur District, Tamil Nadu State further the period of 5 years.
2) **Precise area communication letter particulars:** The Deputy Director, Department of Geology and Mining, Karur has directed to the applicant Mrs.T.Sathya through his precise area communication letter **Rc.No.494/Mines/2022 Dated: 24.07.2023** has recommended quarrying lease for rough stone and gravel quarry lease at Tamil Nadu State, Karur District, Pugalur Taluk, Punnam Village in S.F.No's: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an area of 1.80.0 hectares and should be submitted draft mining plan for approval for the period of 90 days the following conditions for a period of five (5) years under Rule 19 (1), 20 & 22 of Tamil Nadu Minor Mineral Concession Rules, 1959.
    i) The tar road crossing to south-north direction of the west side from the applied lease area should be properly excavated without any damage leaving a safety distance of 50 meter.
    ii) Proper excavation should be done without any damage leaving a safety distance of 50 meters for the low voltage power line crossing South-north on the northwest side of the lease area.
    iii) A safety distance should be left out nearby the applied area 7.5m and 10m of Patta and Poramboke lands as respectively while quarrying activities.

This Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 494/mines/2022 Dated: 11/08/2023

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iv) Quarrying operation to be carried out with controlled blasting techniques viz, hand-hack-Hammer, Driller for drilling shot holes and use mild explosives substance for blasting the rocks.

v) To ensure the safety of quarry workers as per Metalliferous Mines Acts should formed wide, safe benches. Inside the quarry in safe manner vehicles come and go, do the quarry work ensuring the safety of the quarry workers.

vi) To provide quarrying lease by the Deputy Director, Karur, approved mining plan, obtain Environmental Clearance from the competent authority of State Level Environment Impact Assessment Authority-Tamil Nadu (SEIAA) and should be submitted.

3) **The previous lease particulars:** The proposed lease area was previously granted to quarrying of rough stone in favor of **Mrs.T.Sathya** by the District Collector, Karur proceedings vide Rc.No.07/2002, dated 26.07.2002 in S.F.No. 1287/1 & 1287/3, Karur District, Aravakurichi Taluk, Punnam Village, over an extent of 1.83.0hectares for a period of 5 years.

Then, **1st Renewal application** granted to quarrying of rough stone in favor of **Mrs.T.Sathya** by the District Collector, Karur proceedings vide Rc.B/257G&M/2008, dated 28.01.2009 in S.F.No. 1287/1 & 1287/3, Karur District, Aravakurichi Taluk, Punnam Village, over an extent of 1.83.0hectares for a period of 5 years. The lease was executed 13.02.2009 to 12.02.2014 for a period of 5 years.

Then, **2nd Renewal application** granted to quarrying of rough stone in favor of **Mrs.T.Sathya** by the District Collector, Karur proceedings vide Rc.226/Mines/2014, dated: 31.07.2017 in S.F.No. 1287/1 & 1287/3, Karur District, Aravakurichi Taluk, Punnam Village, over an extent of 1.83.0hectares for a period of 5 years. The applicant got Environmental Clearance from Lr.No.SEIAA-TN/F.No.4274/1(a)/EC.No.3883/2016 Dated: 05.06.2017. The lease was executed 31.07.2017 to 30.07.2022 for a period of 5 years.

Now, **3rd Renewal application** for new proposals has submitted to the Deputy Director, Department of Geology and Mining (DDG & M), Karur dated 29.09.2022 and the Deputy Director, recommended to his precise area communication letter Rc.No.494/Mines/2022 Dated: 24.07.2023 for period of five years recommended to favor of **Mrs.T.Sathya**, Karur for quarrying lease rough stone and gravel at Tamil Nadu State, Karur District, Pugalur Taluk, Punnam Village in S.F.No: 1287/1 (Part) (1.31.0Hect) and 1287/3 (0.49.0Hect) over an extent of 1.80.0hectares

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There is an existing pit was noticed with an average pit dimension as given under the table and the existing pit marked in the surface and geological plan (Ref Plate No's: III).

Avg.Existing pit Dimension			
Pit	**Length (m)**	**Width (m)**	**Depth(m)**
I	73	20	5
II	47	45	10
III	26	97	12
Avg.Dump Dimensions			
Dump	**Length (m)**	**Width (m)**	**Height (m)**
I	55	43	8
II	33	120	3

4) **Preparation and Submission of Mining Plan:** The Mining Plan with progressive quarry closure plan has been prepared under rule 41 and submitted under rule 42 of Tamil Nadu Minor Mineral Concession Rules, 1959, for mining lease as per conditions mentioned in the precise area communication letter **Rc.No.494/Mines/2022 Dated: 24.07.2023.**

5) **Geological resources and Mineable reserves:** Geological resource of estimated as **312091m³** including the resources of safety zone, and gravel. Of which, rough stone resources of about **303859m³** and gravel is about **8232m³**. The total mineable reserve is estimated to be **68198m³** by deducting the reserve safety zone, block in benches from the total Geological resources. Of which, rough stone is about **62962m³** and gravel is about **5236m³** up to a depth of 25m below the ground level (R.L.201m-176m) (Refer Plate No. III & VI).

6) **Proposed production schedule:** Total proposed production of **40316m³**. Of which, rough stone is **37800m³** and gravel is **2516m³** up to a depth of 25m below the ground level (R.L.201m-176m) for five years plan period. Average production is **7560m³** of rough stone per year. (Refer Plate No. IV).

7) **Environmental Sensitivity of the proposed lease area: -**

   i. **Interstate boundary:** There is no interstate boundary around 10Km radius periphery of proposed lease area.

   ii. **Wildlife Protection Act, 1972:** There is no wild life sanctuary within radius of 10Km from the project site area under the Wildlife (Protection) Act, 1972.

   iii. **Indian Reserve Forest Act, 1980:** No reserved forest situated within radius of 1Km periphery of the proposed site. The Nearest reserve forest is

   1.Thathampalayam R.F - 6.7km - Southeast

   iv. **CRZ Notification, 1991:** There is no sea coastal zone found within radius of 10km and this project site doesn't attract CRZ Notification, 1991.

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8) **Environmental measures to be adopted during the ongoing activity period,**

a) 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

b) Usage of sharp drill bits while drilling which will help in reducing noise.

c) Secondary blasting will be totally avoided and hydraulic rock breaker will be used for breaking boulders.

d) Controlled blasting with proper spacing, burden, stemming and optimum charge/delay will be maintained.

e) Green Belt/Plantation will be developed around the project area and along the haul roads. The plantation minimizes propagation of noise.

f) Water will be sprinkled on haul roads twice a day to avoid dust generation during transportation.

g) Transportation of material will be carried out during day time and material will be covered with tarpaulin.

h) The speed of tippers plying on the haul road will be limited below 20 km/hr to avoid generation of dust.

i) And any other conditions as stipulated by the concerned authorities should be followed to protect the environment.

1.0 GENERAL:

a.	Name of the Applicant	:	**Mrs.T.Sathya**
	Applicant address	:	W/o.Thangarasu, Door No.2, Masakavundanputhur, Punjaipugalur South, Nanjaipugalur, Moolimangalam, Pugalur Taluk
	District	:	Karur District
	State	:	Tamilnadu
	Pin code	:	
	Phone	:	----
	Fax	:	Nil
	Gram	:	Nil
	Telex	:	Nil

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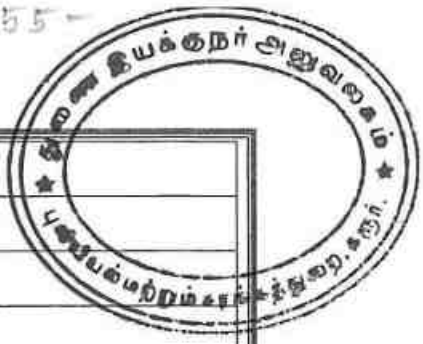

	E-mail	:	.....
b.	Status of the Applicant		
	Private individual	:	---
	Cooperative Association	:	---
	Private company	:	Private company
	Public Company	:	---
	Public Sector Undertaking	:	---
	Joint Sector Undertaking	:	---
	Other (pl. specify)	:	---
c.	Mineral(s) Which are occurring in the area and which the applicant intends to mine	:	Rough stone and gravel quarry lease
d.	Period for which the mining lease granted /renewed/ proposed to be applied	:	The precise area has been communicated to the applicant for quarrying period of five (5) years.
e.	Name of the RQP preparing the Mining Plan	:	**Dr. S.KARUPPANNAN.M.Sc.,Ph.D.,**
	Address	:	**Geo Technical Mining Solutions** (A NABET Accredited & ISO certified Company) No: 1/213-B, Ground Floor, Natesan Complex, Oddapatti, Collectorate Post office, Dharmapuri-636705 Web site: www.gtmsind.com
	Phone	:	+91 9443937841, 7010076633
	Fax	:	Nil
	e-mail	:	info.gtmsdpi@gmail.com
	Telex	:	Nil
	Certificate Number	:	RQP/MAS/263/2014/A
	Date of grant/renewal	:	16.12.2014
	Valid upto	:	15.12.2024
f.	Name of the prospecting agency	:	**Geo Technical Mining Solutions** GSR 286(E) No:272, Ministry of Mines Notification 7th April 2022.

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	Address	:	No: 1/213-B, Ground Floor, Natesan Complex, Oddapatti, Collectorate Post office, Dharmapuri-636705 Web site: www.gtmsind.com
	Phone	:	+91 9443937841, 7010076633
g.	Reference No. and date of consent letter from the state government	:	The precise area communication letter was received from the Deputy Director, Department of Geology and Mining, District Collectorate, Karur Vide **Rc.No.494/Mines/ 2022 Dated: 24.07.2023.**

2.0 LOCATION AND ACCESSIBILITY:

a.	Details of the Area:	:	Refer plate no: IA & IB
	District & State	:	Karur, Tamil Nadu
	Taluk	:	Pugalur
	Village	:	Punnam

Khasra No./ Plot No./ Block Range/ Felling Series etc.

Survey No.	Sub division	Total Extent in Hect	Patta No.	Name of the Land Owner	Mine lease Applied S.F. No.	Mine lease Applied Area out of total area in hect.
1287	1	1.34.0	6624	Mrs.Sathya W/o.Thangarasu	171/1A (Part)	1.31.0
1287	3	0.49.0			171/1B (Part)	0.49.0
Total Extent		**1.83.0**		**Applied lease area extent**		**1.80.0**

	Lease area (hectares)	:	1.80.0 Hectare
	Whether the area is recorded to be in forest (please specify whether protected, reserved, etc)	:	No, forest is involved. This is recorded as patta Land.
	Ownership / Occupancy	:	This is a Patta land S.F.No. 1287/1 (part) & 1287/3 is registered in the name of Mrs.Sathya W/o.Thangarasu vides Patta No.6624. (Ref. Annex. No:VI & VII).
	Existence of Public Road / Railway line if any nearby and approximate distance	:	✓ Excavated materials will be transported through the approach road on the western side of the lease applied area. ✓ There is an NH-81 road are situated about 3.5km away from the southern side which

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			is connecting Vellakoil– Karur Rd. ✓ There is an SH-84 road are situated about 2.75km away from the Northern side which is connecting Noyal– Karur Rd. ✓ There is an MDR-332 road are situated about 5.3km away from the western side which is connecting Noyal– K.Paramathi Rd. ✓ There is no railway line are situated about 5.0km radius.
	Toposheet No. with latitude and longitude	:	SOI Toposheet No. **58-F/13** Latitude : From 10°59'21.05"N to 10°59'26.37"N Longitude : From 77°57'59.23"E to 77°58'3.34"E

Geo-Coordinates of the lease boundary:

PILLAR ID	LATITUDE	LONGITUDE
1	10°59'26.37"N	77°58'3.34"E
2	10°59'22.45"N	77°58'3.33"E
3	10°59'21.05"N	77°58'3.33"E
4	10°59'21.33"N	77°57'59.23"E
5	10°59'22.42"N	77°57'59.34"E
6	10°59'25.13"N	77°57'59.81"E
7	10°59'26.26"N	77°57'59.93"E
8	10°59'26.35"N	77°58'2.74"E

	Land use pattern (Forest, Agricultural, Grazing, Barren etc.)	:	It is an existing and renewed quarry lease.
b).	***Attach a general location and vicinity map showing area boundaries and existing and proposed access routs. It is preferred that the area to be marked on a survey of India topographical map or a cadastral map or forest map as the case may be. However if none of these are available, the area should be shown on an accurate sketch map on scale of 1 : 5000.***	:	Refer plate no-IA & IB

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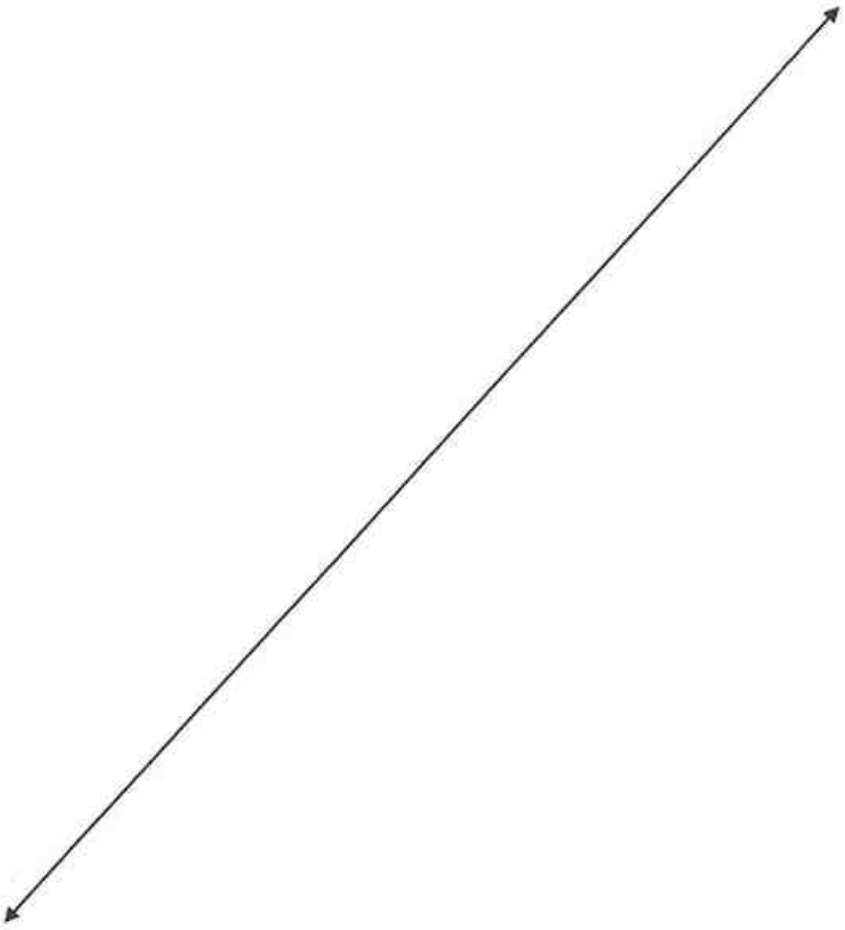
i) INFRASTRUCTURE AND COMMUNICATION:

S.No	Description	Place	Distance	Direction
a.	Nearest post office	Karudaiyampalayam	3.3Km	Southwest
b.	Nearest police station	K.Paramathi	6.95km	Southwest
c.	Nearest fire station	Karaipalayam	9.8km	Northeast
d.	Nearest medical facility	Punnam	2.65Km	East
e.	Nearest school	Nadupalayam	2.5Km	East
f.	Nearest railway station	Pugalur	7.0km	Northeast
g.	Nearest port facility	Tuticorin	247km	South
h.	Nearest airport	Trichy	85.2km	East
i.	Nearest DSP office	Karur	9.9m	East
j.	Nearest villages	Pulliyampalayam	1.08km	North
		Naduppalayam	2.4km	East
		Vallipuram	0.85km	South
		Talaiyuttupatti	1.4km	West



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PART – A

3.0 GEOLOGY AND MINERAL RESERVES:

(a) Briefly describe the topography and general geology and local/mine geology of the mineral deposit including drainage pattern:

(i)	Topography	:	The proposed lease area exhibits flat topography. The maximum elevation (201m) was observed in northeast side of the site. The slope is towards southwest side and falls in Toposheet no. 58 F/13.

(ii) **a) Geology of the District**:

The Karur district forms part of the Archean complex of peninsular gneiss. The general rock types of this area are Biotite gneiss. Karur District is blessed with good reserves of crystalline limestone known as "Palayam belt" in Varavanai, Thennilai, Gudalur etc., villages in Kulithalai Taluk and the occurrences of good quality of pegmatite veins constituting with glassy quartz and potash feldspar in lensoid patches in Nagampalli and Pungambadi areas in Aravakurichi Taluk. The major mineral such as limestone, quartz and feldspar are exploited in Karur district and utilized in the mineral-based industries.

The Granite gneiss rocks are found to occur in K.Paramathi, Athur, Thennilai, Punnam, Godanthur South, Munnur, Punnam, Anjur villages in Karur and Aravakurichi Taluk are exploited to produce building materials and road metal (Jelly) and over burden soil appear as gray to reddish in colour called as gravel. The commercially known "Coloumbo Zubrana" the unique type in the Multi coloured granite / Granite gneiss category is occurring in Thogamalai, Naganur and Kazhugur Villages in Kulithalai Taluk. These rock type belong to minor mineral category. The arrangement of alternate layers of felsic and mafic minerals in linear pattern and exhibits wavy pattern in the rock and giving very good structure for the rock type. The well-developed gneissic pattern with linear arrangement, the rock type have attracted the granite market and found to be suitable for the exploitation of granite blocks. But in this area the banded gneissic rock has many fractures and foliation in it. So, this is not viable for dimensional stone. **Order of superposition of the proposed lease area,**

Age	Group	Rock Formation
Recent to Sub recent	----	Topsoil (1-2m thick),
Proterozoic	Acid intrusive	Pink medium grained granite/

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			Granite gneiss
	Archaean	Charnockite Group	Pyroxene Granulite / Charnockite (acid to intermediate) / Crystalline limestone / Quartzite

(iii) Local / Mine Geology of the mineral deposit area:

a) Topography of the proposed lease area:

The proposed lease area exhibits flat topography. The maximum elevation (201m) was observed in northeast side of the site. The slope is towards southwest side. The applied lease area is existing, with covered gravel and beneath the charnockite rocks found based on existing pit nearby the lease area. Surface plan preparing for contour lines, surface features and Geological mapped the applied lease area.

b) Mode of origin:

The Charnockite series originally was assumed to have developed by the fractional crystallization of silicate magma. Subsequent studies have shown, however, that many, if not all, of the rocks are metamorphic, formed by recrystallization at high pressures and moderately high temperatures.

c) Physiography of the rocks:

General characteristics of the rocks of this series has recorded that the rocks are in general bluish gray or darkish in colour and extremely fresh in appearance with an even grained granular structure.

d) Chemical composition of rocks:

The compositional characteristics of coexisting orthopyroxene, garnet and biotite have established several petrographic varieties within the Charnockites–Enderbites such as the granulite's and gneisses. Plagioclase feldspars, alkali feldspars and quartz are the salic minerals present in this series of rocks.

Order of superposition of rocks in the proposed site:

Age	Group	Rock Formation
Recent to Sub recent	----	Gravel
Archaean	Charnockite Group	Charnockite.

(iv)	Drainage Pattern	No major river located within 50m radius. The drainage in the area is dendritic in nature.

(b)	***The topographic plan of the lease area prepared on a scale of 1 :1000 or 1: 2000 with contour interval of 3 to 10m depending upon the topography of the area***

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	should be taken as the base plan for preparation of geological plans. The details of exploration already carried out including evidences of mineral existence should be shown on the geological plan:		
	a. Present status		There is an existing pit was noticed by RQP with a pit level-I is L73m X W20m X D5m, pit level-II is L47m X W45m X D10m, pit level-III is L26m X W97m X D12m. The Charnockite rocks are well seen in the existing pit with covered by lateritic soil over the part of lease area.
	b. Surface Plan		Surface plan showing elevation contour, rock exposure, and accessibility road was prepared at the scale of 1: 1000, as shown in Plate No.III.
(c)	Geological sections should be prepared at suitable intervals on a scale of 1: 1000 / 1: 2000		Longitudinal and transverse geological cross sections were prepared at the horizontal scale of 1: 1000 and at the vertical scale of 1:500, as shown in Plate No.III.
(d)	***Broadly indicate the Year wise future programme of exploration, taking into consideration the future production programme planned in next five years as in table below:*** No future programmed proposed in this area. Its massive homogeneous parent rock. Hence exploration proposal is not required to this mining project.		
(e)	***Indicate geological and recoverable reserves and grade, duly supported by standard method of estimation and calculations along with required sections (giving split up of various categories i.e., proved, probable, possible). Indicate cut-off grade. Availability of resources should also be indicated for the entire leasehold.*** The geological resources were computed by cross section method with respect to the boundaries of the lease area. In this method, the lease area was divided into one (longitudinal and transverse sections) to calculate the volume of material up to the depth of 25m below ground level. The longitudinal and transverse cross sections were assigned (XY-AB) as respectively. Using the cross-sectional method, total reserve is estimated to be **312091m^3** including the resources of safety zone, and gravel. Of which, rough stone is about **303859m^3** and gravel resource of about **8232m^3**. The gravel is obtained about 0-2m (R.L.201-199m) from the surface and a rough stone starts from 2 to 25m (R.L.199-176m) below ground level. (Refer plate no.III).		

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GEOLOGICAL RESOURCES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m^3	Rough Stone in m^3	Gravel in m^3
XY-AB	I	84	49	2	8232	…..	8232
	I	84	49	3	12348	12348	…..
	II	84	68	5	28560	28560	…..
	III	130	113	2	29380	29380	…..
	III	159	113	3	53901	53901	…..
	IV	159	113	5	89835	89835	…..
	V	159	113	5	89835	89835	…..
TOTAL				**25**	**312091**	**303859**	**8232**

(f) ***Indicate mineable reserves by slice plan / level plan method, as applicable, as per the proposed mining parameters.***

The total mineable reserve is estimated to be **68198m^3** by deducting the reserve safety zone, block in benches from the total Geological resources up to a depth of 25m (R.L.201-176m) below ground level. Of which, rough stone is about **62962m^3** and gravel is about **5236m^3**. The commercially viable rough stone has been prepared on 1: 1000 scale and sections are prepared in a scale of 1:1000 in horizontal axis and 1:500 as vertical axis (Refer plate no. VI).

MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m^3	Rough Stone in m^3	Gravel in m^3
XY-AB	I	77	34	2	5236	…..	5236
	I	77	34	3	7854	7854	…..
	II	72	29	5	10440	10440	…..
	III	113	36	2	8136	8136	…..
	III	124	36	3	13392	13392	…..
	IV	114	26	5	14820	14820	…..
	V	104	16	5	8320	8320	…..
TOTAL				**25**	**68198**	**62962**	**5236**

4.0 MINING:

a.	Briefly describe the existing / proposed method for developing / working the deposit with all design parameters. (Note: In case of pocket deposits, sequence of development/working may be indicated on the same plan)	:	It is an existing grant lease. The mining operation is open-cast, manual mining method are adopted and on single shift basis only. Under the regulation 106 of the Metalliferous Mines Regulations, 1961 in all open cast workings in hard rock, the benches and sides

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			should be properly benched and sloped. The bench height should not exceed 5m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal

b. Indicate quantum of development and tonnage and grade of production expected pit wise as in table below.

Total proposed production **40316m³**. Of which, rough stone is **37800m³** and gravel is **2516m³** up to a depth of 25m below the ground level (R.L.201m-176m) for five years plan period. Average production is **7560m³** of rough stone per year (Refer Plate No. IV).

Year	Pit No.(s)	Topsoil/Over burden (m³)	ROM (m³)	Saleable rough stone (m³) @ 100%	Rough stone rejects(m³)	Sub grade/ Weathered rock in (m³)	Saleable Gravel (m³)	Rough stone to topsoil ratio
First	I	---	10930	8414	...	....	2516	....
Second	I	---	7380	7380	...	....	0	....
Third	I	---	7056	7056	...	....	0	....
Fourth	I	---	7150	7150	...	....	....	....
Fifth	I	---	7800	7800	...	....	....	....
Total	**—**	**...**	**40316**	**37800**	**...**	....	**2516**	**....**

c.	***Composite plans and Year wise sections (In case of 'A' class mines):***	:	Not applicable. It is a "B" class, individual quarry lease.

Composite plans and year wise sections (In case of 'B' class mines):

YEARWISE PRODUCTIONS								
Section	Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In m³	Rough Stone in m³	Gravel in m³
XY-AB	I-YEAR	I	37	34	2	2516	.....	2516
		I	37	34	3	3774	3774	.....
		II	32	29	5	4640	4640	.....
	TOTAL					**10930**	**8414**	**0**
	II-YEAR	III	41	36	2	2952	2952	.....
		III	41	36	3	4428	4428	.....
	TOTAL					**7380**	**7380**	**0**

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	III-YEAR	III	32	36	2	2304	2304	.....
		III	44	36	3	4752	4752	.....
	TOTAL					**7056**	**7056**	**0**
	IV-YEAR	IV	55	26	5	7150	7150	.....
	TOTAL					**7150**	**7150**	**0**
	V-YEAR	IV	20	26	5	2600	2600	.....
		V	65	16	5	5200	5200	.....
	TOTAL					**7800**	**7800**	**0**
	GRAND TOTAL					**40316**	**37800**	**2516**

d.	Attach supporting composite plan and section showing pit layouts, dumps, stacks of sub-grade mineral, if any, etc.	:	Composite plan not prepared in this proposed lease area. It is "B_2" category of mine.

e. ***Indicate proposed rate of production when the mine is fully developed and the expected life of the mine and the year from which effected:***

At this rate of production, the expected life of quarry is calculated as given below: -

Rough stone:

Production reserves of rough stone = **37800m^3**

Yearly production of rough stone = **7560m^3**

Monthly production of rough stone = **630m^3**

Gravel:

Mineable reserves of gravel = **2516m^3**

Yearly production of gravel = **838m^3**

The regular working of the quarry and its production depends upon the demand from the market. The market is always fluctuating and flexible one. Accordingly, there is a possibility to increase or decrease the production. The year wise production, anticipated life of quarry etc., are only a tentative figure.

f. ***Attach a note furnishing a conceptual mining plan for the entire lease period (for B" category mines) and up to the life of the mine (for "A" category mines) based on the geological, mining and environments considerations:***

i)	Time frame of completion of mineral exploration program in leasehold area: Give broad description identified potential areas to be covered in the	:	Considering the indefinite depth persistence of the rough stone and gravel deposit is proved beyond the workable limits about up to a depth of 25m below ground level (R.L.201m-176m) from the petrogenetic character of the rock as

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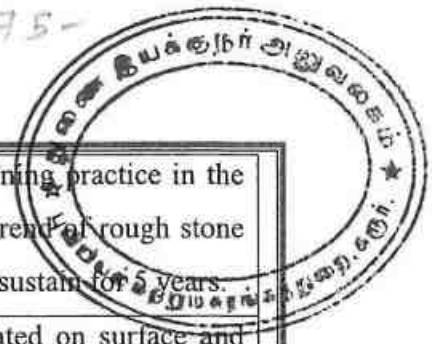

	given time frame:		well as from the actual mining practice in the area and with the current trend of rough stone production the quarry may sustain for 5 years.

ii) Whether ultimate pit limit has been determined and demarcated on surface and geological plan:-

The ultimate pit limit has been determined and demarcated in the conceptual plan

ULTIMATE PIT LIMIT-(XY-AB)

Bench	Bench R.L	Period	Overburden/ Mineral	L (m)	W (m)	D (m)
I	R.L.201-199m	Five years	Gravel	77	34	2
I	R.L.199-196m		Rough stone	77	34	3
II	R.L.196-191m		Rough stone	72	29	5
III	R.L.191-189m		Rough stone	113	36	2
IV	R.L.189-186m		Rough stone	124	36	3
V	R.L.186-181m		Rough stone	114	26	5
VI	R.L.181-176m		Rough stone	104	16	5
					Total	**25m**

iii)	Whether the site for disposal of waste rock or an un-saleable material have/ has been examined for adequacy of land and suitability of long-term use in the event of continuation of mining activity: -	:	The recovery of rough stone in this quarry is 100%. There is no waste rock will be proposed in this lease area.
iv)	Whether back filling of pits after recovery of mineral up to techno-economically feasible depth envisaged. If so, describe the broad features of the proposal: -	:	As the depth of persistence of the deposit may likely to continue for further depth, it is proposed not to backfilled the quarry pit.
v)	Whether post mining land use envisaged: -	:	At the end of mining activities over the quarry pit may be utilized fish culture or storage of rain water reservoir used for irrigation purposes.
g.	***Open cast Mines:***		
	i). Describe briefly giving salient features of the mode of working (Mechanized, Semi-	:	It is an existing quarry lease. The mining operation is open-cast, manual mining methods are adopted and on single shift basis only.

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	mechanized, manual)		Under the regulation 106 of the Metalliferous Mines Regulations, 1961 in all open cast workings in hard rock, the benches and sides should be properly benched and sloped. The bench height should not exceed 5m and the bench width should not less than the bench height. The slope of the benches should not exceed 45° from horizontal. Machineries like Tractor mounted compressor attached with Jack hammers is proposed to drilling. Rough stone will be loaded manually to the trucks for dispatch to needed to the customers
	ii) Describe briefly the layout of mine workings, the layout of faces and sites for disposal of overburden /waste. A reference to the plans enclosed under 4(b) and 4(d) will suffice	:	The rough stone is proposed to quarry at 5m bench height & width conventional opencast manual quarrying operation using drilling with the help of tractor mounted compressor attached with jack hammers, and are loaded directly to the tippers. Bench height = 5mts. Bench width = 5mts.
	a. Details of topsoil/ overburden	:	There is no topsoil will be removed.
	b. Rough stone waste and side burden waste:-	:	The recovery of rough stone in this quarry is 100%. Earth bund is available on the east and west side of the lease area.
h.	***Underground Mines:***	:	Not applicable
i.	***Extent of mechanization:*** Describe briefly including the calculation for adequacy and type of machinery and equipment proposed to be used in different mining operations. ***(1) Drilling Machines:*** Quarrying operation will be carried out tractor mounted compressor attached with Jack hammers is proposed to drilling and without any blasting the rocks. **Details of drilling equipment's are given below.**		

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Type	Nos	Dia of hole (mm)	Size / Capacity	Make	Motive power	H.P
Hand-hack-Hammer	2	32 mm	Hand held	---	Diesel	
Compressor	1	---	Air	--	Diesel	--
Shoval	6	--	--	--	--	--
Picas	4	--	--	--	--	--

(2) Loading Equipment:

The rough stone will be loaded manually to the trucks for dispatch to needed to the customers

(3) Haulage and Transport Equipment

(a) Haulage within the mining leasehold:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
Tipper	4	15MT	--	Diesel	--

Whether the dumpers are fitted with exhaust conditioner should be indicated:

The dumpers are not used in this quarry; hence it's a small B2 category quarry.

a) Transport from mine head to the destination	:	Tipper will be used for transport rough stone from the mine head to needy customer.
c. Describe briefly the transport system (please specify)	:	---
d. Ore transported by : own trucks / hired trucks	:	Hired trucks for initially production purposes.
e. Main destination to which ore is transported (giving to and from distance)	:	The excavated stone materials will be supplied to the consumers like stone pillar, sized stone, etc

f. Details of hauling / transport equipment:

Type	Nos	Size / Capacity	Make	Motive power	H.P.
--	--	--	--	--	--

(4). Miscellaneous:

Describe briefly any allied operations and machineries related to the mining of the deposit not covered earlier.

(A) Operations	:	The mining operation is opencast, manual methods are adopted and on single shift basis only.

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	(B) Machineries deployed	:	Machineries like Tractor mounted compressor attached with Jack hammers is proposed to drilling.
5.	**BLASTING:** ***a) Broad blasting parameters like charge per hole, blasting pattern, charge per delay, maximum number of holes blasted in a round, manner and sequence of firing, etc.*** **Blasting pattern:** Eco-friendly quarry operation is proposed in this quarry lease area. Tractor mounted compressor attached with Jack hammers is proposed to drilling.		
	b) Powder factor in ore and overburden / waste / development heading / stope	:	Not applicable
	c) Whether secondary blasting is needed, if so describe it briefly	:	Not applicable
	d) Storage of explosives (like capacity and type of explosive magazine)	:	First Aid Box will be keeping ready at all the quarry site.
6.	***MINE DRAINAGE***		
	a) Likely depth of water table based on observations from nearby wells and water bodies	:	The ground water table is reported as of 50m in rainy season and 55m in summer from the below ground level in the adjacent bore wells of the area.
	b) Workings expected to be _____ m. above / reach below water table by the year _____.	:	Proposed depth of mining is 25m bgl. Now, the present Mining lease will be proposed above the water table and hence, quarrying may not affect the ground water.
	c) Quantity and quality of water likely to be encountered, the pumping arrangements and places where the mine water is finally proposed to be discharged	:	The ground water may not rise immediately in this type of mining. However, the rain water percolation and collection of water from the seepage will be less than 300 Lpm and it will be pumped out periodically by a stand by diesel powered Centrifugal pump motivated with 7.5 H.P. Motor. The

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			quality of water is potable and doesn't contaminate with any hazardous things.
7. (a)	***STACKING OF MINERAL REJECTS AND DISPOSAL OF WASTE:*** Indicate briefly the nature and quantity of top soil, overburden / waste and mineral rejects likely to be generated during the next five years: No separate of topsoil will be removed and any other waste or side burden dumps are doesn't proposed.		
(b)	Land chosen for disposal of waste with proposed justification	:	There is no waste are proposed.
(c)	Attach a note indicating the manner of disposal and configuration, sequence of buildup of dumps along with the proposals for the stacking of sub-grade ore, to be indicated year wise.	:	There is no waste or any other mineral dumps are proposed. If rough stone may be unsold will be keep within the lease boundary.
8.	***USE OF MINERAL:***		
(a)	Describe briefly the end-use of the mineral (sale to intermediary parties, captive consumption, export, industrial use)	:	The excavated stone materials will be supplied to the consumers like pillar stone, sized stone, carving stone, Kattu kal, etc.
(b)	Indicate physical and chemical specifications stipulated by buyers	:	Basically, the materials produced at this quarry are rough stone and the same are used for pillar stone, sized stone, Kattu kal materials only, so there are no chemical specifications are specified. Only physical specifications are involved.
(c)	Give details in case blending of different grades of ores is being practiced or is to be practiced at the mine to meet specifications stipulated by buyers.	:	Not blending process is involved.
9.	***OTHERS***		
(a)	**Describe briefly the following** Site services	:	Infrastructure required for such mines

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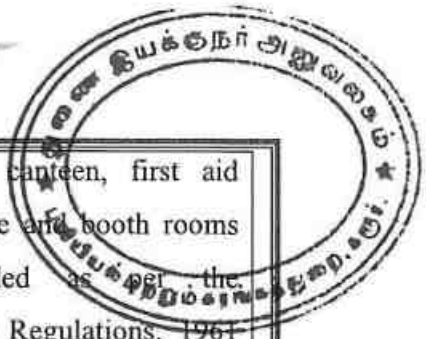

			like office, stores, canteen, first aid station, shelter latrine and booth rooms have been provided as per the Metalliferous Mines Regulations, 1961 as a welfare amenity for our quarry laborers.

(b) Employment potential :

As per Mines safety under the provisions of Metalliferous Mines Regulations, 1961 and under the Mines Act, 1952, whenever the workers are employed more than 10, it is preferred to have a qualified mining mate to keep all the production workers directly under his control and supervision.

The following man power is proposed for quarrying stone material during the five years period the same manpower will be utilize for this mining plan period to achieve the proposed production and to comply the provisions of as per the MMR, 1961 norms.

1.	Highly Skilled	Mines Manager	1No.
		Mine Engineer	1No.
		Mine Geologist	1No
		Blaster	Nil
2.	Unskilled	Musdoor / Labours	15 No's
		Total =	**18 No's**

10 MINERAL PROCESSING/BENEFICIATIONS:

(a)	If processing / beneficiations of the ore or minerals mined is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the processing /beneficiation. This should indicate size and grade of feed material and concentrate (finished marketable product), recovery rate.	:	Excavated rough stone materials shall be directly sale to the needy customer. No processing / beneficiations are proposed
(b)	Explain the disposal method for tailings or waste from the processing plant (quantity and quality of tailings proposed to be discharged, size and	:	No water will be used for quarrying or any other processing except drinking water to be drawn from public sources. Some stagnation of rain water in the pit

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	capacity of tailing pond, toxic effect of such tailings, if any, with process adopted to neutralize any such effect before their disposal and dealing of excess water from the tailing dam).		will be used for drilling and spraying haul roads. Therefore, need for tailing dam doesn't arise. But tailing control of rain water flow during rainy season has to be done by decanting the SPM in a pit before passing the water in to natural system.
(c)	A flow sheet or schematic diagram of the processing procedure should be attached.	:	Not applicable.
(d)	Specify quantity and type of chemicals to be used in the processing plant.	:	Not applicable
(e)	Specify quantity and type of chemicals to be stored on site / plant.	:	Not applicable
(f)	Indicate quantity (cu.m. per day) of water required for mining and processing and sources of supply of water. Disposal of water and extent of recycling.	:	Drinking is 0.75KLD, utilized water is 1.0KLD, Dust suppression is 1.0KLD and Green Belt is 1.0KLD. Minimum quantity of water 3.75KLD per day. It is proposed to make an own borewell for providing uninterrupted supply of RO drinking water, dust suppression and green belt development. The sewage water to a tune of 0.8KLD generated from the mine office toilet and mine labour toilet will be diverted to the septic tank followed by soak pit.

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PART – B

11.0 ENVIRONMENTAL MANAGEMENT PLAN :

a) Attach a note on the statuts of Baseline information with regard to the following :

11.1 Existing land use pattern indicating the area already degraded due to quarrying /pitting, dumping, roads, processing plant, workshop, township etc in a tabular form. The present land use pattern is given as below.

Sl. No.	Land Use	Present area (Hect.)
1.	Area under mining	0.77.2
2	Infrastructure	Nil
3	Road	0.03.0
4	Green belt & Earth Bund	0.24.13
5	Drainage & Settling Tank	Nil
6	Un-utilized area	0.75.67
	Grand total	**1.80.0**

11.2	Water Regime	:	Water table in this area is noticed at a depth of 55m in summer and 50m in rainy season from the general ground level and presently the quarrying of rough stone is proposed up to a depth of 25m bgl. Hence, it will not affect the ground water depletion of this area. It is made own borewell for providing uninterrupted supply of RO drinking water, dust suppression and green belt development.
11.3	Flora and Fauna	:	There is no major flora observed in this area and except acacia bushes, no other valuable trees are noticed in the lease area. Further, neither flora of botanical interest nor fauna of zoological interest is noticed in this area.
11.4	Quality of air, ambient noise level and water	:	Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc.., will be suppressed by periodical wetting of land by water spraying. Quarrying of rough stone will be carried out by hand-hack-Hammer.

11.5 Climatic conditions:

Climate:

The district receives the rain under the influence of both Southwest and Northeast monsoons. The Northeast monsoon chiefly contributes to

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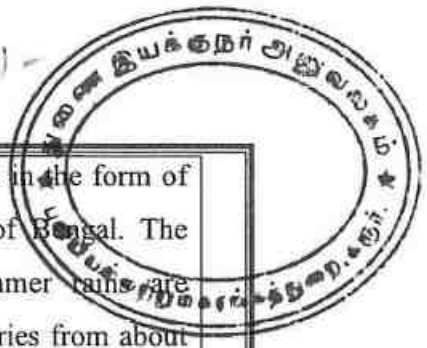

	the rainfall in the district. Most of the precipitation occurs in the form of cyclonic storms caused due to the depressions in Bay of Bengal. The Southwest monsoon rainfall is highly erratic and summer rains are negligible. The average annual rainfall over the district varies from about 620 mm to 745 mm. **Rainfall:** The annual rainfall normal (1970-2000) of Karur district is 742 mm.4 Projections of rainfall over Karur for the periods 2010-2040 (2020s), 2040- 2070 (2050s) and 2070-2100 (2080s) with reference to the baseline (1970-2000) indicate a general decrease of 4.0%, 3.0% and 11.0% respectively.		
11.6	Human Settlement: The nearest villages are found in the buffer zone with population as per 2011 census.		
11.7	Public buildings, places of worship and monuments	:	No infrastructure like residential building, places of special interest like archeological monuments, sanctuaries etc., are found around 10km radius.
11.8	Attach plans showing the locations of sampling stations	:	The proposed ambient air quality, water quality ambient noise level and vibration are periodically tested for every season (6 months once) around 5km radius as per the guidance of MoEF and EIA notification 2006 and also covering DGMS norms.
11.9	Does area (partly or fully) fall under notified area under Water (Prevention & Control of Pollution), Act, 1974	:	The proposed area not fall under notified area under water (Prevention & Control of Pollution), Act, 1974

S.N	Village	Direction	Distance in Kms	Population
1	Pulliyampalayam	North	1.08km	1898
2	Naduppalayam	East	2.4km	846
3	Vallipuram	South	0.85km	712
4	Talaiyuttupatti	West	1.4km	847

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b) Attach an Environmental Impact Assessment Statement describing the impact of mining and beneficiation on environment on the following over the next five years (and upto conceptual plan period for 'A' category mines)

i) ***Land area indicating the area likely to be degraded due to quarrying / pitting, dumping, roads, workshop, processing plant, township etc:***

Due to quarrying and exploitation of the rough stone, there will impact in the form i.e. change in the ground profile, pits, and dumps. The details of the land use pattern, during the ensuing plan period and till lease period is shown in the tabular form:

Sl. No.	Land Use	Area in use during the quarrying period (Hect)
1.	Area under mining	0.51.55
2	Infrastructure	0.02.0
3	Road	0.06.0
4	Green belt & Earth bund	1.20.45
5	Drainage & Settling Tank	Nil
6	Un-utilized area	Nil
	Grand total	**1.80.0**

ii).	Air Quality	Air or dust expected to be generated from drilling process, hauling roads, places of excavation etc.., will be suppressed by periodical wetting of land by water spraying.
iii).	Water quality	A water sample from the open/bore wells was tested to NABL approved lab to assess hardness, Salinity, colour, Specific gravity, etc.
iv).	Noise levels	Quarrying of rough stone will be carried out by Tractor mounted compressor attached with Jack hammers is proposed to drilling and Hand-hack-Hammer. However, periodical noise level monitoring will be carried out every six months around the quarry site.
v).	Vibration levels (due to blasting)	No deep hole blasting envisaged. Small dia shot holes are used for breaking boulders. The maximum peak particles velocity will be

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			recoded using mini seismograph devises as per the guidance of MoEF and EIA Notification 2006 and also covering DGMS norms.
vi).	Water regime		No major water bodies like rivers, pond, lake etc., located within a radius of 50m.
vii).	Socio-economics		1. To provide Employment opportunities of the near by villagers. 2. For the cultural development of the nearby villagers.
viii).	Historical monuments etc.		There are no historical monuments, etc found around 10km radius.

c) Attach an Environmental Management Plan (supported by appropriate plans and sections) defining the time bound action proposed to be taken with sequence & timing in the following areas (or diagrams should be used):

i).	Temporary storage and utilization of topsoil	:	There is no topsoil will be removed.
ii).	Year wise proposal for reclamation of land affected by abandoned quarries and other mining activities during first five years (and upto conceptual plan period for 'A' category mines) clarifying the extent of back filling and re-contouring and / or alternative use of unfilled / partially filled excavations / road sides / slopes and mine. In case abandoned quarries/ pits are proposed to be used as reservoir, their size, water holding capacity and proposal for utilization of such water be given.	:	The present mining is proposed to an average depth of 18m bgl has been envisaged as workable depth for safe & economic mining during the lease period. The mined-out area will be fenced on top of working bench with S1 fencing. No immediate proposals for closure of pit as the rough stone persist still at deeper level.

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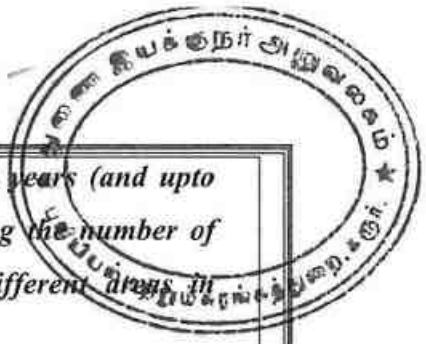

iii) ***Programme of afforestation, Yearwise for the initial five years (and upto conceptual plan period for 'A' category mines) indicating the number of plants with name of species to be afforested under different areas in hectares.***

Green Belt Development:

Safety barrier, school and nearest panchayat roads has been identified to be utilized for Greenbelt appropriate native species of Neem, Pungan and other regional trees will be planted in a phased manner as described below.

Year	Place	Area in Sq.m	No.of Plants	Rate of survival	Rate	Amount in Rs
First	Lease Boundary	12045	1335	80%	@100 Rs Per sapling	1,33,500/-
Second	Approach road and Nearby Village Road	--	300	80%		30000/-
Third	Schools	--	300	80%		30000/-
					Total	**1,93,500/-**

iv).	Stabilization and vegetation of dumps along with waste dump management Year wise for the first five years (and up to conceptual plan period for 'A' category mines).	:	No waste or rejects removed in this lease area.
v).	Measures to control erosion / sedimentation of water courses.	:	Not applicable. There are no major dumps are stabilized in this quarry area.
vi).	Treatment and disposal of water from mine.	:	It will not be harmful and it does not require any treatment before discharging into the natural courses.
vii).	Measures for minimizing adverse effects on water regime.	:	There is no water to be pumped out will be very pure and portable and therefore, it will not affect any water regime surrounding the quarry. The worked-out pit will be protected with barbed wire and the mined-out pit will be used as storage rain water pit. The open pit will be used as rain water

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			storage structure to augment groundwater levels which improve the mine environment.
viii).	Protective measures for ground vibrations / air blast caused by blasting,	:	It is a small B2 category opencast, manual method of mining is adopted and no heavy machinery will be used.
ix).	Measures for protecting historical monuments and for rehabilitation of human settlements likely to be disturbed due to mining activity.	:	No historical monuments and for rehabilitation of human settlements doesn't to be disturbed during mining activity.
x).	Socioeconomic benefits arising out of mining.	:	The nearest villages are will get employment benefits.

d). Monitoring schedules for different environmental components after the commencement of mining and other related activities. (for 'A' category mines only)

Not applicable. It is B2 category quarry

12.0 PROGRESSIVE QUARRY CLOSURE PLAN:

12.1	Steps proposed for phased restoration, reclamation of already mined out area.	:	The proposed mining is proposed to an average depth of 25m bgl. The mined-out area will be fenced on top of working bench with S1 fencing to arrest the entry of cattle's and public in to the quarry site.
12.2	Measures to be under taken on mine closure as per Act & Rules	:	Measures will be taken as per the Acts and Rules. Green belt development at the rate of 1335 trees will be proposed in the quarry area. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
12.3	Mitigation measures to be undertaken for safety and restoration/ reclamation of the already mined out area	:	The quarry lease is an existing mining lease. No mitigation measures adopted.
12.4	Mine closure activity	:	The present mining plan is proposed to depth of 25m bgl has been envisaged as workable depth for safe & economic mining during the

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			lease period. The mined-out area will be fenced on top of open cast working with S1 fencing. No immediate proposals for closure of pit as the rough stone persist still at deeper level.
12.5	Safety and security	:	Safety measures implement to the prevent access to surface opening excavations will be taken as Metalliferous mine regulations, 1961, it is a small open cast mining method adopted. Safety provisions like helmet, goggles, safety shoes, Dust mask, Ear muffs etc have to be provided as per the circulars and amendments made for Mine labours under the guidance of DGMS being a mechanized operation.
12.6	Disaster management and Risk Assessment	:	If the benches are made with proposed height and width no risk will be there. First aid facilities will avail and the standby vehicle in the lease area to reach nearest hospital, if any disaster happens the lessee is capable to meet such eventualities.
12.7	Care and maintenance during temporary discontinuance	:	A board of discontinuance will be changed on the main entrance of the working place. One watch man will be kept on the quarry area for security purposes also look after the survival of the plants.
12.8	Economic repercussions of closure of quarry and man power entrenchments	:	During the five years mining period the employment potential will be generated, general financial status and socio-economic conditions of approx. 18 labors will be improved.
12.9	Reclamation and Rehabilitation	:	No removal of structures proposed.

12.9 Proposed Financial Estimate / Budget for (EMP) Environment Management:

A	**Fixed Asset Cost**: 1. Land Cost	:	Rs. 2,75,200/-
	2. Labour Shed		Rs. 1,50,000/-
	3. Sanitary Facility	:	Rs. 1,50,000/-

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	4. Fencing	:	Rs. 2,50,000/-
	5. Other expenses (Security guard, dust bin, etc)	:	Rs. 3,00,000/-
	Total	:	**Rs. 11,25,200/-**
B	**B. Machinery cost**	:	**Rs. 10,00,000/-** (Hire Basis)
C	**Total Expenditure of EMP cost** (for five years)		
	1. Drinking Water Facility	:	Rs. 1,00,000/-
	2. Sanitary facility & Maintenance	:	Rs. 50,000/-
	3. Permanent water sprinkler	:	Rs. 1,00,000/-
	4. Afforestation and its maintenance	:	Rs. 1,93,500/-
	5. Safety Kits	:	Rs. 50,000/-
	6. Provision of tyre washing facility	:	Rs. 75,000/-
	7. Surface runoff management structures like garland drain, settling pond & Bund	:	Nil
	8. Blasting materials with blast mat cost	:	Nil
	9. Environment monitoring	:	Rs. 5,00,000/-
	Total	:	**Rs. 10,68,500/-**
D	**Total Project Cost (A+B+C)**	:	**Rs. 31,93,700/-**

13.0 FINANCIAL ASSURANCE:

Not applicable, it is a small B2 rough stone and gravel quarry.

14.0 CERTIFICATES:

All required certificates are enclosed.

15.0 PLAN AND SECTIONS, ETC:

Plan and Sections are submitted along with mining plan.

16.0 ANY OTHER DETAILS INTEND TO FURNISH BY THE APPLICANT:

(i) Care and precautionary measures will be taken for the safety of workers as per Rules and Acts.

(ii) The applicant will endeavor every attempt to quarry the rough stone economically without any wastage and to improve the environment and ecology.

(iii) The mining plan is prepared by incorporating the conditions stipulated in the precise area communication issued by the Deputy Director of Geology and Mining, Karur vide letter **Rc.No.494/Mines/2022 Dated: 24.07.2023.**

(iv) Total proposed production of **40316m^3**. Of which, rough stone is about **37800m^3** and gravel is about **2516m^3** up to a depth of 25m below the ground level (R.L.201m-176m) for five years plan period. Average production is **7560m^3** of rough stone per year.

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17.0 CSR Expenditure:

CSR (Corporate Social responsibility) shall provide by the applicant @ 2.0% of average net profit of the company for the last three financial years to the nearby village on the Ministry has notified the amendments in section 135 of the Act as well in the CSR Rules on 22nd January 2021 as circular no. CSR-05/01/2021-CSR-MCA dated 25th August 2021.

Place: Dharmapuri, TN
Date: 4/8/23

Signature of the Recognized Qualified Person

Dr. S. KARUPPANNAN, M.Sc., Ph.D.,
GEO TECHNICAL MINING SOLUTIONS
1/213-B, Ground Floor, Hatsun Complex,
Oddapatti, Collectorate Post Office,
Dharmapuri - 636 705, Tamil Nadu, India.
E-mail: [illegible]
Website : www.[illegible].com

This Mining Plan is approved basedon Incorporation of the particulars specified in clause 7 (iv) of the Commissioner of Geology and Mining Chennai Lr No 3868 / LC / 2012 dt 19-11-2012 and Draft Minor Mineral Conservation & Development Rules 2010

11/8/23

Deputy Director of Geology and Mining
Karur District

11/08/2023

This Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 494/mines/2022
Dated: 11/08/2023

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ANNEXURE - I

ந.க.எண்.494/கனிமம்/2022

மாவட்ட ஆட்சியர் அலுவலகம்,
புவியியல் மற்றும் சுரங்கத்துறை,
கரூர்

நாள்: 24.07.2023.

குறிப்பாணை

பொருள்: கனிமங்களும் குவாரிகளும் - கரூர் மாவட்டம் - புகளூர் வட்டம் - புன்னம் கிராமம் - பட்டா புல எண்கள்.1287/1(பகுதி) 1.31.00 ஹெக்டேர் மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றின் மொத்தம் 1.80.00 ஹெக்டேர்ஸ் பரப்பில் - சாதாரணகல் மற்றும் கிராவல் குவாரி குத்தகை உரிமம் வேண்டி திருமதி.த.சத்யா என்பவர் விண்ணப்பம் செய்தது - உரிமம் வழங்க பரிந்துரை செய்யப்பட்டது - தகுதியான நிலப்பரப்பாக கருதி ஏற்பளிக்கப்பட்ட சுரங்க திட்டம் மற்றும் சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணைய இசைவினை பெற்று சமர்பிக்கக் கோருதல் - தொடர்பாக.

பார்வை:

1. திருமதி.த.சத்யா, க/பெ.தங்கராசு, கதவு எண்.2, மசகவுண்டன்புதூர், புஞ்சைபுகளூர் தெற்கு, நஞ்சைபுகளூர், மூலிமங்கலம், புகளூர் வட்டம், கரூர் மாவட்டம் என்பவரின் விண்ணப்பம் நாள்: 29.09.2022.
2. வருவாய் கோட்டாட்சியர், கரூர் அவர்களின் கடிதம் ந.க.எண். அ1/6169/2022, நாள்:12.06.2023
3. உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை கரூர் என்பவரது புலத்தணிக்கை அறிக்கை நாள்:12.07.2023.
4. 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).

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கரூர் மாவட்டம், புகளூர் வட்டம், புன்னம் கிராமம், பட்டா புல எண்கள்.1287/1(பகுதி) 1.31.00 ஹெக்டேர் மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றின் மொத்தம் 1.80.00 ஹெக்டேர்ஸ் பரப்பு நிலத்திலிருந்து ஐந்து ஆண்டுகளுக்கு சாதாரண கற்கள் மற்றும் கிராவல் வெட்டியெடுக்க திருமதி.த.சத்யா, க/பெ.தங்கராசு, கதவு எண்.2, மசகவுண்டன்புதூர், புஞ்சைபுகளூர் தெற்கு, நஞ்சைபுகளூர், மூலிமங்கலம், புகளூர் வட்டம், கரூர் மாவட்டம் என்பவர் பார்வை 1-இல் கண்டுள்ளவாறு விண்ணப்பம் செய்துள்ளார்.

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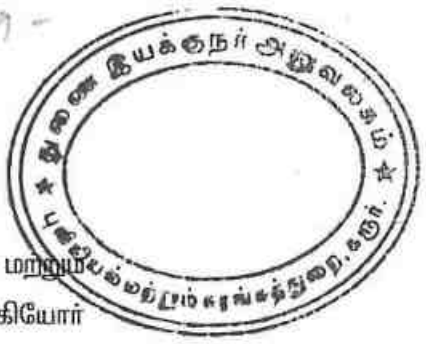

மேற்படி விண்ணப்பம் தொடர்பாக, வருவாய் கோட்டாட்சியர், கரூர் மற்றும் உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் ஆகியோர் புலத்தணிக்கை மேற்கொண்டு கரூர் மாவட்டம், புகளூர் வட்டம், புன்னம் கிராமம், பட்டா புல எண்கள்.1287/1(பகுதி) 1.31.00 ஹெக்டேர் மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றின் மொத்தம் 1.80.00 ஹெக்டேர்ஸ் பரப்பில் தமிழ்நாடு சிறு கனிமச்சலுகை விதிகளில் விதி எண்கள்.19-(1) 20 மற்றும் 22-இன் கீழ் திருமதி.த.சத்யா என்பவருக்கு ஐந்து ஆண்டுகளுக்கு சாதாரணக்கல் மற்றும் கிராவல் குவாரி உரிமம் வழங்க கீழ்கண்ட நிபந்தனைகளுக்குட்பட்டு அனுமதி வழங்கலாம் என பார்வை 2 மற்றும் 3-இல் கண்டுள்ளவாறு பரிந்துரை செய்துள்ளனர்.

1. விண்ணப்ப புலத்திற்கு மேற்கில் தென்வடலாக செல்லும் தார் சாலைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

2. விண்ணப்ப புலத்திற்கு வடமேற்கில் தென்வடலாக செல்லும் தாழ்வழுத்த மின்பாதைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

3. விண்ணப்ப புலங்களுக்கு அருகில் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் மற்றும் புறம்போக்கு நிலத்திற்கு 10 மீட்டர் பாதுகாப்பு இடைவெளி விட்டு யாதொரு சேதமுமின்றி முறையாக குவாரிப்பணி செய்ய வேண்டும்.

4. குத்தகைக்காலத்தில் கைத்துளைப்பான் கருவி கொண்டு பாறைகளை துளையிட்டும், மிதமான வெடிபொருள் பயன்படுத்தியும், பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமுமின்றி விதிமுறைகளின்படி குவாரிப்பணி செய்ய வேண்டும்.

5. குவாரித் தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய Mettaliferrous Mines, விதிகளின்படி அகலமானதும், பாதுகாப்பானதுமான Benches அமைத்து பாதுகாப்பான முறையில் குவாரிக்குள் வாகனங்கள் சென்றுவரவும் மற்றும் குவாரி தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்தும் குவாரிப்பணி செய்ய வேண்டும்.

6. குவாரி குத்தகை வழங்க ஏதுவாக துணை இயக்குநர் (சுரங்கம்) அவர்களால் ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தினையும், மாநில அளவிலான சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் (SEIAA) இசைவினை பெற்று மாவட்ட நிர்வாகத்திற்கு விண்ணப்பதாரர் நிறுவனத்தினரால் சமர்ப்பிக்கப்பட வேண்டும்.

எனவே, வருவாய் கோட்டாட்சியர், கரூர் மற்றும் உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் ஆகியோரின் பரிந்துரைகள் மற்றும்

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நிபந்தனைகளின் அடிப்படையில் கரூர் மாவட்டம், புகளூர் வட்டம், புன்னம் கிராமம், பட்டா புல எண்கள்.1287/1(பகுதி) 1.31.00 ஹெக்டேர் மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றின் மொத்தம் 1.80.00 ஹெக்டேர்ஸ் பரப்பில் 1959-ஆம் வருட தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண். 19(1), 20 மற்றும் 22-இன்படியும் மேலும் மேற்கண்ட நிபந்தனைகளுக்கும் உட்பட்டு 5 (ஐந்து) ஆண்டு காலத்திற்கு சாதாரணக்கற்கள் மற்றும் கிராவல் குவாரி உரிமம் வழங்க திருமதி.த.சத்யா என்பவருக்கு அரிதியிட்ட (Precise area) நிலப்பரப்பாக கருதப்படுகிறது.

அதற்கிணங்க, தமிழ்நாடு சிறு கனிம சலுகை விதிகள்-1959 விதி எண்.41-இன்படி குவாரிப்பணி மேற்கொள்வது தொடர்பாக வரைவு சுரங்க திட்டத்தினை 90 தினங்களுக்குள் சமர்ப்பிக்குமாறு திருமதி.த.சத்யா என்பவர் கேட்டுக்கொள்ளப்படுகின்றார். மேலும், ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டத்தின் தொடர்ச்சியாக 1959-ஆம் வருடத்திய தமிழ்நாடு சிறுகனிம சலுகை விதிகள், விதி எண்.42-இன்படி சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் இசைவினைப் பெற்று சமர்பிக்கும் பட்சத்தில் மட்டுமே குவாரி உரிமம் வழங்கப்படும் என இதன் மூலம் தெரிவிக்கப்படுகிறது.

24/07/2023

துணை இயக்குநர்,
புவியியல் மற்றும் சுரங்கத்துறை,
கரூர்.

பெறுநர்
திருமதி.த.சத்யா,
க/பெ.தங்கராசு,
கதவு எண்.2,
மசகவுண்டன்புதூர்,
புஞ்சைபுகளூர் தெற்கு,
நஞ்சைபுகளூர்,
மூலிமங்கலம்,
புகளூர் வட்டம்,
கரூர் மாவட்டம்.

24/07/2023

நகல்:-
1. மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையம், சென்னை.
2. இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, கிண்டி, சென்னை.

K.T. Sathya

ANNEXURE - IIa

DR. H.MALLESHAPPA.I.F.S
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, TAMILNADU,
3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.

ENVIRONMENTAL CLEARANCE

Lr. No.SEIAA-TN/F.No.4274/1(a)/ EC.No:3883/2016 dated: 05.06.2017

To
Tmt. T. Sathya
No.2, Mesagoundenpudhur
Punjai Pugalur (South) Village
Karur Taluk
Karur - 639113

Sir,

Sub: SEIAA-TN – Proposed Rough Stone quarry located at S.F.No 1287/1 & 1287/3 (Patta Land), Punnam Village,Aravakurichi Taluk, Karur District- issue of Environmental Clearance – Reg.

Ref: 1. Your Application for Environmental Clearance dt: 08.10.2015
2. Minutes of the 82th SEAC held on 21.10.2016 & 22.10.2016
3. Minutes of the SEIAA meeting held on 05.06.2017

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	Tmt. T. Sathya No.2, Mesagoundenpudhur Punjai Pugalur (South) Village Karur Taluk Karur - 639113
2	Location of the Proposed Activity	
	Survey Number	1287/1 & 1287/3 (Patta Land)
	Latitude and Longitude	10°59'26.39"N to 10°59'21.09"N 77°58'59.89"E to 77°58'03.20"E
	Village	Punnam
	Taluk	Aravakurichi

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	District	Karur
3	**Proposed Activity**	
	i. Minor mineral	Rough Stone
	ii. Mining Lease Area	1.83.0 Ha
	iii. Approved quantity	42254 cu.m of Rough Stone
	iv. Depth of Mining	14 m
	v. Type of mining	Opencast Semi Mechanized Method
	vi. Category(B1/B2)	B2
	vii. Precise area communication	Rc.No. 226/Mines/2014 dated 12.07.2015
	viii. Mining plan approval	Assistant Director Rc.No. 226/Mines/2014 dated: 30.09.2015
	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:**	18 Employees
6	**Utilities**	
	i. Source of Water :	Water supplier
	ii. Quantity of Water Requirement in KLD:	
	a. Domestic b. Industrial c. Green Belt & Dust Suppression	0.750KLD } 1.750KLD
	iii. Power Requirement: a. Domestic Purpose b. Industrial Purpose	TNEB
7	**Cost** i. Project Cost ii. EMP Cost	 Rs.22.50 Lakhs Rs.3.50 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:**	21.10.2016 & 22.10.2016 82-1
10	**Date of Review/Discussion by SEIAA and the Remarks:-** The proposal was placed before the SEIAA in its **214th** Meeting held on **05.06.2017** and the Authority after careful consideration, decided to grant environmental clearance to the said project Mining of Rough Stone subject to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended.	
11	**Validity:** **This Environmental Clearance is granted to Mining of Rough Stone for the production quantity of 42254 cu.m of Rough Stone for the period of 5 Years from the date of execution of the Mining Lease period.**	

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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. The applicant has to obtain land use classification as industrial use before issue/renewal of mining lease.
4. NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.
5. The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.
6. 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.
7. 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.
8. The proponent shall ensure that First Aid Box is available at site.
9. The excavation activity shall not alter the natural drainage pattern of the area.
10. The excavated pit shall be restored by the project proponent for useful purposes.
11. The proponent shall quarry and remove only in the permitted areas as per the approved Mining Plan details.
12. The quarrying operation shall be restricted between 7AM and 5 PM.
13. 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.
14. A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.

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15. 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.
16. 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.
17. 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.
18. Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.
19. The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.
20. Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.
21. 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.
22. The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, GoI on 16.11.2009.
23. 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
24. 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.
25. 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.
26. 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.
27. Permission from the competent authority should be obtained for drawl of ground water, if any, required for this project.
28. Topsoil, if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.
29. The following measures are to be adopted to control erosion of dumps:-

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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.

30. 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.
31. 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.
32. Rain water harvesting to collect and utilize the entire water falling in land area should be provided.
33. 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.
34. 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.
35. No tree-felling shall be done in the leased area, except only with the permission from competent Authority.
36. 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.
37. 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.
38. 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
39. Ground water quality monitoring should be conducted once in 3 Months
40. Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.
41. Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF , GOI.
42. Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF , GOI..
43. Bunds to be provided at the boundary of the project site.
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.

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47. The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity.
48. The CSR funds should be channelized for planting programme, nature conservation support, tribal development and activities that support forest and environment.
49. The Project Proponent shall provide solar lighting system to the nearby villages
50. The Project Proponent shall comply with the mining and other relevant rules and regulations where ever applicable.
51. Rainwater shall be pumped out Via Settling Tank only
52. Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.
53. As per MoEF&CC, GoI, Office Memorandum dated 30.03.2015, prior clearance from Forestry & Wild Life angle including clearance from standing 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.
54. 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.
55. Safety equipments to be provided to all the employees.
56. Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai
57. 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.
58. 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.
59. 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.
60. 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.
61. 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.
62. Heavy earth machinery equipments if utilized, after getting approval from the competent authority.
63. 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.
64. The Project Proponent is also directed to strictly adhere to the Sustainable Sand Mining Management Guidelines, 2016, wherever applicable.
65. 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 1m height.
66. The quarrying activity in no way should disturb the Wildlife habitat, free migratory movement of the wildlife nor disturb the wildlife in any way.

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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 TNPCB 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.

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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.

MEMBER SECRETARY
SEIAA-TN

Copy to:

1. The Secretary, Ministry of Mines, Government of India, ShastriBhawan, 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, 1st & 2nd Floor, Cathedral Garden Road, Nungambakkam, Chennai – 34.
5. The Chairman, Central Pollution Control Board, PariveshBhawan, 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, Karur District
8. The Commissioner of Geology and Mines,Guindy,Chennai-32
9. EI Division, Ministry of Environment & Forests, ParyavaranBhawan, New Delhi.
10. Spare.

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ANNEXURE-II

PROCEEDINGS OF THE DISTRICT COLLECTOR, KARUR
PRESENT : Dr.(Tmt) J. UMA MAHESWARI, I.A.S.,

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Rc.B.257/G&M/2008 **Dated: 28.01.2009**

Sub Mines and Quarries – Karur District – Aravakurichi Taluk – Punnam Village- Over an extent of 1.83.0 Hects., of patta lands in S.F.1287/1 and 1287/3– Quarry lease to quarry aralai, jelly and sholing – Application preferred by Tmt. T.Sathya, - Lease granted – Orders issued – Regarding.

Ref 1 Quarry lease application of Tmt. T.Sathya, dt:Nil. Received on 29.08.2008.

2 Report of the Special Revenue Inspector (Mines) Karur dt:10.01.2009

3 Report of the Assistant Director (Geology and Mining) Karur, dt:10.01.2009

4 Other connected records.

****

ORDER :

Tmt. T.Sathya, W/o.Thangaraj, Masagoundenputhur, Moolimangalam Post, Karur District have applied for the grant of quarry lease to quarry aralai, jelly and sholing over an extent of 1.83.0 Hects., of patta land in S.F.1287/1 (1.34.0 hects) and 1287/3 (0.49.0 hects) of Punnam Village, Aravakurichi Taluk, Karur District for a period of five years.

2) The Special Revenue Inspector (Mines) Karur in his report 2nd cited has stated that The area applied for quarry lease stands registered in the name of the applicant Tmt. T.Sathya, W/o.Thangaraj, Masagoundenputhur, Moolimangalam Post, Aravakurichi Taluk, Karur District. As such the applicant has surface rights over the area applied for quarry lease. The area now applied has been previously granted for rough stone quarry lease for a period of 5 years vide district collector proceeding Rc.No.07/2002, dated 26.07.02 to Tmt.T.Sathya, W/o.Thangaraj one old worked quarry pit with an average dimension of 55M X 35M X 5M is noticed in the area applied for. There are no permanent buildings, temples. monuments, graveyards, electric and telephone lines in and around the area applied for quarry lease. There is no habitation within the radius of 300 metres from the area applied for

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quarry lease. There is no objection raised by the public for the grant of quarry lease. The above lands are not required for Government purposes. Finally, the Speciai Revenue Inspector (Mines) has recommended for the grant of quarry lease in favour of the applicant.

3) The Assistant Director (Geology and Mining) Karur in his report 3rd cited has reported that

1. The area applied for quarry lease is a Flat terrain. The Charnockite is traversed with numerous pegmatite veins and is highly jointed and fractured. The formation is striking N65°E-S65°W and dips almost vertically.

2. The rock type found to occur in this area is Charnockite and is suitable for exploitation of roughstones viz., Aralai & jelly

3. After deleting 7.5 metres safety distance to the adjacent Patta lands, and 10Mts.safety distance to the Punnam Chatram to Karudaiyampalayam effective area available for roughstone quarrying is 1.50.0 hects., only, and the approximate quantity of mineral available in this area is 1,20,000M^3 or 21200 Lorry loads.

4. Approach road is available for the area applied for quarry lease.

5. The area applied for quarry lease is a plain terrain surrounded by dry lands and there is no thick forest around the applied area. Hence, there is no chance for any destabilization, environmental degradation and ecological imbalance due to the proposed quarrying activities.

Finally, the Assistant Director (Geology and Mining) Karur has stated that the application preferred by Tmt. T.Sathya, W/o. Thangaram, Masagoundenputhur, Moolimangalam Post, Karur District for the grant of quarry lease to quarry Roughstone viz., Aralai & Jelly over an extent of 1.83.0 Hects., of patta land in S.F.No.1287/1 (1.34.0 hects) and 1287/3 (0.49.0 hects) of Punnam Village, Aravakurichi Taluk, Karur District may be considered for the grant of quarry lease for a period of 5 years as per Rule 19(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 subject to the following special condition in addition to the usual terms and conditions prescribed in the Acts and Rules.

1) 7.5 mts safety distance should left out to the adjacent patta lands.

2) The applicant should not cause any damage to the Punnam Chatram to Karudaiyampalayam Tharsalai and should leave 10Mts safety distance to the same.

T. Sathya

5) In view of the above, the quarry lease to quarry Roughstone viz., Aralai & Jelly over an extent of 1.83.0 hects., of patta land in S.F. No. 1287/1 (1.34.0 hects) and 1287/3 (0.49.0 hects) of Punnam Village, Aravakurichi Taluk,, Karur District is granted in favour of Tmt. T.Sathya, W/o. Thangaram, Masagoundenputhur, Moolimangalam Post, Karur District for a period of 5 years as per Rule 19(1) of Tamil Nadu Minor Mineral Concession Rules, 1959 with usual terms and conditions and also subject to the following special conditions that,

1) 7.5 mts safety distance should left out to the adjacent patta lands.

2) The applicant should not cause any damage to the Punnam Chatram to Karudaiyampalayam Tharsalai and should leave 10Mts safety distance to the same.

S/d. J.Uma Maheswari
DISTRICT COLLECTOR
KARUR.

/By Order/

For Collector, 31.01.09
Karur

To
Tmt. T. Sathya,
W/o. Thangaraj,
Masagoundenputhur,
Moolimangalam Post,
Aravakurichi Taluk,
Karur District.

Copy to:
The Director, Dept. of Geology and Mining, Industrial Estate, Guindy, Chennai – 32.
The Revenue Divisional Officer, Karur.
The Tahsildhar, Aravakurichi,
The Village Administrative Officer, Punnam village,
The President, Punnam village.

T. Sathya

கரூர் மாவட்ட ஆட்சியர் அவர்களின் செயல்முறை ஆணை
முன்னிலை:- திரு.கு.கோவிந்தராஜ், இ.ஆ.ப.,

நக.எண்.226/ கனிமம் / 2014 நாள்:31.7.2017

பொருள்: கனிமங்களும் குவாரிகளும் - கரூர் மாவட்டம் - அரவக்குறிச்சி வட்டம் - புன்னம் கிராமம் - புல எண்கள்.1287/1 (1.34.0 ஹெக்டேர்) மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றில் மொத்தம் 1.83.0 ஹெக்டேர் பரப்பு பட்டா பூமி - சாதாரண கற்கள் வெட்டி எடுக்க 5 ஆண்டுகளுக்கு குவாரி குத்தகை உரிமம் - திருமதி.த.சத்யா என்பவருக்கு வழங்கி உத்தரவிடப்படுகிறது.

பார்வை:

1. திருமதி.த.சத்யா, க/பெ.தங்கராஜ், புதிய எண்.2, மசகவுண்டன்புதூர், புஞ்சைபுகளூர் (தெற்கு) கிராமம், கரூர் வட்டம் & மாவட்டம் என்பவரின் மனு நாள்:25.02.2014.
2. இவ்வலுவலக இதே எண்ணிட்ட கடிதம் நாள்:26.02.2014 வருவாய் கோட்டாட்சியருக்கு முகவரியிட்டது.
3. அரவக்குறிச்சி, வட்டாட்சியர் அவர்களின் அறிக்கை நக.எண்.ஆ3/1168/2014, நாள்.24.3.2014.
4. கரூர், வருவாய் கோட்டாட்சியர் அவர்களின் அறிக்கை ந.க.அ1/704/2014 நாள்:08.9.2014.
5. கரூர் புவியியல் மற்றும் சுரங்கத்துறை உதவி புவியியலாளரின் இடப்பார்வை அறிக்கை நாள்:27.3.2015.
6. இவ்வலுவலக இதே எண்ணிட்ட குறிப்பாணை நாள்.12.7.2015.
7. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் அவர்களின் ஏற்பளிக்கப்பட்ட சுரங்கத் திட்டம் நாள்:30.9.2016.
8. மாநில சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையம், சென்னை ஒப்புதல் ஆணை எண். SEIAA,TN/F.No.4274/ 1(a)/EC.No.3883/2016 நாள்.05.6.2017.

உத்தரவு:-

கரூர் மாவட்டம், அரவக்குறிச்சி வட்டம், புன்னம் கிராமம், பட்டா பு.எ. எண்கள்.1287/1 (1.34.0 ஹெக்டேர்) மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றில் மொத்தம் 1.83.0 ஹெக்டேர் பரப்பில் சாதாரண கற்கள்

K T. Sathy

வெட்டியெடுக்க திருமதி.த.சத்யா, க/பெ.தங்கராஜ், புதிய எண்.2, மசகவுண்டன்புதூர், புஞ்சைபுகளூர் (தெற்கு) கிராமம், கரூர் வட்டம் & மாவட்டம் என்பவர் ஐந்து ஆண்டுகளுக்கு குவாரி குத்தகை உரிமம் கோரி பார்வை 1ல் கண்டவாறு மனு செய்துள்ளார்.

2. மனுதாரர் உரிய படிவத்தில் மனு செய்திருப்பதுடன், விண்ணப்பக் கட்டணம் மற்றும் அடிப்படை செலவினங்களுக்காக ரூ.1500/-ஐ சலான் எண்.17, நாள்:25.02.2014-ல் தாந்தோணி பாரத மாநில வங்கியில் செலுத்தியுள்ளார். மேலும், மனுதாரர் செலுத்த வேண்டிய வருவான வரி மற்றும் கனிம வரி எதுவும் நிலுவையில் இல்லை என்பதற்கான சான்றுறுதி ஆவணம் மற்றும் கிராம கணக்கு நகல்களையும் சமர்ப்பித்துள்ளார்.

மனுதாரர் சாதாரண கற்கள் வெட்டி எடுக்க உரிமம் கோரிய புலத்தை தணிக்கை செய்து அறிக்கை அளிக்கும்படி பார்வை-2ல் கண்ட கடிதத்தின் வாயிலாக கரூர், வருவாய் கோட்டாட்சியரிடம் அறிக்கை கோரப்பட்டது.

3. மனுதாரர் சாதாரண கற்கள் வெட்டி எடுக்க உரிமம் கோரிய பிரஸ்தாப புலத்தை கரூர், வருவாய் கோட்டாட்சியர் மற்றும் உதவி புவியியலாளர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் ஆகியோர் இடப்பார்வை செய்து அறிக்கை சமர்ப்பித்துள்ளனர்.

4. பார்வை-3ல் கண்ட அரவக்குறிச்சி வட்டாட்சியர் அவர்களின் அறிக்கையில் கரூர் மாவட்டம், அரவக்குறிச்சி வட்டம், புன்னம் கிராமம், புல எண்கள்.1287/1, 1287/3 ஆகியவற்றில் மொத்த விஸ்தீரணம் 1.83.0 ஹெக்டேர் பட்டா பூமியிலிருந்து சாதாரண கல்/கிராவல் மண் வெட்டியெடுக்க தங்கராஜ் மனைவி திருமதி.சத்யா என்பவர் கரூர் மாவட்ட ஆட்சித்தலைவர் அவர்களின் ஆணை நக.பி.257/கனிமம்/2008, நாள்.28.01.2009ன்படி 5 ஆண்டுகளுக்கு உரிமம் பெற்றுள்ளார் எனவும், தற்போது மீண்டும் விண்ணப்ப புல எண்களில் சாதாரண கல்/கிராவல் மண் வெட்டியெடுக்க கரூர் மாவட்ட ஆட்சித்தலைவர் அவர்களிடம் விண்ணப்பித்துள்ளார் எனவும், உரிமம் கோரும் புல எண்கள்.1287/1, 1287/3 ஆகியன தங்கராஜ் மனைவி சத்யா என்பவர் பெயரில் பட்டா எண்.6624ல் தாக்கலாகியுள்ளது எனவும், மேற்கண்ட நிலங்களில் கல்குவாரி செய்ய தங்கராஜ் மனைவி சத்யா என்பவருக்கு மேற்பரப்பு ஸ்தல பாத்தியதை உள்ளது எனவும், உரிமம் வழங்குதல் தொடர்பாக கிராம நிர்வாக அலுவலர் மற்றும் பொதுமக்களை

T. Sathy

விசாரணை மேற்கொண்டதில் புன்னம் கிராம புல எண்கள்.1287/1, 1287/3 ஆகியவற்றில் சாதாரண கல்/கிராவல் மண் வெட்டியெடுக்க ஐந்து ஆண்டுகளுக்கு உரிமம் வழங்குவதில் ஆட்சேபனை ஏதும் இலலையென வாக்குமூலம் அளித்துள்ளார் எனவும், உரிமம் வழங்குவது தொடர்பாக கிராமத்தில் "ஏ1" நோட்டீஸ் விளம்பரம் செய்தும் பொதுமக்களிடமிருந்து ஆட்சேபணை ஏதும் வரப்பெறவில்லை எனவும், உரிமம் வழங்குவது தொடர்பாக தலப்பார்வை மேற்கொண்டதில் கல்குவாரி செய்யப்படும் இடத்தில் எல்லைகள் வரையறுக்கப்பட்டு எல்லை கற்கள் நடப்பட்டுள்ளது எனவும், உரிமம் வழங்கும் புலத்திலிருந்து 300 மீட்டர் சுற்றளவிற்குள் கிராம நத்தம், அங்கீகரிக்கப்பட்ட குடியிருப்பு மனைகள் மற்றும் கட்டுமானங்கள் ஏதுமில்லை என்பது கண்டறியப்பட்டது எனவும், கேபிள் வயர்கள் ஏதும் ஜாகாவில் ஊடாக செல்லவில்லை எனவும், மேற்படி புலத்தில் புராதன சின்னங்களோ, சர்ச், மசூதி, கோவில்கள், பள்ளிக்கூடங்கள், ஆஸ்பத்திரி மயானம் போன்றவை ஏதும் இல்லை எனவும், புன்னம் கிராம புல எண்கள்.1287/1, 1287/3 ஆகியவற்றில் மொத்த விஸ்தீரணம் 1.83.0 ஹெக்டேர் பட்டா பூமியிலிருந்து சாதாரண கல்/கிராவல் மண் வெட்டியெடுக்க தங்கராஜ் மனைவி திருமதி.சத்யா என்பவருக்கு உரிமம் வழங்கலாம் என தெரிவித்துள்ளார்.

5. பார்வை-4ல் கண்ட கரூர், வருவாய் கோட்டாட்சியர் அவர்களின் அறிக்கையில், அரவக்குறிச்சி வட்டம், புன்னம் கிராமம், புல எண்கள்.1287/1, 1287/3 ஆகியவற்றின் மொத்தப் பரப்பளவு 1.83.0 ஹெக்டேர் பட்டா நிலத்திலிருந்து கல் குவாரி / கிராவல் வெட்டி எடுக்க கோரி வரப்பெற்ற மனு தொடர்பாக புலத்தணிக்கை செய்யப்பட்டது எனவும், உரிமம் கோரும் விண்ணப்ப புல எண்கள்.1287/1, 1287/3 ஆனது திருமதி.சத்யா, க/பெ.தங்கராஜ் என்பவரின் பெயரில் பட்டா எண்.6624 என தாக்கலாகியுள்ளது எனவும், விண்ணப்ப புலங்களில் மனுதாரருக்கு கல்குவாரி செய்ய மேற்பரப்பு பாத்தியதை உள்ளது எனவும், விண்ணப்ப புல எண்களுக்கு கீழ்க்கண்டவாறு நான்கு எல்லைகள் அமைந்துள்ளன எனவும்,

புல எண்கள்	திசைகள்	எல்லைகள்
1287/1	வடக்கு	1286
	மேற்கு	குப்பம் கிராமம்
	தெற்கு	1287/3
	கிழக்கு	1286/2

புல எண்கள்	திசைகள்	எல்லைகள்
1287/3	வடக்கு	1287/1
	மேற்கு	குப்பம் கிராமம்
	தெற்கு	1287/4
	கிழக்கு	1287/6

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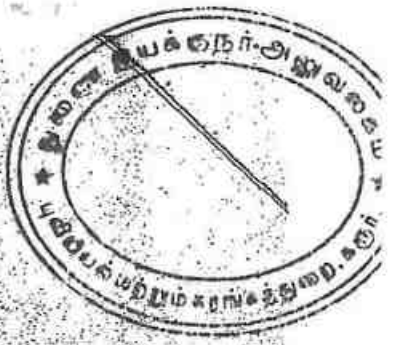

விண்ணப்ப புல எண்கள்.1287/1, 1287/3 ஆகியவற்றில் கல் / கிராவல் குவாரி செய்ய பொது மக்களிடமிருந்து ஆட்சேபணை ஏதும் உள்ளதா என்பது குறித்த "ஏ1" விளம்பரம் செய்யப்பட்டு ஆட்சேபணை இல்லையென ஒப்புதல் பெறப்பட்டுள்ளது எனவும், குவாரி செய்யும் இடத்திலிருந்து 300 மீட்டர் தொலைவில் குடியிருப்புகள் ஏதும் இல்லை எனவும், கோவில், மசூதி, சர்ச், மயானம் மற்றும் நீர்நிலைகள் ஏதுமில்லை எனவும், இந்த குவாரியினுடைய நீளம் மற்றும் அகலம் அளவீடு செய்யப்பட்டு வரைபடத்தில் குறிக்கப்பட்டுள்ளது எனவும், குவாரி செய்யப்படவுள்ள புலத்தில் புறம்போக்கு இடங்கள் ஏதுமில்லை எனவும், புல எண்கள்.1287/1, 1287/3ல் கேபிள் ஓயர்கள் ஏதும் செல்லவில்லை எனவும், உரிமம் கோரும் குவாரி செய்யவுள்ள புல எண்களுக்கு எல்லைகள் வரையறுக்கப்பட்டு எல்லைக் கற்கள் நடப்பட்டுள்ளது எனவும் தெரிவித்துள்ளார். எனவே அரவக்குறிச்சி வட்டம், புன்னம் கிராமம், புல எண்கள்.1287/1, 1287/3 ஆகியவற்றில் கல் குவாரி செய்ய திருமதி.சத்யா, க/பெ.தங்கராஜ் என்பவருக்கு அரசு விதிமுறைகளுக்குட்பட்டு குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

6. பார்வை 5ல் கண்ட புவியியல் மற்றும் சுரங்கத்துறை, உதவி புவியியலாளரின் இடப்பார்வை அறிக்கையில் அரவக்குறிச்சி வட்டம், புன்னம் கிராமம் புல எண்கள்.1287/1 மற்றும் 1287/3 ஆகியவை புன்னம் கிராமப் பட்டா எண்.6624ன்படி சத்யா, க/பெ.தங்கராஜ் என்பவர் பெயரில் கிராமக் கணக்கில் தாக்கலாகியுள்ளது எனவும், விண்ணப்பதாரர் திருமதி.சத்யா என்பவர் மேற்படி புல எண்களில் சாதாரண கற்கள் வெட்டி எடுக்க உரிமை பெற்றவராகிறார் எனவும், விண்ணப்ப புலங்களில் மாவட்ட ஆட்சித்தலைவர், கரூர் அவர்களின் செயல்முறை ஆணைகள் நக.எண்.பி/257/புமசு2008, நாள்.28.01.2009ன்படி திருமதி.சத்யா என்பவருக்கு சாதாரண கற்கள் உடைக்க ஐந்து ஆண்டுகளுக்கு அனுமதி வழங்கப்பட்டுள்ளது. அனுமதி காலம் 13.02.2009 முதல் 12.02.2014 வரை ஆகும் எனவும், அனுமதி காலாவதியாகிவிட்டதால் மீண்டும் குவாரிப் பணி செய்ய அனுமதி வேண்டி விண்ணப்பித்துள்ளார் எனவும், விண்ணப்ப புலங்களில் ஏற்கனவே கல்லுடைக்கப்பட்ட பகுதி சமச்சீரற்றும், கல்லுடைக்கப்படாத பகுதி சமதளமாகவும் உள்ளது எனவும், கல்லுடைக்கப்பட்ட பகுதியின் சராசரி ஆழம் 6.5 மீட்டர் ஆகும் எனவும், இதில் 2 மீட்டர் ஆழம் வரை கிராவல் காணப்படுகிறது எனவும், அதற்கு கீழ் உள்ள சார்னோகைட் பாறையிலிருந்து அரளை, ஜல்லி, சோலிங் போன்றவை உற்பத்தி செய்யலாம் எனவும், விண்ணப்ப புல எண்களுக்கு வடக்கில் புல எண்.1286ம், தெற்கில் புல எண்.1287/4ம், கிழக்கில் புல

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எண்கள்.1287/2 மற்றும் 1287/6ம் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்ப பணி செய்ய வேண்டும் எனவும், விண்ணப்ப புலங்களுக்கு மேற்கில் குப்பம் கிராமத்தில் தென்வடலாக செல்லும் தார் சாலைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும் எனவும், புல எண்களின் ஊடே மின்பாதைகள் ஏதும் செல்லவில்லை எனவும், 300 மீட்டர் சுற்றளவில் குடியிருப்பு பகுதிகள் ஏதுமில்லை எனவும், 50 மீட்டர் சுற்றளவில் நீர்நிலைகள், வழிபாட்டுத் தலங்கள் கல்வி நிலையங்கள், நிரந்தர அமைப்புகள் மற்றும் வரலாற்று புரதான சின்னங்கள் ஆகிய ஏதுமில்லை எனவும் தெரிவித்து அரவக்குறிச்சிவ ட்டம், புன்னம் கிராமம், புல எண்கள்.1287/1 (1.34.0 ஹெக்டேர்) மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றில் மொத்தம் 1.83.0 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் வெட்டி எடுக்க திருமதி.டி.சத்யா, த/பெ.தங்கராஜ் என்பவருக்கு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் 1959ன் விதி எண். 19 (1), 20 மற்றும் 22-ன் கீழ் 5 ஆண்டுகளுக்கு கல் குவாரி குத்தகை உரிமம் கீழ்காணும் நிபந்தனைகளுக்குட்பட்டு வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

1) விண்ணப்ப புலங்களில் சாதாரண கற்கள் வெட்டி எடுப்பது தொடர்பாக அங்கீகரிக்கப்பட்ட சுரங்கத்திட்டம் (Approved Mining Plan) மற்றும்

2) மாநில அளவிலான சுற்றுச் சூழல் தாக்க மற்றும் மதிப்பீட்டு ஆணையத்தின் சுற்று சூழல் ஒப்புதல் (Environment Clearance) பெற்று சமர்ப்பிக்க வேண்டும்.

7. இந்நிலையில் மேற்கண்ட அலுவலர்களின் பரிந்துரையின் அடிப்படையில் மனுதாரர் விண்ணப்பித்துள்ள புலங்கள் குத்தகை வழங்கத்தக்க பரப்பாக தீர்மானிக்கப்பட்டு ஏற்பளிக்கப்பட்ட சுரங்கத்திட்டம் மற்றும் சுற்றுச்சூழல் ஆணைய முன் அனுமதி பெற்று சமர்ப்பிக்கும்படி பார்வை-6ல் காணும் கடிதத்தின்படி மனுதாரருக்கு அறிவுறுத்தப்பட்டது.

8. உதவி இயக்குநர், புவியியல் மற்றும் சுரங்கத்துறை, கரூர் அவர்களால் 30.9.2015 அன்று ஏற்பளிக்கப்பட்ட சுர்ங்கத் திட்டத்தை மனுதாரர் பார்வை-7ல் கண்டவாறு சமர்ப்பித்துள்ளார். மேற்படி சுரங்கத் திட்டத்தில் வரும் ஐந்தாண்டு குத்தகை காலத்தில் 42,254 கன மீட்டர் சாதாரண கற்களை வெட்டி எடுத்துக் கொள்வதாக தெரிவிக்கப்பட்டுள்ளது.

9. பார்வை 8-ல் கண்ட சென்னை மாநில சுற்றுப்புற சூழ்நிலை செயல் விளைவு மதிப்பீட்டு குழு, உறுப்பினர் செயலர் அவர்கள் கடிதத்தில் பொது

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நிபந்தனை எண்.2-ல் கண்டவாறு குவாரிப்பணி ஆரம்பிப்பதற்கு முன்பாக தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரியத்தின் ஒப்புதல் பெற வேண்டும் என்ற சிறப்பு நிபந்தனை உட்பட வேறுபல சிறப்பு நிபந்தனைகளுடன் மனுதாருக்கு குவாரி குத்தகை உரிமம் வழங்கலாம் என பரிந்துரை செய்துள்ளார்.

இவ்வலுவலகத்தில் பராமரிக்கப்படும் ஆவணங்களின் அடிப்படையில் மனுதாரர் செலுத்த வேண்டிய கனிம வரி ஏதும் நிலுவையில் இல்லை.

மேற்கண்ட அலுவலர்களின் பரிந்துரை மற்றும் சிறுகனிம சலுகை விதிகளின் பேரில், மனுதாருக்கு குவாரி குத்தகை உரிமம் வழங்க ஒப்புதல் தெரிவிக்கப்பட்டதன் பேரில், மனுதாரர் விதிகளின்டி காப்புத் தொகையாக ரூ.5000/-ஐ பாரத மாநில வங்கி, தாந்தோணி சலான் எண்.11, நாள்:25.7.2017ன்படி செலுத்தி அசல் சலானையும், 1959-ம் வருட தமிழ்நாடு சிறுகனிம சலுகை விதிகளின் பின் இணைப்பு IV கண்டுள்ள படிவத்தில் உரிய முத்திரைத்தாளில் குத்தகை ஒப்பந்தப் பத்திரம் தயார் செய்து அளித்துள்ளார்.

எனவே, திருமதி.த.சத்யா, க/பெ.தங்கராஜ், புதிய எண்.2, மச்சவுண்டன்புதூர், புஞ்சைபுகளூர் (தெற்கு) கிராமம், கரூர் வட்டம் & மாவட்டம் என்பவருக்கு அரவக்குறிச்சி வட்டம், புன்னம் கிராமம், புல எண்கள்.1287/1 (1.34.0 ஹெக்டேர்) மற்றும் 1287/3 (0.49.0 ஹெக்டேர்) ஆகியவற்றில் மொத்தம் 1.83.0 ஹெக்டேர் பரப்பில் சாதாரண கற்கள் வெட்டியெடுக்க குத்தகை ஒப்பந்தப் பத்திரம் நிறைவேற்றிய நாளில் இருந்து ஐந்து ஆண்டுகளுக்கு 1959-ம் ஆண்டு, தமிழ்நாடு சிறுகனிம சலுகை விதி 19 (1), 20 மற்றும் 22-ன்படி குத்தகை ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகள் மாநில சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் நிபந்தனைகள் மற்றும் 1959ம் வருட தமிழ்நாடு சிறுகனிம சலுகை விதிகளின் பேரிலும் குவாரி குத்தகை உரிமம் வழங்கி ஆணையிடப்படுகிறது.

நிபந்தனைகள்:-

1. குத்தகை புலத்தினை அடுத்துள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.

2. பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமும் இன்றி பாதுகாப்பான முறையில் குவாரிப்பணி செய்ய வேண்டும்.

3. பொதுமக்களின் நலன் கருதி பாதுகாப்பான முறையில் குறைந்த அழுத்தமுள்ள வெடிபொருட்கள் பயன்படுத்தியும், கைத்துளைப்பான் கருவி கொண்டு துளையிட்டும், தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய

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பாதுகாப்பானதும், அகலமான Benches அமைத்து குவாரிப்பணி செய்ய வேண்டும்.

4. மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் பரிந்துரை கடிதம் SEIAA,TN/F.No.4274/1(a)/EC.No.3883/2016 நாள்.05.6.2017ல் கண்ட சிறப்பு நிபந்தனைகளை முறையாக கடைபிடித்து குவாரிப்பணி செய்வதுடன், பொது நிபந்தனை 2ல் கண்டவாறு குவாரிப் பணி ஆரம்பிப்பதற்கு முன்பாக தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரியத்தின் தடையின்மை சான்று பெற்று அதில் குறிப்பிடப்பட்டுள்ள சிறப்பு நிபந்தனைகளையும் முறையாக கடைபிடித்து அதன் பின்னரே குவாரிப்பணி துவங்க வேண்டும். மாசுக்கட்டுப்பாட்டு வாரிய தடையின்மை சான்றினை குறித்த காலங்களில் புதுப்பிக்க வேண்டும்.

5. குத்தகைதாரர் தனக்கு அளிக்கப்பட்ட குத்தகை பகுதியின் எல்லைகளை தெளிவாக காட்டும் வகையில் கல் நட்டு வண்ணம் இட்டு குத்தகை காலம் முழுமைக்கும் பராமரிக்க வேண்டும்.

6. 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.

7. குவாரிக்கு சென்றுவரும் பாதை வசதிகள் குத்தகைதாரர்கள் அவர் தம் சொந்த பொறுப்பிலேயே அமைத்துக் கொள்ள வேண்டும்.

8. குத்தகை வழங்கப்பட்ட பாறையில் குண்டுக்கல், ஜல்லி, அரளை கல், வேலிக்கற்கள், போன்ற சிறுகனிமங்கள் உடைத்தெடுக்க மட்டுமே அனுமதியுண்டு. வெளிநாடுகளுக்கு ஏற்றுமதியாகும் மெருகூட்டும் கனவடிவ கற்கள் வெட்டி எடுக்கக் கூடாது.

9. குவாரியிலிருந்து கொண்டு செல்லப்படும் மேற்கண்ட வகை கற்களுக்கு 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் பின் இணைப்பு 2ல் கண்டுள்ளவாறு உரிமவரி செலுத்த வேண்டும். அரசு அவ்வப்போது அறிவிக்கும் உரிமவரி மாற்றங்களுக்கு ஏற்ப எவ்வித ஆட்சேபணை இன்றி செலுத்துதல் வேண்டும்.

10. குத்தகை அனுமதி வழங்கப்பட்ட நிலத்திலிருந்து கொண்டு செல்லப்பட்ட கற்களுக்கு முறையான கணக்குகளும், குழிவாயில் பதிவேடும் முறையாக பராமரித்தல் வேண்டும். அவற்றை சம்பந்தப்பட்ட அலுவலர்கள் தணிக்கைக்கு ஆஜர்படுத்த கோரினால் தவறாது சமர்ப்பிக்க வேண்டும்.

11. உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை)-ன் அலுவலக முத்திரை, கையொப்ப முத்திரையுடன் கூடிய உரிய அனுப்புகைச் சீட்டை வாகனங்களுக்கு கொடுக்கப்படும் போது அனுப்புகைச் சீட்டில் வாகன எண். தேதி, புறப்படும் நேரம், செலுத்துமிடம் 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,

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அதற்கு குத்தகைதாரரை பொறுப்பாக்கி கனிம விதிகளின் படி மேல் நடவடிக்கை எடுக்கப்படும்.

12. இந்த ஆணையில் குத்தகை அனுமதி வழங்கப்பட்ட புலத்தை முழுமையாகவோ, பகுதியாகவோ எவருக்கும் உள் குத்தகைக்கு விடுவதோ அல்லது கிரையம் செய்வதோ கூடாது.

13. குத்தகைதாரர் ஒவ்வொரு நாளும் குவாரியில் இருந்து எவ்வளவு சிறுகனிமங்கள் எடுக்கப்பட்டது என்பதையும் எந்த அளவு கனிமங்கள் லாரி/ வண்டி மூலம் வெளியே அனுப்பப்பட்டது என்ற விபரத்தையும் காட்டும் பதிவேட்டினைப் பராமரித்து வரவேண்டும்.

14. குத்தகைதாரர், தமக்கு குத்தகை வழங்கப்பட்ட பகுதிக்கு அருகில் உள்ள பட்டா நிலத்திற்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப் பணி செய்யப்பட வேண்டும்.

15. 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.

16. குத்தகைக்கு விடப்பட்டுள்ள விஸ்தீரணத்தில் மட்டுமே குத்தகைதாரர் குவாரி செய்ய வேண்டும். அதற்கான கூடுதலான விஸ்தீரணத்தில் குவாரி செய்வது தெரியவந்தால் அபராத நடவடிக்கை மேற்கொள்வதுடன் குத்தகை இரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.

17. 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.

18. குத்தகைதாரர் தமிழ்நாடு சிறுவகைக்கனிம சலுகை விதிகள் 1959ல் கண்டுள்ள விதிகளுக்கும் மற்றும் அரசு அவ்வப்போது அறிவிக்கும் சட்டதிட்டங்களுக்கும் உட்பட்டு குவாரிப்பணிகள் செய்ய வேண்டும்.

19. குவாரி குத்தகை உரிமம் காலாவதியான பின்பு எக்காரணத்தை முன்னிட்டும் மீண்டும் புதுப்பிக்கவோ அல்லது கால நீட்டிப்போ செய்து தரப்பட மாட்டாது.

20. வெடிபொருள் சட்டம் 1884ல் தெரிவிக்கப்பட்ட சரத்துக்கள்படி குறைந்த அளவு வெடிபொருளை உபயோகித்து கற்கள் வெளியே சிதறாமலும், சத்தம் அதிகம் ஏற்படாமலும், பொதுமக்களுக்கும், கால்நடைகளுக்கும், எவ்வித பாதிப்பும் இன்றியும் கல்குவாரி பணி செய்யப்பட வேண்டும்.

21. வெடிபொருள்கள் அரசு உரிமம் பெற்ற விற்பனைதாரரிடம் மட்டுமே பெற்று வெடிப்பதற்கு உரிமம் / அங்கீகாரம் பெற்ற வெடிப்பாளர்களை (Blaster / Mines mate) கொண்டு கல் குவாரியில் வெடி வைக்க வேண்டும்.

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22. குழந்தை தொழிலாளர்கள் எவரையும் வேலைக்கு அமர்த்துதல் கூடாது.

சிறப்பு நிபந்தனைகள்:-

1) விண்ணப்ப புல எண்களுக்கு வடக்கில் புல எண்.1286ம், தெற்கில் புல எண்.1287/4ம், கிழக்கில் புல எண்கள்.1287/2 மற்றும் 1287/5ம் உள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப் பணி செய்ய வேண்டும்.

2) விண்ணப்ப புலங்களுக்கு மேற்கில் குப்பம் கிராமத்தில் தென்வடலாக செல்லும் தார் சாலைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

மேற்குறிப்பிட்ட நிபந்தனைகள், மற்றும் கனிம சட்ட விதிகளை மீறியுள்ளது உறுதிபடும் தருணத்தில் விதிமுறைகளுக்கு உட்பட்டு குத்தகை இரத்து செய்ய நடவடிக்கை எடுக்கப்படும். மேற்கண்ட நிபந்தனைகள் ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகள், மாநில சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் நிபந்தனைகள் மற்றும் 1959-ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் ஆகியவற்றின் அடிப்படையில் குத்தகைதாரர் குவாரிப் பணி புரிய வேண்டும்.

(ஒம்)/- கு.கோவிந்தராஜ்,
மாவட்ட ஆட்சித்தலைவர்,
கரூர்

/ உண்மை நகல் / உத்தரவுப்படி /

31.07.17

மாவட்ட ஆட்சித்தலைவருக்காக,
கரூர்.

பெறுநர்
திருமதி.த.சத்யா,
க/பெ.தங்கராஜ்,
புதிய எண்.2, மசகவுண்டன்புதூர்,
புஞ்சைபுகளூர் (தெற்கு) கிராமம்,
கரூர் வட்டம் & மாவட்டம்.

நகல்:-

1. வருவாய் கோட்டாட்சியர் - கரூர்
2. வருவாய் வட்டாட்சியர் - அரவக்குறிச்சி
3. மாவட்ட சுற்று சூழல் பொறியாளர்,
மாசு கட்டுபாட்டு வாரியம், கரூர்.
4. கிராம நிர்வாக அலுவலர் - புன்னம்
(வட்டாட்சியர் மூலமாக)
5. தலைவர், புன்னம் கிராம ஊராட்சி.

K T. Sathya

ANNEXURE - II

भारतीय गैर न्यायिक

भारत

बीस रुपये Rs.20

रु.20

TWENTY RUPEES

INDIA

INDIA NON JUDICIAL

TAMIL NADU 1985 4.2.09

32AA 408482

S.RAMAMURTHY, S.V.,
5362/A1/92-3, KARUR.

TOTAL SEIGNIORAGE FEE (FOR FIVE YEARS) : Rs. 4,32,000/-
SECURITY DEPOSIT . RS. 5,000/-
AREA ASSESSMENT (FOR FIVE YEARS) . RS. 950/-

(Proceedings of the District Collector, Karur Rc.B/257/G&M/2008 dated 28.01.2009)

APPENDIX-IV
(See Rule 22)

FORM OF AGREEMENT FOR QUARRYING AND CARRYING AWAY MINOR MINERALS FROM RYOTWARI LANDS IN WHICH THE MINERALS BELONG TO GOVERNMENT.

AGREEMENT made this...13th...day of ...February 2009 between Tmt. T.Sathya W/o. Thangaraj, Masagoundenpudhur, Moolimangalam (Post), Karur District (hereinafter referred to as the registered holder" which term shall include in these presents where the context so admits include also his heirs, executors, administrators, legal representatives and assigns) of the one part and the Governor of Tamil Nadu (hereinafter called

T. Sathya
REGISTERED HOLDER
(LESSEE)

T. Sathya

DISTRICT COLLECTOR
KARUR

3549/09

என்னிடம் தாக்கல் செய்யப்பட்ட அசல் ... ரூபாய் 5000/- ... நாள் ... கொண்டிருக்கிறேன்

25.5.09 சார்பதிவாளர்

Document No 3549 of 2009
of Book I Contents
10 Sheets I Sheet

Sub Registrar,
Karur West.

Presented in the Office of the SUB REGISTRAR of West KARUR and fee of Rs. 4500/-.....Paid Between the Hours of 11-12.....on the 25th....Day of 5/May 2009

LEFT THUMB

T. Sathyee
W/o. Thangaraju
Masagoundampudhur
Moolimangalam, Post,
Karur District.
Verified with Elector
Identity Card No ...

REGISTRAR
WEST

EXECUTION ADMITTED BY

LEFT-THUMB

T. Sathyee
W/o. Thangaraju
Above Details.

IDENTIFIED BY

V. Thanbu [V. Thanbu S/o Velusamy ... Moolimangalam (PO) Karur (DT)

T. Sathyu

"the Government" which term shall where the context so admits, include also his successors in office and assigns) of the other part.

Whereas the registered holder holds (amongst others) the lands described in the Schedule hereunder written (hereinafter referred to as "the said lands").

AND WHEREAS the registered holder has made application to the Collector of the District of Karur (hereinafter referred to as " the Collector ") seeking grant of quarrying lease for ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said lands and to deposit quarrying waste in the said lands and has lodged with the Collector an accurate map or sketch of the said lands.

AND WHEREAS the Collector, acting for and on behalf of the Government, has granted a quarrying lease to the registered holder and allowed him to commence quarrying operations for ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said lands and to deposit quarrying waste thereon by the registered holder.

AND WHEREAS the registered holder has deposited with the Collector, the sum of Rs.5,000/- (Rupees five thousand only) as Security against any loss or damage which may be incurred by the Government by reason of any of the said lands being rendered unfit for cultivation by any quarrying operations therein of the registered holder of by the deposit of quarrying waste thereon by the registered holder.

NOW THESE PRESENTS WITNESS and the registered holder doth hereby agree with the government in the manner following, that is to say—

1. The registered holder shall be at liberty at all times during the period of the lease to carry on quarrying operations for ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said lands in a proper and workmen like manner and to deposit quarrying waste on the said lands and shall at all times be answerable and accountable to the Government for all acts and defaults by any of his nominee, servants or agents in carrying on such operations or in making such deposit;

2. The registered holder shall and will on the 10th day of February ,2010 next and on the 12th February day of ..... every succeeding year during so long as he shall have carried on any such quarrying operations as aforesaid pay area assessment Rs.100 /- per hectare per annum thereon or at the rates fixed by Government from time to time to the Collector for and on behalf of the Government in addition to the land assessment for time being payable in respect of the said lands,

T. Sathyu
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(LESSEE)

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DISTRICT COLLECTOR
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T. Sathyu

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I have Satisfied my Self as to the Execution of this Instrument by (Smt.) J. Uma Maheswari I.A.S District Collector Karur ......Who is Exempted From Personal Appearance Under Sec 88 (I) of the Regd act 1908.

25th day of May 2009

Sub Registrar.

Registered as No. 3549 of 2009 of Book I 25th day of May 2009

Sub Registrar.

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Sub - Registrar, Karur West.

T. Sathya

seigniorage on the minor minerals at the rate specified in Appendix-II to the Tamil Nadu Minor Mineral Concession rules, 1959;

3. The registered holder shall and will keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and Other particulars of all minerals obtained by the registered holder from the said lands and also the number of persons employed in carrying on the said quarrying operations there in and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and working in the said lands and shall allow any officer hereunto authorised by the Commissioner and Director of Geology and Mining , Chennai from time to time and at any time to examine such accounts and any such plans and shall when so required supply and furnish all such information and returns regarding all or any of the matter aforesaid as the Government shall, from time to time, require and direct ;

4. The registered holder shall and will at all times allow any officer authorised by the Commissioner and Director of Geology and Mining, Chennai in that behalf to enter upon any part of the said lands where any quarrying operations may be carried on for the purpose of inspecting the same.

5. The registered holder shall forthwith send to the Collector a report of any accident which may occur at or in the said lands and also of the discovery therein of any mineral other than ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING.

6. It shall be lawful for the registered holder at any time to cease quarrying operations under these presents provided he shall pay to the Collector for and on behalf of the Government, land assessment and seigniorage fee due to the Government and shall restore the said lands or fence or fill in abandoned pits and excavations therein if required by the Collector and upon his so doing these presents shall cease and determine.

7. In case the registered holder shall relinquish the whole or any part of the said lands or in case of the expiry of sooner determination of this agreement then and in any such case, he shall restore the lands so relinquished or so much thereof as the Collector shall require to be restored to a state fit for cultivation or shall securely and permanently fence or fill in all such abandoned pits and excavations therein as the Collector shall require to be so fenced or filled in and in case the registered holder shall fail or neglect to restore any such lands which he shall be required to restore to a state fit for cultivation or to so fence or fill in any such abandoned pit, or excavation which he shall be required to so fence, or fill in them and in any such case, it shall be lawful for the Collector

T. Sathya
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(LESSEE)

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to so restore any such lands, or as the case may be, to so fence or fill in any such pits or excavation at the expense of the registered holder and to apply the said sum of Rs.5,000/- so deposited in or towards the cost of so doing and to deduct from the amount of the said deposit and retain on behalf of the Government a sum equal to thirty times the assessment of the said lands which shall have been rendered unfit for cultivation. If however, the amount of deposit is not sufficient to cover the cost of such restoration of fencing or filling in or meet thirty times the assessment on the area rendered uncultivable, it shall be lawful for the Government to recover the balance by resort to Civil Court.

8. The registered holder shall not be entitled to any remission of assessment in respect of any of the said lands which shall be rendered unfit for surface cultivation by the carrying on of any quarrying operations or by the deposit of quarrying waste, unless thirty times the assessment thereon has already been deducted under the preceeding clause.

9. The registered holder shall not assign lease part with the possession of the said lands or any part thereof for the whole or any part of the said term without previous intimation in writing to the Collector.

10. If the registered holder does not intend to carry on quarrying operations himself, but intends to lease out the right to do so to another person the registered holder and his lessee shall enter into an agreement with Government binding themselves jointly and severally to accept the conditions and stipulation herein contained which agreement shall be in the form set out in Appendix V to the Tamil Nadu Minor Mineral Concession Rules, 1959.

11. All land assessment, cess and seigniorage fee payable under these presents shall be recoverable under the provisions of the Tamil Nadu Revenue Recovery Act, 1864, as if they were arrears of land revenue.

12. In the event of any breach by the registered holder by any of the conditions of this agreement, it shall be lawful for the Government to levy enhanced seigniorage or for the Collector to give notice in writing to the registered holder of his intention to cancel these presents whereupon the same shall stand cancelled but without prejudice to any right which the Government may have against the pattadar in respect of any antecedent claim or breach of covenant or condition.

13. Any notice to be given to the registered holder may be addressed to his last known place of abode and where a notice has been so addressed it shall be deemed to have been duly served for the purpose of these presents.

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REGISTERED HOLDER
(LESSEE)

SUB REGISTAR'S OFFICE KARUR DOCUMENT 1200 Total Pages

P. Uma Maheswari, I.A.S.,
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KARUR.

T. Sathya

14. Should any question or dispute arise regarding the agreement executed in pursuance of these rules or any matter or thing connected therewith or the powers of the registered holder thereunder, the amount or payment of the seigniorage fee or area assessment made payable thereby, the matter in issue shall be decided by the Commissioner and Director of Geology and Mining. In case the registered holder is not satisfied with the decision of the Commissioner and Director of Geology and Mining, the matter shall be referred to the State Government for decision.

15. The registered holder shall abide by the conditions laid down in the Payment of Wages Act, 1936 (Central Act IV of 1936), the Mines Act, 1952 (Central Act XXXV of 1952) and the Indian Explosives Act, 1884 (Central Act IV of 1884).

OTHER CONDITIONS

1) The permission granted to the registered holder to quarry ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY in the said patta land is valid for FIVE YEARS from 13th day of February 2009 to 12th day of February, 2014.

2) The registered holder should register the agreement deed in the concerned Sub-Registrar Office, at the expense of the registered holder within 30 days from the date of execution of the agreement.

3) The registered holder shall remove or transport ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING ONLY from the lease area only after payment of area assessment, seigniorage fee or dead rent whichever is higher at the rates prescribed from time to time in Appendix II to the Tamil Nadu Minor Mineral Concession Rules, 1959 and after obtaining transport permit and despatch slips from the District Collector or the Officer authorised by him in this behalf.

4) The registered holder should keep correct accounts showing the quantities and other particulars of all minerals obtained from the leasehold area and maintain registers at the quarry site.

5) The registered holder should send monthly report to the Deputy Director of Geology and Mining, Karur furnishing the particulars of the quantities of Minerals quarried, transported etc., before 5th day of every month.

6) The registered holder shall not disturb nearby habitations buildings, water course, banks or water tanks, rivers, trees, roads, cart tracks, foot path and other public properties while quarrying in the leasehold area.

7) The registered holder shall not cause hindrance to the adjoining pattadars or public while quarrying in the leasehold area.

T. Sathya.
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(LESSEE)

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KARUR.

T. Sathya

8) A safety distance of 500 metres for habitations, 50 metres for roads, railway lines, electric and Telephone lines and 10 metres to foot paths, village roads should be left while quarrying.

9) The registered holder should allow any officer authorised by the District Collector or any officer authorised by him in this behalf or any other officer authorised by the State Government in this behalf to inspect the area and verify records and accounts and furnish such information under the terms as may be required by them.

10) The registered holder shall carry out the quarrying operations in skilful, scientific and systematic manner keeping in view of the proper safety of the labour, conservation of minerals and preservation of environmental ecology.

11) The registered holder shall allow any officer authorised by the District Collector and Commissioner and Director of Geology and Mining to enter upon the area and inspect for the purpose mentioned to conditions (4) and (10) above and also carry out the directions issued to the satisfaction of the above said authorities.

12) No quarrying and activities connected there to shall be done before the execution of lease deed and its registration at the cost of the registered holder.

13) The registered holder should restrict his quarrying operation strictly within the permitted area as defined in the sketch.

14) The registered holder should maintain at his cost proper sign boards indicating the Survey numbers, Years of the lease, Name of the lessee and the lease period to the satisfaction of the District Collector/Commissioner and Director of Geology and Mining and maintain it at all time at the quarry site.

15) No working shall be made within a distance of 7.5 metres of the boundaries of the permitted area.

16) The registered holder should make his own arrangements to form the approach road from the public road to the place of his quarry.

17) The registered holder shall, at his own cost, erect boundary marks round the area shown in the plan annexed to the lease deed and in which he works minerals and at all times maintain and keep such boundary marks in good repair and condition.

18) The registered holder shall remove, or allow removal and transportation of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING from the area where quarrying is permitted only after obtaining bulk transport permit and fascimiled despatch slips in the forms prescribed in Appendices XII and XIII to Tamil Nadu Minor Mineral Concession Rules, 1959 from the officer authorised

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(LESSEE)

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in this behalf by the District Collector. The registered holder or his men in turn shall issue the fascimiled despatch slips to the vehicles used for removal or transportation of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING furnishing the particulars in the despatch slips specifically indicating the vehicle number, the quantity of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING allowed to be transported by the vehicle by using that despatch slip and the time of issue of the despatch slips to the vehicle. All the vehicles used for transporting ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING from the said lands shall be in possession of the individual despatch slips for the quantity of the ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING available in the vehicle at all the times of transportation of the ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING by the vehicle. Proper accounts should be maintained for permit and despatch slips obtained, issued etc.

19) The registered holder shall use the said lands only for the purpose of quarrying ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING specified in the quarrying lease. If any error or wrong description of the mineral is found in the order granting the quarrying lease or in the lease deed, it is liable to be corrected at any time and the lessee shall not claim any right whatsoever based on any such error or wrong description of the minerals found in the order granting quarrying lease or in the lease deed.

20) The registered holder should not quarry stones in block which can be used for polishing and export purposes.

21) The registered holder should not quarry stones more than 30 Cubic Centimetre in size.

22) If any mineral not specified in the lease deed is discovered the registered holder shall not win or dispose of such mineral without obtaining the permission of the authority empowered to grant lease for quarrying of the discovered minerals and without payment of seigniorage fee. If the registered holder fails to intimate the Collector the discovery of such new minerals within a period of 30 days from the date of discovery of the mineral, the Collector may levy enhanced seigniorage fee upto 15 times of ordinary seigniorage fee.

23) The registered holder is not entitled to remove the ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING from the said land after expiry of the period of the quarrying lease granted.

24) The registered holder shall not sublet the lease to anybody.

25) The registered holder shall not claim compensation from the Government for the losses if any incurred by him in quarrying.

T. Sathya.
REGISTERED HOLDER
(LESSEE)

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DISTRICT COLLECTOR
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T. Sathya

26) The registered holder shall be held responsible for accidents if any happened to the labourers and others while quarrying and Government shall not be held responsible for this.

27) The registered holder shall be held responsible for all losses due to improper working of the quarry during and after the period of lease and he should pay the penalty to be levied for this.

28) Simple interest at the rate of 24% per annum or at the rates prescribed by the Government from time to time shall be levied, if the amount due to Government is not paid within the due date.

29) The arrears of any amount payable shall be recovered under the provisions of the Tamil Nadu Revenue Recovery Act, 1864.

30) In case of breach by the registered holder or their transferee or assignee of any of Tamil Nadu Minor Mineral Concession Rules, 1959 or of the conditions of the lease, the Government/the Commissioner and Director of Geology and Mining/the District Collector without prejudice to any other penalty which may be imposed in respect of such breach, may cancel the lease after granting an opportunity of hearing to the said person.

31) The terms and conditions are also subject to such further modifications, deletion and additions alterations as may be ordered by the Government from time to time.

32) The registered holder shall pay seigniorage fee or dead rent whichever is more in respect of the actual quantity of ROUGH STONE SUCH AS ARALAI, JELLY & SHOLING removed at the rates prescribed from time to time in Appendix-II of the Tamil Nadu Minor Mineral Concession Rules, 1959. Besides seigniorage fee or dead rent the registered holder has to pay area assessment, the registered holder has also to pay any other amount prescribed by the Government from time to time.

33) The registered holder shall comply with provisions of Labour Laws applicable to quarries/mines. Any contravention of the provisions shall attract legal proceedings of the appropriate Government.

34)The lease grantee should not cause any damage to the Punnam Chatram to Karudaiyampalayam Thar Salai and should leave 10 mts. safety distance to the same.

35) Besides the above said conditions, the lessee shall abide by the conditions laid down in Tamil Nadu Minor Mineral Concession Rules, 1959

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REGISTERED HOLDER
(LESSEE)

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KARUR.

T. Sathya

and Mines and Minerals (Development and Regulation) Act, 1957 and the orders of the Government, Commissioner and Director of Geology and Mining and Collector to be issued from time to time.

Karur Registration District
West Sub Registration

THE SCHEDULE

Name of Taluk : Aravakurichi
Name of Village: Punnam

S.F. NO.	Extent in Hectares	Assess -ment	BOUNDARIES			
			NORTH	SOUTH	EAST	WEST
1287/1	1.34.0	Rs.100/- Per hectare per annum	1286	1287/3	1287/2	Punnam Chatram to Karudaiyam palayam Thar Salai
1287/3	0.49.0		1287/1	1287/4	1287/6	Punnam Chatram to Karudaiyam palayam Thar Salai
Total	1.83.0					

IN WITNESS Whereof Tmt. T.Sathya the registered holder and Dr. (Tmt.) J. Uma Maheswari, I.A.S., District Collector, Karur acting for and on behalf of and by the order and direction of the Governor of Tamil Nadu have hereunto set their hands.

Signed by the above named

J. Uma Maheswari 19/20

The lessor in the presence of
DISTRICT COLLECTOR
KARUR.

Witness

1. (M. CHITRARASAN)
ASSISTANT DIRECTOR
GEOLOGY AND MINING
KARUR.

2. (M. BALASUNDARAM)
Special Revenue Inspector
(Mines)
KARUR.

Signed by the above named

T. Sathya.

The lessee in the presence of
REGISTERED HOLDER
(LESSEE)

Witness

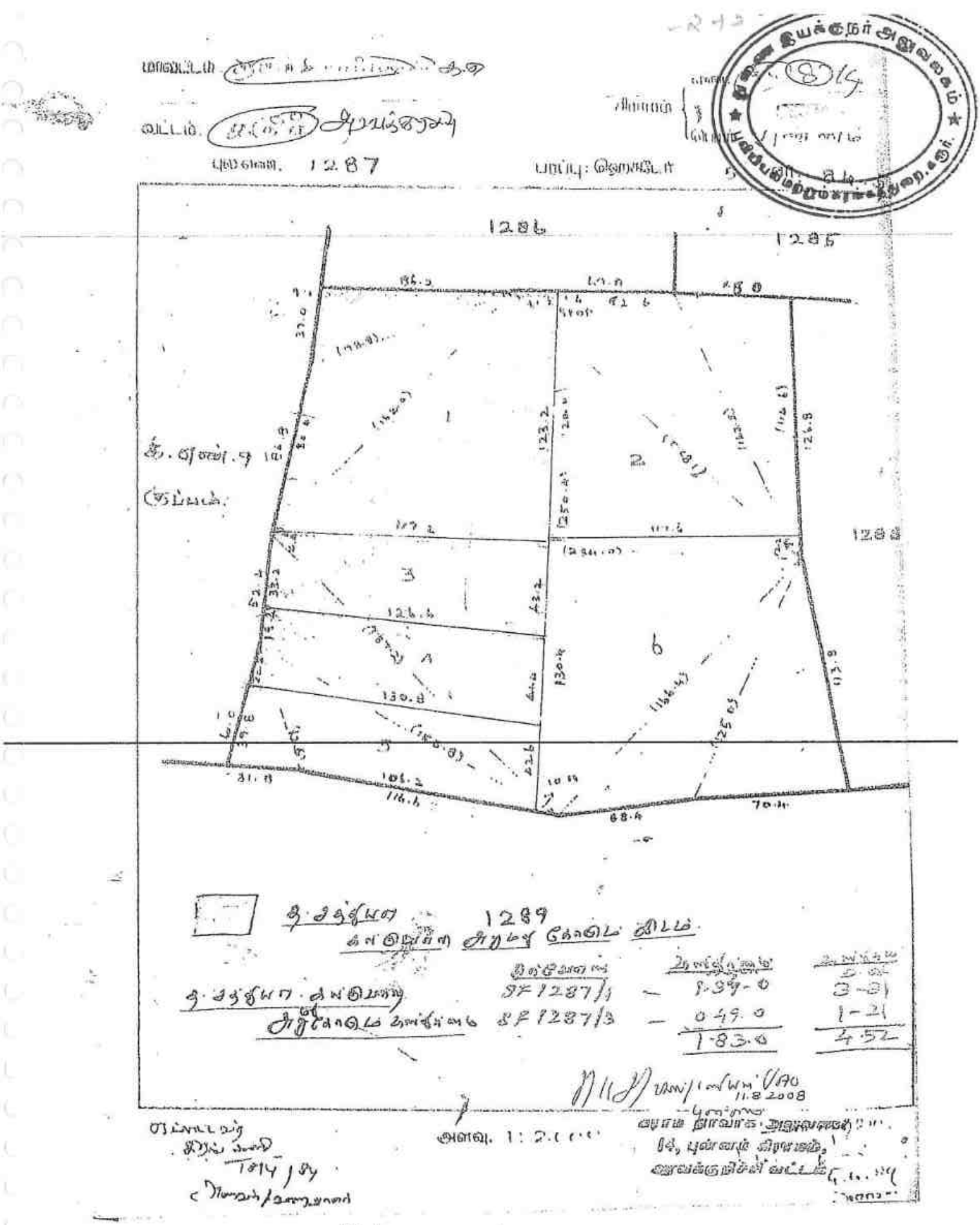
1. V. Sheela S/O Vellaisamy ... Karur (DT).

2. P. Chandran (CHANDRASEKARAN. D)
4.17. Mahadanapuram ...
Krishnarayapuram. P.O. Karur D.T.

Attested by: V. Sanjeevi (V. Sanjeevi) Advocate Aravakurichi ... Lr No B1349/84

SUB REGISTRAR'S OFFICE KARUR WEST

T. Sathya



Lease granted area

T. Sathya.
REGISTERED HOLDER
(LESSEE)

DISTRICT COLLECTOR
KARUR.

T. Sathya

4442/2017

தமிழ்நாடு तमिलनाडु TAMILNADU ரூ.15000

A 732980

26 JUL 2017

R.SHANTHI, S.V
KARUR-639 001.
L.No:25/2008

APPENDIX – IV
(See Rule 19 (1) and 22 of TNMMCR-1959)
(Collr. Ref. No.226/ Mines/2014)

FORM OF AGREEMENT FOR QUARRYING AND CARRYING AWAY MINOR MINERALS FROM RYOTWARI LANDS IN WHICH THE MINERALS BELONG TO GOVERNMENT

AGREEMENT made this 31st day of **July 2017** between **Tmt.T.Sathya, W/o.Thangaraj, New No.2, Masagoundenpudhur, Punjaipugalur (South) Village, Karur Taluk & District** (hereinafter referred to as **'the registered holder / lessee'** which term shall include in these presents where the context so admits include also his heirs, executors administrators, legal representatives and assigns) of the one part and the Governor of Tamil Nadu (hereinafter called "the Government" which term shall where the context so admits, include also his successors in office and assigns) of the other part.

WHEREAS, the registered holder holds the lands described in the schedule hereunder written (hereinafter referred to as the said lands)

AND WHEREAS, the registered holder has made application to the Collector of District of Karur (herein after referred to as "the Collector") seeking grant of quarrying lease for quarrying Rough Stone in the said lands and to deposit mining waste in the said lands and has lodged with the Collector an accurate map or sketch of the said lands.

T. Sathya
REGISTERED HOLDER / LESSEE

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DISTRICT COLLECTOR,
KARUR.

T. Sathya

தமிழ்நாடு तमिलनाडु TAMILNADU ரூ. 1000 AK 594028

26 JUL 2017

R.SHANTHI, S.V
KARUR-639001.
L.No:25/2008

AND WHEREAS, the Collector acting for and on behalf of the Government has granted a quarrying lease to the registered holder and allowed him to commence quarrying operations for Rough Stone in the said land to deposit mining waste thereon by the registered holder.

AND WHEREAS, as the registered holder has deposited with the Collector, the sum of **Rs.5000/- (Chalan No.11, Dated:26.7.2017, State Bank of India, Thanthoni)** as security against loss or damage which may be incurred by the Government by reason by any of the said lands being rendered and unfit for cultivation by any mining operations therein of the registered holder or by deposit of mining waste thereon by the registered holder.

NOW THESE PRESENTS WITNESS and the registered holder both hereby agree with the Government in the manner following that is to say:

01. The registered holder shall be at liberty at all times during the period of the lease, i.e. for **five years from 31.7.2017 to 30.7.2022** to carry mining operations for Rough Stone in the lands in a proper and workman like manner and to deposit

T. Sathya
REGISTERED HOLDER / LESSEE

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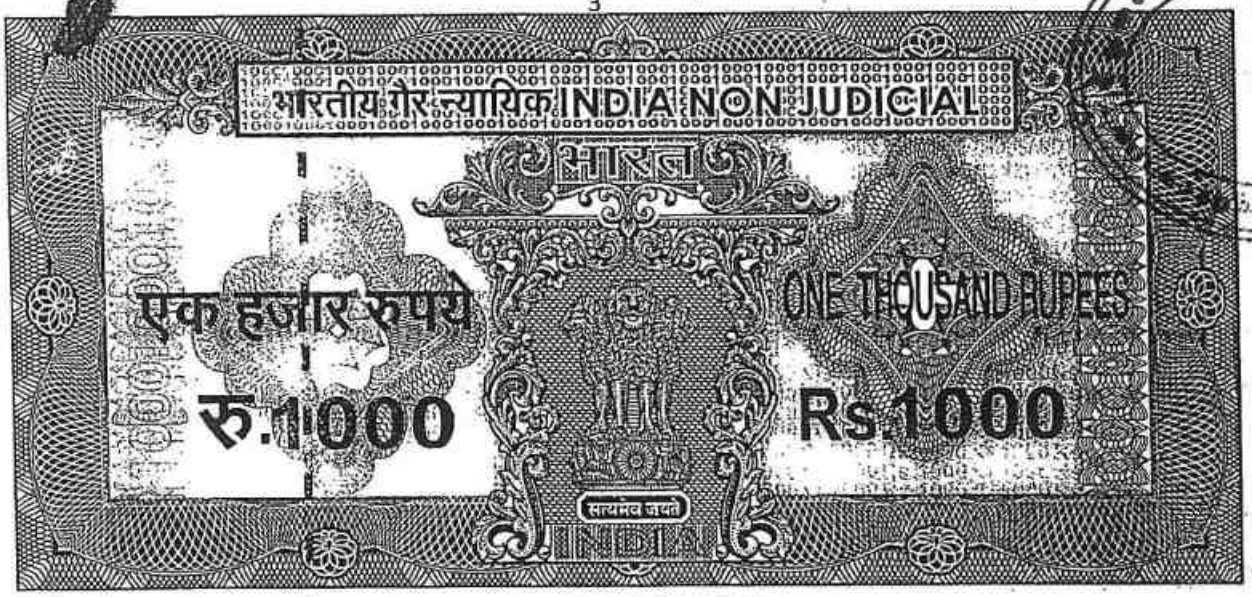
T. Sathya



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26 JUL 2017

R.SHANTHI, S.V
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L.No: 25/2008

mining waste on the lands and shall at all times the answerable and accountable to the Government for all acts and if default by any of his nominees, servants or agents in carrying on such operations or in making such deposits.

02. The registered holder shall pay to the Collector for and on behalf of the Government in addition to the land assessment for the time being payable in respect of the said lands seigniorage on the minor minerals at the rates specified in the Appendix II to the Tamil Nadu Minor Mineral Concession Rules, 1959.

03. The registered holder shall and will keep correct accounts in such form as the Collector shall from time to time require and direct showing the quantities and other particulars of all minerals obtained by the registered holder from the said lands and also the number of persons employed in carrying on, the said mining operations therein and shall from time to time when so directed by the Collector prepare and maintain complete and correct plans of all mines and working in the said lands and shall allow any officer hereunto authorized by the Commissioner / Director of Geology and Mining, Tamil Nadu from time to time and at any time to examine such accounts and any such plans and shall when so required supply and furnish all such

T. Sathya
REGISTERED HOLDER / LESSEE

DISTRICT COLLECTOR,
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T. Sathya

தமிழ்நாடு தமிழ்நாடு TAMILNADU ரூ. 1000

AM 705956

R.SHANTHI, S.V
KARUR-639 001.
L.No: 25/2008

26 JUL 2017

Information and returns regarding all or any of the matter aforesaid as the Government shall, from time to time required and direct.

04. The Registered holder shall and will at all times, allow any officer authorized by the Commissioner / Director Geology and Mining, Tamil Nadu in that behalf to enter upon any part of the lands where any mining operations may be carried on for the purpose of inspecting the same.

05. The registered holder shall forthwith send to the District Collector a report of any accident which may occur at or in the said lands and also of the discovery of any mineral other than Rough Stone.

06. It shall be lawful for the registered holder at any time to cease mining operations under these present provided they shall pay to the Collector for and on behalf of the Government land assessment, cess and seignlorage due to the Government and shall restore the said lands or force, or fill in abandoned pits and excavations therein if required by the Collector and upon his so doing these present shall cease and determine.

T. Sathya
REGISTERED HOLDER / LESSEE

REGISTAR'S OFFICE
Document No.: 442/2017
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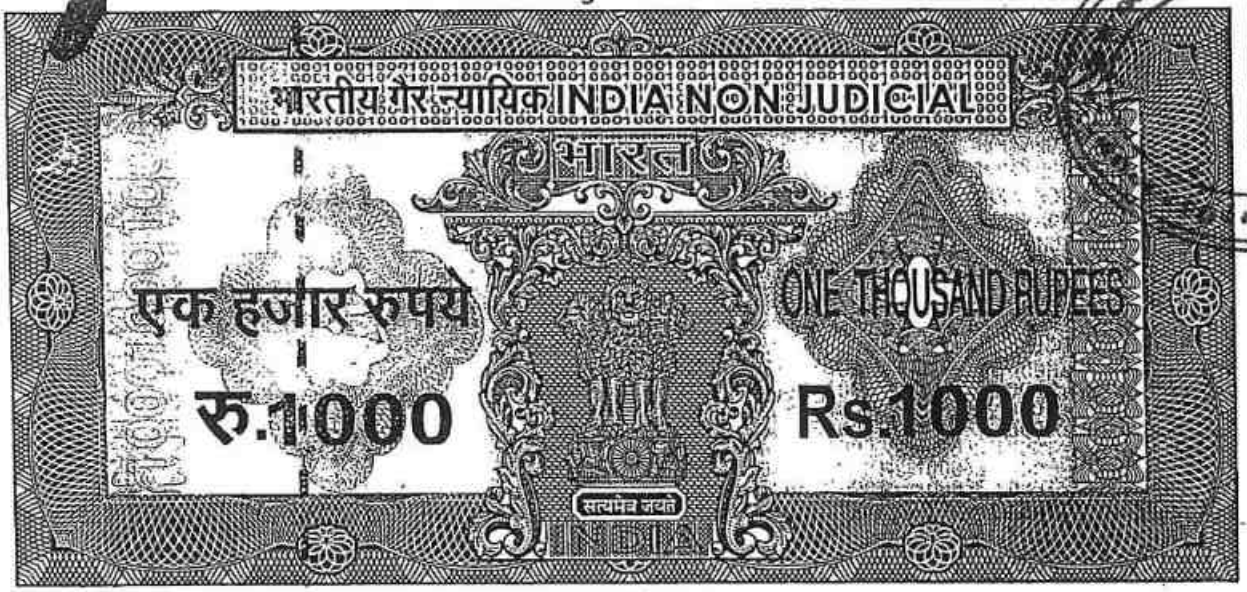
KARUR WEST

DISTRICT COLLECTOR,
KARUR.

T. Sathya



தமிழ்நாடு तमिलनाडु TAMILNADU ரூ. 1000 AK 594027

R.SHANTHI, S.V
KARUR-639 001.
L.No:25/2008

26 JUL 2017

07. In case the registered holder shall relinquish the whole or any part of the said lands or in case of the expiry or sooner determination of this agreement then and in any such case, he shall restore the lands so relinquished or so much thereof as the Collector shall require to be restored to a state fit for cultivation o shall securely and permanently fence or fill in all such abandoned pits and excavations therein as the Collector shall require to be so fenced or filled in, and in case the registered holder shall fail or neglect to restore any such land which he shall be required to restore to a state fit for cultivation or to so fence, or fill in any such abandoned pit or excavation which he shall be required to so fence or fill in them in any such case, it shall be lawful for the Collector to so restore any such land, or as the case may be to so fence or fill any such pits or excavation at the expense of the registered holder and to apply the said sum of Rs.5000/- so deposited in or towards the cost of so doing and to deduct from the amount of the said deposit and retain on behalf of the Government a sum equal to thirty times the assessment of the said lands which shall have been rendered unfit for cultivation. If however, the amount of deposit is not sufficient to cover the cost of such restoration or fencing or filling in or to meet thirty times the assessment on the area rendered uncultivable, it shall be lawful for the Government to recover the balance by resort to Civil Court.

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भारतीय गैर न्यायिक

भारत INDIA

रु. 500 FIVE HUNDRED RUPEES

पाँच सौ रुपये सत्यमेव जयते Rs. 500

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMILNADU 8037 26·07·2017 ரூ 500 AK 157549

T. சத்யா

மசக்கவுண்டன்புதூர்

மா. இளங்கோவன்
மு.தா.வி
L.No:9/2011
கரூர் - 639 004.

08. The registered holder shall not be entitled to any remission of assessment in respect of any of the said lands which shall be rendered unfit for surface cultivation by carrying on of any mining operation or by the deposit of mining waste, unless thirty times the assessment thereon has already been deducted under the preceding clause.

09. The registered holder shall not assign, lease or part with the possession of the said lands or any part thereof for the whole or any part of the said term without previous intimation in writing to the Collector.

10. All lands assessment, cess and seigniorage payable under these present shall be recoverable under the provisions of the Tamil Nadu Revenue Recovery Act, 1864, as if they were arrears of land revenue.

11. In the event of any breach by the registered by any of the conditions of this agreement, it shall be lawful for the Government to levy enhanced seigniorage or for the Collector give notice in writing to the registered holder of his intension to cancel these presents where upon the same shall stand cancelled but without prejudice to any rights which the Government may have against pattadar in respect of any antecedent claim or breach of covenant or condition.

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12. Any notice to be given to the registered holder may be addressed to their last known place of abode and where a notice has been so addressed it shall be deemed to have been duly served for the purpose of these presents.

13. Should any question or dispute arise regarding the agreement executed in pursuance of these rules or any matter or thing connected therewith or the powers of the registered holder there under, the amount or payment of the seigniorage fee or area assessment made payable thereby, the matter in issue shall be decided by the Director / Commissioner of Geology and Mining. In case the registered holder / lessee is not satisfied with the decision of the Director / Commissioner of Geology and Mining, the matter shall be referred to the State Government for decision.

14. The registered holder shall abide by the conditions laid down in the payment of Wages Act 1936, (Central Act IV of 1936), the Mines Act, 1952(Central Act XXXV of 1952) and the Explosives Act, 1884 (Central Act IV of 1884).

நிபந்தனைகள்:-

1. குத்தகை புலத்தினை அடுத்துள்ள பட்டா நிலங்களுக்கு 7.5 மீட்டர் இடைவெளி அளித்து குவாரிப்பணி புரிய வேண்டும்.

2. பொதுமக்களுக்கோ, பொது சொத்துக்களுக்கோ யாதொரு சேதமும் இன்றி பாதுகாப்பான முறையில் குவாரிப்பணி செய்ய வேண்டும்.

3. பொதுமக்களின் நலன் கருதி பாதுகாப்பான முறையில் குறைந்த அழுத்தமுள்ள வெடிபொருட்கள் பயன்படுத்தியும், கைத்துளைப்பான் கருவி கொண்டு துளையிட்டும், தொழிலாளர்களின் பாதுகாப்பினை உறுதி செய்ய பாதுகாப்பானதும், அகலமான Benches அமைத்து குவாரிப்பணி செய்ய வேண்டும்.

4. மாநில சுற்றுச்சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் பரிந்துரை கடிதம் SEIAA,TN/F.No.4274/1(a)/EC.No.3883/2016, நாள்.05.6.2017ல் கண்ட சிறப்பு நிபந்தனைகளை முறையாக கடைபிடித்து குவாரிப்பணி செய்வதுடன், பொது நிபந்தனை 2ல் கண்டவாறு குவாரிப் பணி ஆரம்பிப்பதற்கு முன்பாக தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரியத்தின் தடையின்மை சான்று பெற்று அதன் பின்னரே குவாரிப்பணி துவங்க வேண்டும். மாசுக்கட்டுப்பாட்டு வாரிய தடையின்மை சான்றினை குறித்த காலங்களில் புதுப்பிக்க வேண்டும்.

5. குத்தகைதாரர் தனக்கு அளிக்கப்பட்ட குத்தகை பகுதியின் எல்லைகளை தெளிவாக காட்டும் வகையில் கல் நட்டு வண்ணம் இட்டு குத்தகை காலம் முழுமைக்கும் பராமரிக்க வேண்டும்.

6. 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.

7. குவாரிக்கு சென்றுவரும் பாதை வசதிகள் குத்தகைதாரர்கள் அவர் தம் சொந்த பொறுப்பிலேயே அமைத்துக் கொள்ள வேண்டும்.

8. குத்தகை வழங்கப்பட்ட பாறையில் குண்டுக்கல், ஜல்லி, அரளை கல், வேலிக்கற்கள், போன்ற சிறுகனிமங்கள் உடைத்தெடுக்க மட்டுமே அனுமதியுண்டு. வெளிநாடுகளுக்கு ஏற்றுமதியாகும் மெருகூட்டும் கனவடிவ கற்கள் வெட்டி எடுக்கக் கூடாது.

9. குவாரியிலிருந்து கொண்டு செல்லப்படும் மேற்கண்ட வகை கற்களுக்கு 1959ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் பின் இணைப்பு 2ல் கண்டுள்ளவாறு உரிமவரி செலுத்த வேண்டும். அரசு அவ்வப்போது அறிவிக்கும் உரிமவரி மாற்றங்களுக்கு ஏற்ப எவ்வித ஆட்சேபணை இன்றி செலுத்துதல் வேண்டும்.

10. குத்தகை அனுமதி வழங்கப்பட்ட நிலத்திலிருந்து கொண்டு செல்லப்பட்ட கற்களுக்கு முறையான கணக்குகளும், குழிவாயில் பதிவேடும் முறையாக பராமரித்தல் வேண்டும். அவற்றை சம்பந்தப்பட்ட அலுவலர்கள் தணிக்கைக்கு ஆஜர்படுத்த கோரினால் தவறாது சமர்ப்பிக்க வேண்டும்.

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11. உதவி இயக்குநர் (புவியியல் மற்றும் சுரங்கத்துறை)-ன் அலுவலக முத்திரை, கையொப்ப முத்திரையுடன் கூடிய உரிய அனுப்புகைச் சீட்டை வாகனங்களுக்கு கொடுக்கப்படும்போது அனுப்புகைச் சீட்டில் வாகன எண். தேதி, புறப்படும் நேரம், செலுத்துமிடம் ஆகியவற்றை முறையாகக் குறிப்பிட்டு கையொப்பம் இட்ட பின்னரே, குத்தகைதாரரோ அல்லது அவரும் 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.

12. இந்த ஆணையில் குத்தகை அனுமதி வழங்கப்பட்ட புலத்தை முழுமையாகவோ, பகுதியாகவோ எவருக்கும் உள் குத்தகைக்கு விடுவதோ அல்லது கிரையம் செய்வதோ கூடாது.

13. குத்தகைதாரர் ஒவ்வொரு நாளும் குவாரியில் இருந்து எவ்வளவு சிறுகனிமங்கள் எடுக்கப்பட்டது என்பதையும் எந்த அளவு கனிமங்கள் லாரி/ வண்டி மூலம் வெளியே அனுப்பப்பட்டது என்ற விபரத்தையும் காட்டும் பதிவேட்டினைப் பராமரித்து வரவேண்டும்.

14. குத்தகைதாரர், தமக்கு குத்தகை வழங்கப்பட்ட பகுதிக்கு அருகில் உள்ள பட்டா நிலத்திற்கு எவ்வித இடையூறும் இல்லாமல் குவாரிப் பணி செய்யப்பட வேண்டும்.

15. 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.

16. குத்தகைக்கு விடப்பட்டுள்ள விஸ்தீரணத்தில் மட்டுமே குத்தகைதாரர் குவாரி செய்ய வேண்டும். அதற்கான கூடுதலான விஸ்தீரணத்தில் குவாரி செய்வது தெரியவந்தால் அபராத நடவடிக்கை மேற்கொள்வதுடன் குத்தகை இரத்து செய்ய நடவடிக்கை எடுக்கப்படும்.

17. 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.

18. குத்தகைதாரர் தமிழ்நாடு சிறுவகைக்கனிம சலுகை விதிகள் 1959ல் கண்டுள்ள விதிகளுக்கும் மற்றும் அரசு அவ்வப்போது அறிவிக்கும் சட்டதிட்டங்களுக்கும் உட்பட்டு குவாரிப்பணிகள் செய்ய வேண்டும்.

19. குவாரி குத்தகை உரிமம் காலாவதியான பின்பு எக்காரணத்தை முன்னிட்டும் மீண்டும் புதுப்பிக்கவோ அல்லது கால நீட்டிப்போ செய்து தரப்பட மாட்டாது.

20. வெடிபொருள் சட்டம் 1884ல் தெரிவிக்கப்பட்ட சரத்துக்கள்படி குறைந்த அளவு வெடிபொருளை உபயோகித்து கற்கள் வெளியே சிதறாமலும், சத்தம் அதிகம் ஏற்படாமலும், பொதுமக்களுக்கும், கால்நடைகளுக்கும், எவ்வித பாதிப்பும் இன்றியும் கல்குவாரி பணி செய்யப்பட வேண்டும்.

21. வெடிபொருள்கள் அரசு உரிமம் பெற்ற விற்பனைதாரரிடம் மட்டுமே பெற்று வெடிப்பதற்கு உரிமம் / அங்கீகாரம் பெற்ற வெடிப்பாளர்களை (Blaster / Mines mate) கொண்டு கல் குவாரியில் வெடி வைக்க வேண்டும்.

22. குழந்தை தொழிலாளர்கள் எவரையும் வேலைக்கு அமர்த்துதல் கூடாது.

23. Any other conditions stipulated by other Statutory / Government authorities shall be complied.

T. Sathya
REGISTERED HOLDER/LESSEE

DISTRICT COLLECTOR,
KARUR.

K. T. Sathya

24. If any illicit quarrying is found in the area in S.F.Nos.1287/1 (1.34.0 hects) and 1287/3 (0.49.0 hects) of Punnam Village, Aravakurichi Taluk, Karur District before the date of execution of lease deed this lease deed is liable to be cancelled and criminal action will be initiated.

சிறப்பு நிபந்தனைகள்:-

1) விண்ணப்ப புல எண்களுக்கு வடக்கில் புல எண்.1286ம், தெற்கில் புல எண்.1287/4ம், கிழக்கில் புல எண்கள்.1287/2 மற்றும் 1287/6ம் உள்ள பட்டா நிலங்களுக்கு 7:5 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப் பணி செய்ய வேண்டும்.

2) விண்ணப்ப புலங்களுக்கு மேற்கில் குப்பம் கிராமத்தில் தென்வடலாக செல்லும் தார் சாலைக்கு 50 மீட்டர் பாதுகாப்பு இடைவெளிவிட்டு குவாரிப்பணி செய்ய வேண்டும்.

மேற்கூறிப்பிட்ட நிபந்தனைகள், சிறப்பு நிபந்தனைகள் மற்றும் கனிம சட்டம் விதிகளை மீறியுள்ளது உறுதிபடும் தருணத்தில் விதிமுறைகளுக்கு உட்பட்டு குத்தகை இரத்து செய்ய நடவடிக்கை எடுக்கப்படும். மேற்கண்ட நிபந்தனைகள் ஒப்பந்தப் பத்திரத்தில் கண்டுள்ள நிபந்தனைகள், மாநில சுற்றுச் சூழல் தாக்க மதிப்பீட்டு ஆணையத்தின் நிபந்தனைகள் மற்றும் 1959-ம் ஆண்டு தமிழ்நாடு சிறுகனிம சலுகை விதிகள் ஆகியவற்றின் அடிப்படையில் குத்தகைதாரர் குவாரிப் பணி புரிய வேண்டும்.

As per the Approved Mining Plan, the total production of Rough stone for five years lease period is 42,254 cubic meter. Hence, based on the approved Mining Plan, for the purpose of calculating stamp duty the anticipated seigniorage fee is Rs.19,01,430/- (Rupees Nineteen Lakhs One Thousand Four Hundred and Thirty Only) for the entire lease period of 5 years.

THE SCHEDULE

1. Name of the District : Karur
2. Name of the Taluk : Aravakurichi
3. Name of the Village : Punnam
4. Name of the Sub Registration District : Karur (West)
5. Lease Period : 05 years

From 31.7.2017 to 30.7.2022

Survey Number	Total Extent Hects.	Area Assessment Rs.	BOUNDARIES			
			North By SF No.	South by SF No.	East by SF No.	West by SF No.
1287/1	1.34.0	915/- (Rs.100/- per hects, per year)	1286	1287/3	1287/2 1287/6	Kuppam Village S.F.No.103, 113 Vandipathal
1287/3	0.49.0		1287/1	1287/4	1287/6	Kuppam Village S.F.No.103, 113 Vandipathal
Total	**1.83.0**					

IN WITNESS WHERE OF, **Tmt.T.Sathya, W/o.Thangaraj, New No.2, Masagoundenpudhur, Punjaipugalur (South) Village, Karur Taluk & District 'the registered holder / lessee'** and **Thiru.G.Govindaraj, I.A.S., District Collector, Karur** acting for and on behalf of and by the order and direction of the Governor of TamilNadu have hereunto set their hands.

T. Sathya
REGISTERED HOLDER / LESSEE

DISTRICT COLLECTOR,
KARUR.

Signed by the above named
In the presence of

1.

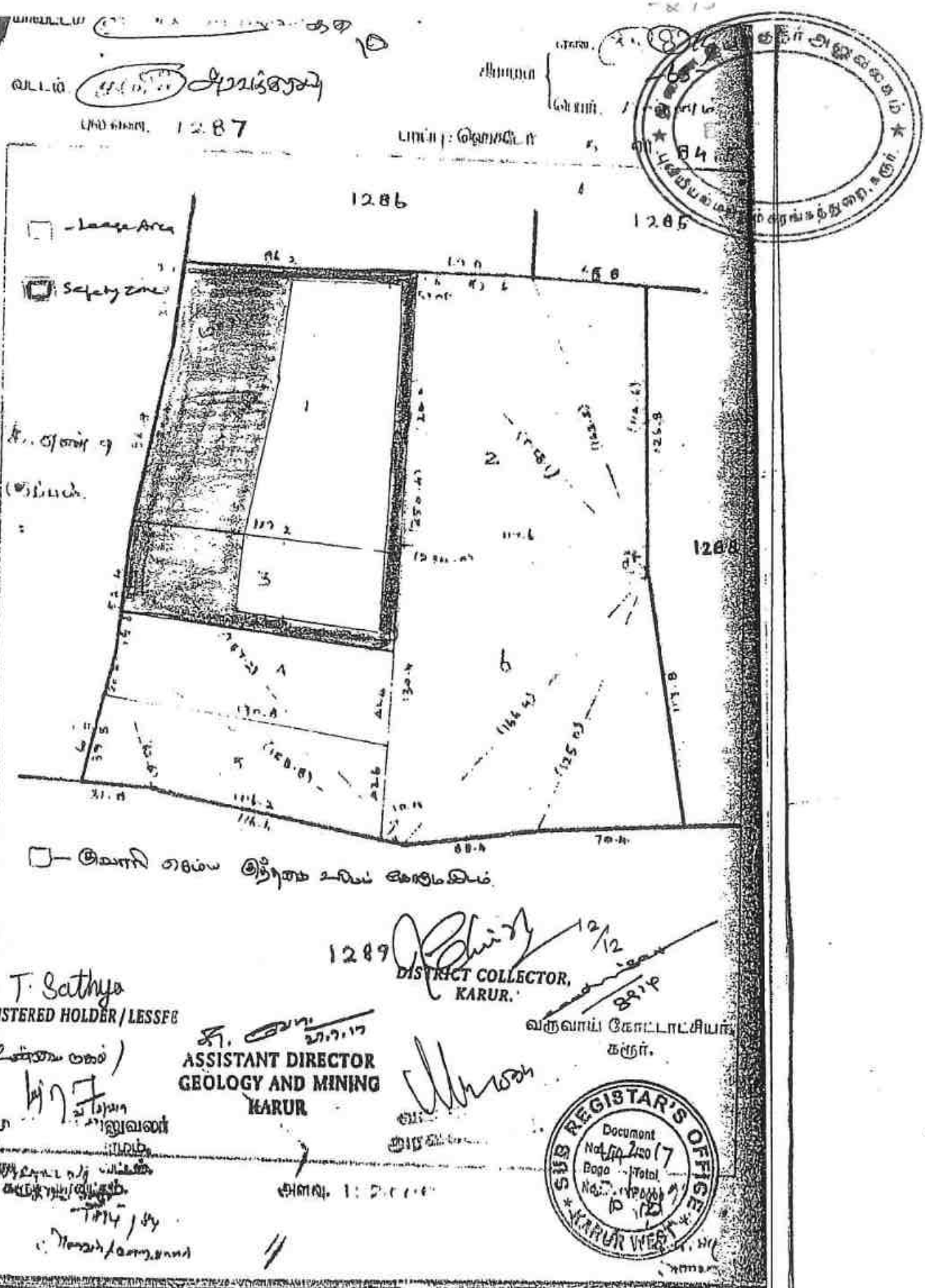
2.

Signed by the above named
In the presence of

1. Dr. S. VEDIAPPAN
ASSISTANT DIRECTOR
GEOLOGY AND MINING
KARUR

Special Revenue Inspector
(Mines)
Karur

T. Sathya


1286
1286
1288
Lease Area
Safety zone
1289
DISTRICT COLLECTOR,
KARUR.
T. Sathya
REGISTERED HOLDER / LESSEE
ASSISTANT DIRECTOR
GEOLOGY AND MINING
KARUR
SUB REGISTAR'S OFFICE
KARUR WEST
Document
Book
Total

T. Sathya

4442/2017/BK1

11

முத்திரைச்சட்டம் பிரிவு 42-ன் கீழான சான்று

வ.எண்1243/ 2017

கிருமி -ல் வசிக்கும் திருவாளர் T.சத்யா என்பவரிடமிருந்து முத்திரைச் சட்டம் பிரிவு 41-ன் கீழ் முறையான /குறைவு முத்திரைக்கட்டணம் ரூ.2430 (ரூபாய் இரண்டாயிரத்தி நானூற்றி முப்பது மட்டும்) வசூலிக்கப்பட்டது என மனநிறைவடைந்து சான்றளிக்கிறேன்.

சா.ப.அ: மேலகரூர்
நாள்: 28/08/2017

சார்பதிவாளர் மற்றும் இந்திய
முத்திரைச்சட்டம் பிரிவு 41-ன் கீழ் ஆட்சியர் -

மேலகரூர் சார்பதிவாளர் அலுவலகத்தில் 28/08/2017 அன்று 12.1 மணிகளுக்கிடையில் தாக்கல் செய்து கட்டணம் ரூ 20240 செலுத்தியவர்

1 இடது பெரு விரல்

T. Sathya

மேல் விவரம் ஆவண வாசகப்படி

எழுதிக் கொடுத்ததாக ஒப்புக்கொண்டவர்

1 இடது பெரு விரல்

T. Sathya

மேல் விவரம் ஆவண வாசகப்படி

REGISTAR'S OFFICE
Document no 4442/17
Page No.: 11
Total Pages 16
KARUR WEST

Endorsement Sheet no. 1 of 2

T. Sathya

எழுதிக் கொடுத்ததாக ஒப்புக்கொண்டவர் 12

இவ்வாவணத்தை எழுதிக் கொடுத்த / வாங்கிய திருவாளர் G.GOVINDARAJ,I.A.S DISTRICT COLLECTOR, KARUR DISTRICT KARUR. பதிவுச்சட்டம் பிரிவு 88 (1)-ன்படி நேரில் ஆஜராகியிருந்து விலக்களிக்கப்படடுள்ளார் என மனநிறைவடைந்து சான்றளிக்கிறேன்.

பதிவு அலுவலர்.

இன்னாரென்றுரைத்தவர்

1	பெயர் : தங்கராஜ் வே	த/பெ வேலுச்சாமி	நெ.1, மசக்கவுண்டன்புதூர், முலிமங்கலம் அஞ்சல், மணமங்கலம் வட்டம், கரூர்.
2	பெயர் : ராஜசேகர் க	த/பெ சுந்தரவேலு	நெ.54G, சிவானந்தா தெரு, வெங்கமேடு, இனாம் கரூர், கரூர்.

2017.ம் ஆண்டு ஆகஸ்டு திங்கள் 28 ம் நாள்

சார்பதிவாளர்
மேலகரூர்

1 புத்தகம் 2017 ம் ஆண்டு 4442 ம் எண்ணாக பதிவு செய்யப்பட்டது

நாள் : 28/08/2017 சார்பதிவாளர்
மேலகரூர் இரா.செல்வ பாலமுருகன்

SUB REGISTAR'S OFFICE 4442 2017 12 16 KARUR WEST

Endorsement Sheet no. 2 of 2

T. Jothy

13

आधार

இந்திய அரசாங்கம்
Unique Identification Authority of India

பதிவேட்டு எண்/Enrolment No.: 2189/80577/00092

To
சத்யா த
Sathya T
W/O Thangarasu
2
Masagoundanpudhur
P Pugalur South
Nanjai Pugalur
Karur Moolimangalam
Tamil Nadu - 639136
9443208096

Download Date: 29/05/2017

Generation Date: 29/05/2017

Signature valid

உங்கள் ஆதார் எண் / Your Aadhaar No. :

5690 2527 2691

எனது ஆதார், எனது அடையாளம்

சத்யா த
Sathya T
பிறந்த நாள்/ DOB: 29/05/1980
பெண் / FEMALE

5690 2527 2691

எனது ஆதார், எனது அடையாளம்

AADHAAR

தகவல்

- ஆதார் அடையாளத்திற்கான சான்று, குடியுரிமைக்கு அல்ல.
- அடையாள சான்றை ஆன்லைன் ஆதன்டிகேஷன் மூலமாகப் பெறவும்.
- இது எலக்ட்ரானிக் செயல்முறை மூலம் தயாரிக்கப்பட்ட கடிதமாகும்.

INFORMATION

- **Aadhaar** is a proof of identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

- ஆதார் நாடு முழுவதிலும் செல்லுபடியாகும்.
- வருங்காலத்தில் அரசு மற்றும் அரசு சாரா சேவைகளை பயன்படுத்திக் கொள்ள ஆதார் உதவிகரமாக இருக்கும்.
- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

முகவரி:
W/O தங்கராசு, 2,
மசகவுண்டன்புதூர், பு புகலூர்
தெற்கு, நஞ்சைபுகலூர், கரூர்,
தமிழ் நாடு - 639136

Address:
W/O Thangarasu, 2,
Masagoundanpudhur, P Pugalur
South, Nanjai Pugalur, Karur,
Tamil Nadu - 639136

5690 2527 2691

help@uidai.gov.in

www.uidai.gov.in

T. Sathya

T. Sathya

14.

இந்திய அரசாங்கம்
Unique Identification Authority of India

பதிவேற்று எண்/Enrolment No.: 2189/80577/00091

To
வே தங்கராசு
V Thangarasu
S/O Velusamy
2
Masagoundanpudhur
P Pugalur South
Nanjai Pugalur
Karur Moolimangalam
Tamil Nadu - 639136
9443208096

Download Date: 25/03/2017

Generation Date: 25/03/2017

Signature valid

உங்கள் ஆதார் எண் / Your Aadhaar No. :

7087 9042 8163

எனது ஆதார், எனது அடையாளம்

வே தங்கராசு
V Thangarasu
பிறந்த நாள்/ DOB: 26/03/1979
ஆண் / MALE

7087 9042 8163

எனது ஆதார், எனது அடையாளம்

AADHAAR

தகவல்

- ஆதார் அடையாளத்திற்கான சான்று, குடியுரிமைக்கு அல்ல.
- அடையாள சான்றை ஆன்லைன் ஆதன்டிகேஷன் மூலமாகப் பெறவும்.
- இது எலக்ட்ரானிக் செயல்முறை மூலம் தயாரிக்கப்பட்ட கடிதமாகும்.

INFORMATION

- Aadhaar is a proof of identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

- ஆதார் நாடு முழுவதிலும் செல்லுபடியாகும்.
- வருங்காலத்தில் அரசு மற்றும் அரசு சாரா சேவைகளை பயன்படுத்திக் கொள்ள ஆதார் உதவிகரமாக இருக்கும்.
- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

முகவரி:
S/O வேலுசாமி, 2,
மசகவுண்டன்புதூர்,
புஞ்சைபுகலூர் தெற்கு,
நஞ்சைபுகலூர், கரூர்,
தமிழ் நாடு - 639136

Address:
S/O Velusamy, 2,
Masagoundanpudhur, P Pugalur South, Nanjai Pugalur, Karur, Tamil Nadu - 639136

7087 9042 8163

help@uidai.gov.in
www.uidai.gov.in

-305-

15

India Driving Licence(Tamilnadu)
Form 7
DOI 15/10/2001

D.L.No : TN47 20010003851
Name : RAJASEKAR S
S/D/W of : S.SUNGARAVELU
Address
36D SIVANANDA STREET
RAM NAGAR
KARUR-639005
Temp Addr.

D.O.B : 04/06/1979 B.G. :

Endorsements

Non-Transport Veh. Valid upto 14/10/2021

T. Sathy

16

From

Thiru.G.Govindaraj, I.A.S.,
District Collector,
Karur District
Karur

To

The Sub-Register,
Karur (west),
Karur District.

Rc.No.226/Mines/2014, Dated : 31.7.2017

Sir,

Sub: Mines and Minerals - Minor Minerals – Rough Stone – Karur District – Aravakurichi Taluk – Punnam Village - S.F.Nos.1287/1 and 1287/3 over an extent of 1.83.0 Hect. – Rough Stone quarry lease granted to Tmt.T.Sathiya - Registration of lease deed - Regarding.

Ref: Karur District Collector's Proceedings No.226/Mines/2014, Dated:31.7.2017.

*****

Tmt.T.Sathiya, W/o.Thangaraj, New No.2, Masagoundenpudhur, Punjaipugalur (South) Village, Karur Taluk & District have been granted a lease to Quarry Rough stone in S.F.Nos.1287/1 and 1287/3 over an extent of 1.83.0 hects of Punnam Village, Aravakurichi Taluk, Karur District for a period of 5 (Five) Years from **31.7.2017 to 30.7.2022.** The lease deed having pages from 1 to 10 is herewith sent.

1. Anticipated seigniorage fee for the entire lease period of 5 years : Rs. 19,01,430/-
2. Area Assessment @ Rs. 100/- per Hect. : Rs. 915/-
3. Security Deposit paid by way of Chalan : Rs. 5,000/-

The District Collector is exempted from appearing in person under section 88(1) of the Registration Act. I request you to register the lease deed and return the document through the lessee.

Encl:- Lease deed pages (1 to 10).

31.7.17

For Collector
Karur.

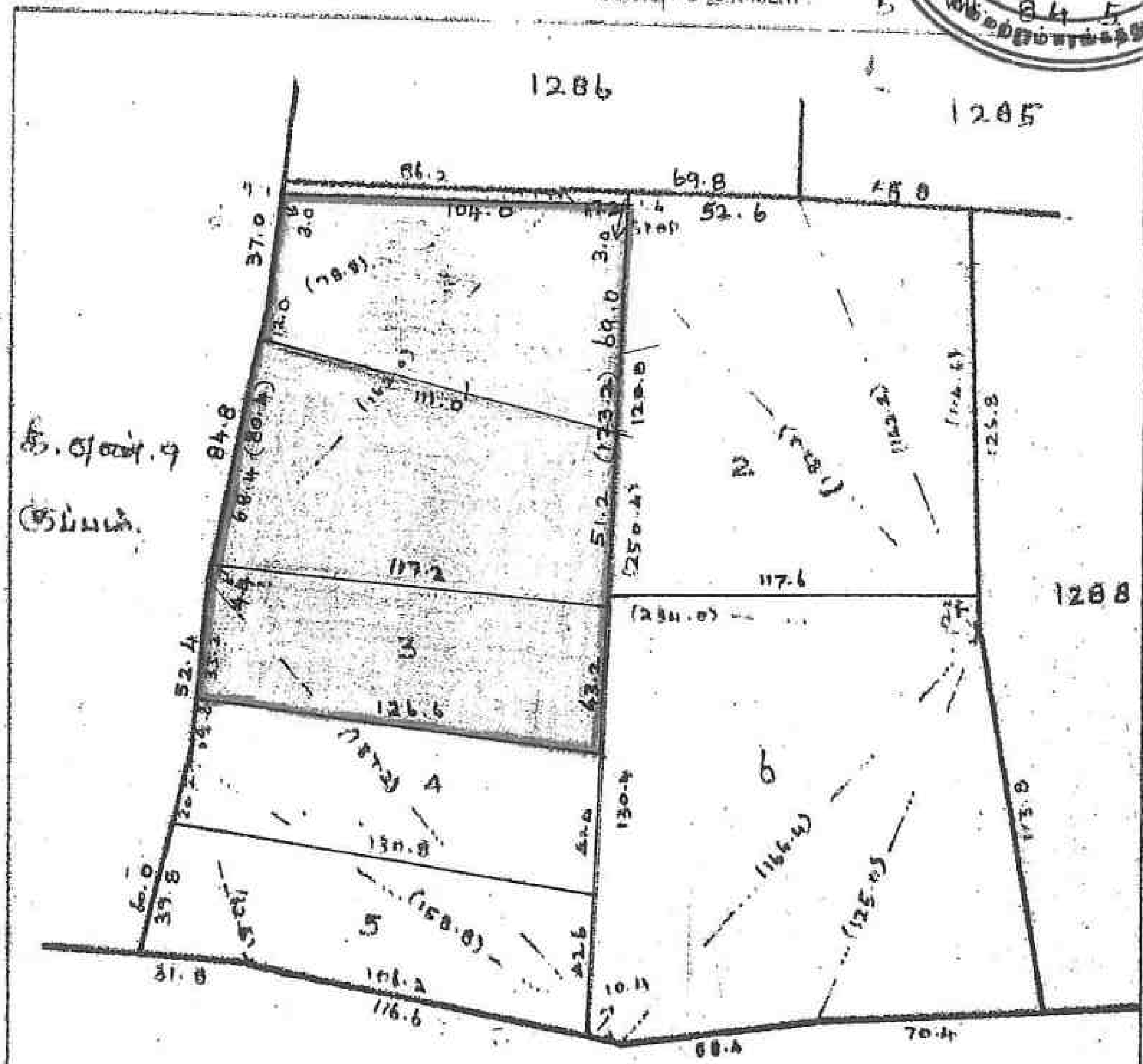
Copy to:-
Tmt.T.Sathiya, W/o.Thangaraj, New No.2, Masagoundenpudhur, Punjaipugalur (South) Village, Karur Taluk & District - (is requested to register the lease deed at their own expenses and return the original document).

REGISTAR'S OFFICE
Received
4.8.2017
16 16

T. Sathiya

புல எண். 1287

பரப்பு: ஹெக்டேர்



SF NO: 1287/1 Part -ல் கல்வெட்டப்படாத பரப்பு } - 0.62.50

1289

SF NO: 1287/1 Part -ல் கல் வெட்டப்பட்ட பகுதியின் பரப்பு } - 0.68.50

SF NO: 1287/3 -ல் கல் வெட்டப்பட்ட பகுதியின் பரப்பு } - 0.49.00

மொத்தப் பரப்பு - 1.80.00 ஏர்ஸ்

True copy

16/9/2022

கிராம நிர்வாக அலுவலர்,
17. புன்னம் கிராமம்,
புகளூர் வட்டம்,
கரூர் மாவட்டம்.

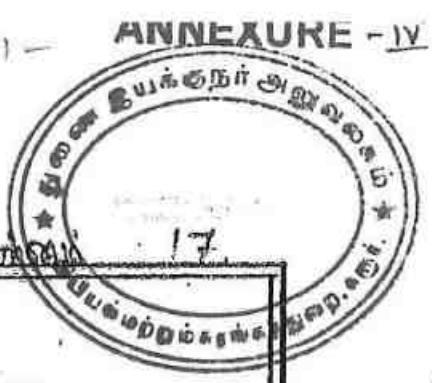
LEASE APPLIED AREA

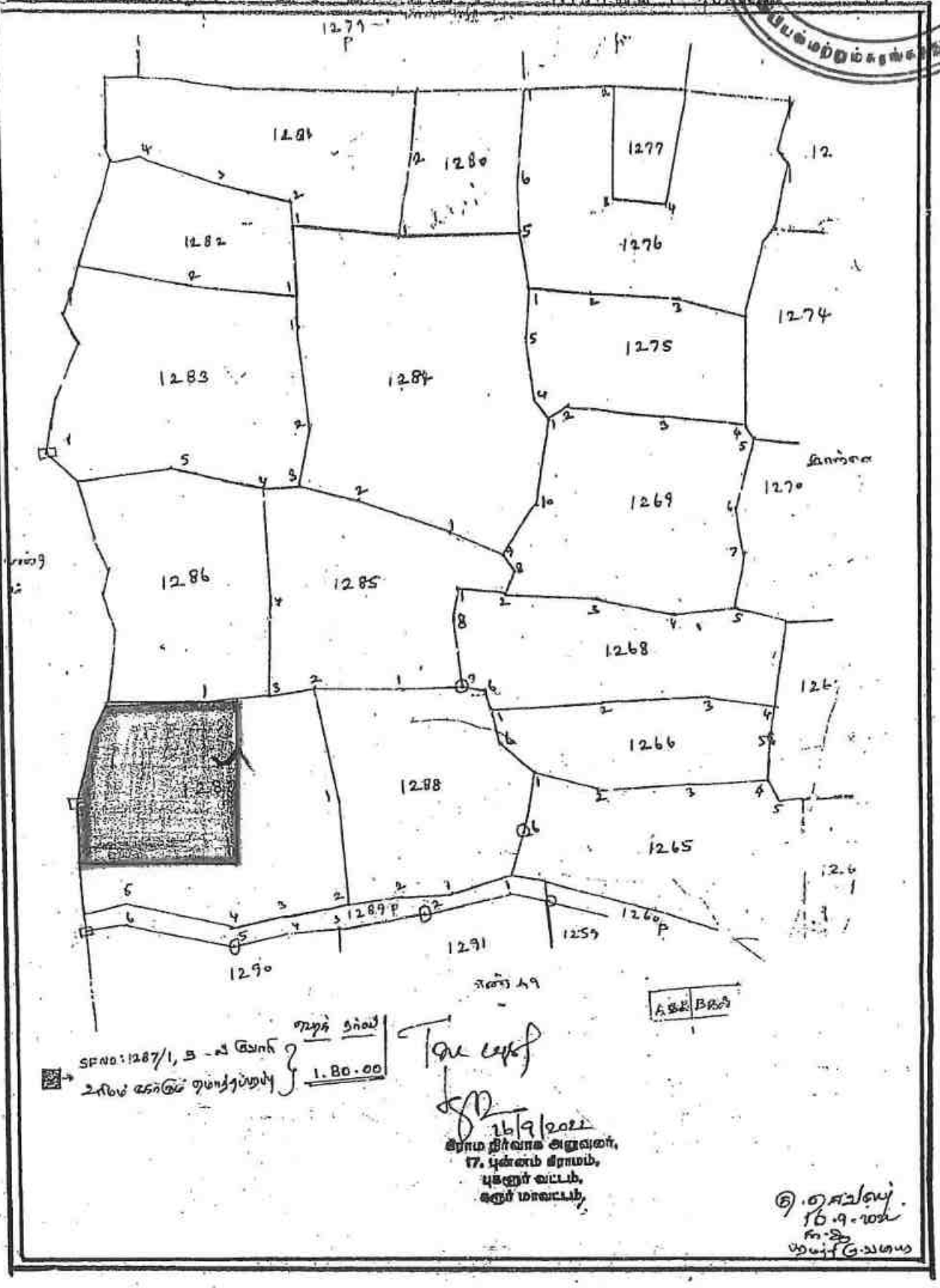
அளவு 1:2000

16.9.2022

L.T. Sathy

ANNEXURE - IV





LEASE APPLIED AREA

ANNEXURE-V

-313-

14

கி எண் (35) புன்னம்

315

1		2	3	4	5	6	7	8	9	10		12
								ரூ. பை.	ஹெ. ஏர்ஸ்	ரூ. பை.		
1281	B	1281-B	ர	பு	...	8-4	6	1 38	0 09·5	0 13	2229 பொ. தம்பி யண்ண கவுண்டரும் மற்றும் பத்து பேர்களும். *	
									3 53·5	4 90		
1282	...	1282	ர	பு	...	8-4	6	1 38	2 71·5	3 76	705 மு. பழனிச்சாமி.	
1283	...	1283	ர	பு	...	8-4	6	1 38	4 45·0	6 15	509 பொ. தம்பியண கவுண்டர்.	கிணறு.
1284	1	1284-பா	ர	பு	...	8-4	6	1 38	1 97·0	2 72	509 பொ. தம்பியண கவுண்டர்.	
	2	-பா	ர	பு	...	8-4	6	1 38	0 90·0	1 24	1632 மா. ராசப்பன் (1), மா. பழனிச்சாமி (2).	
	3	-பா	ர	பு	...	8-4	6	1 38	0 91·0	1 26	1849 ப. வேலப்பன் (1), ப. காளியப்பன் (2), ப. சின்னான் (3).	
	4	-பா	ர	பு	...	8-4	6	1 38	0 27·0	0 38	47 மா. ஆறுமுகம்.	
	5	-பா	ர	பு	...	8-4	6	1 38	0 28·0	0 40	180 மா. கருப்ப நாவிதன்.	
	6	-பா	ர	பு	...	8-4	6	1 38	0 37·0	0 52	1245 மா. வேலப்பன்.	
	7	-பா	ர	பு	...	8-4	6	1 38	2 80·0	3 86	40 மா. அங்கம்மாள்.	
									7 50·0	10 38		
1285	1	1285-பா	ர	பு	...	8-4	6	1 38	1 05·0	1 45	1175 ப. ராமசாமி.	
	2	-பா	ர	பு	...	8-4	6	1 38	0 48·0	0 66	708 க. பழனியப்ப கவுண்டர்.	
	3	-பா	ர	பு	...	8-4	6	1 38	1 54·0	2 14	709 சங்கிலியப்ப கவுண்டர்.	
	4	-பா	ர	பு	...	8-4	6	1 38	1 32·0	1 83	237 வி. காளியப்ப கவுண்டர்.	
									4 39·0	6 08		
1286	...	1286	ர	பு	...	8-4	6	1 38	3 69·5	5 11	1960 பொ. பொங்காளியப்ப கவுண்டரும் மற்றும் மூன்று பேர்களும். *	
1287	1	1287-பா	ர	பு	...	8-4	6	1 38	1 34·0	1 85	1176 ப. ராமசாமி.	

* விவரப்பட்டியலைப் பார்க்கவும்.

16/9/2022

கிராம நிர்வாக அலுவலர்
17. புன்னம் கிராமம்
புகளூர் வட்டம்

T. Sathya

1		2	3	4	5	6	7	8	9	10	11	12
								ரூ. பை.	ஹெ. ஏர்ஸ்	ரூ. பை.		
1287	2	1287–பா	ர	பு	...	8–4	6	1 38	1 32·0	1 82	1681 பொ. ராமசாமி (1), பொ. பழனிச்சாமி (2).	
	3	–பா	ர	பு	...	8–4	6	1 38	0 49·0	0 67	310 க. குப்புசாமி கவுண்டர்.	
	4	–பா	ர	பு	...	8–4	6	1 38	0 51·0	0 70	1246 கா. வேலுச்சாமி.	
	5	–பா	ர	பு	...	8–4	6	1 38	0 56·5	0 80	178 பொ. கருப்பணக் கவுண்டர்.	
	6	–பா	ர	பு	...	8–4	6	1 38	1 62·0	2 25	1176 ப. ராமசாமி.	
									5 84·5	8 09		
1288	...	1288	ர	பு	...	8–4	6	1 38	4 32·0	5 98	1961 பொ. கருப்பண்ண கவுண்டரும் மற்றும் மூன்று பேர்களும். *	
1289	...	1289	அ	புற	...	...	...	...	0 43·5	...	......	நடை பாதை.
1290	A1	1290-A பா	ர	பு	...	8–4	6	1 38	1 14·0	1 58	181 கா. கருப்பாயி அம்மாள்.	
	A2	–Aபா	ர	பு	...	8–4	6	1 38	1 05·0	1 46	457 ப. சுப்ரமணி.	
	A3	–Aபா	ர	பு	...	8–4	6	1 38	1 97·0	2 72	179 கா. கந்தசாமி கவுண்டர்.	
	B	–B	அ	புற	...	...	...	...	0 05·5	...	......	நடை பாதை.
									4 21·5	5 76		
1291	A1	1291–A பா	ர	பு	...	8–4	6	1 38	1 46·0	2 05	710 கா. பழனிச்சாமி கவுண்டர்.	
	A2	–Aபா	ர	பு	...	8–4	6	1 38	0 49·5	0 68	182 கா. கருமண கவுண்டர்.	
	A3	-Aபா	ர	பு	...	8–4	6	1 38	3 82·5	5 27	311 கா. குப்புசாமி கவுண்டர்.	
	B	–B	அ	புற	...	...	...	...	0 05·0	...	......	நடை பாதை.
									5 83·0	8 00		
1292	A1	1292–1 பா	ர	பு	...	8–3	6	1 38	1 22·0	1 69	311 கா. குப்புசாமி கவுண்டர்.	
	A2	–Aபா	ர	பு	...	8–3	6	1 38	0 82·0	1 13	710 கா. பழனிச்சாமி கவுண்டர்.	
	A3	-Aபா	ர	பு	...	8–3	6	1 38	1 19·0	1 64	182 கா. கருமண கவுண்டர்.	

* விவரப்பட்டியலைப் பார்க்கவும்.

True copy

கிராம நிர்வாக அலுவலர்,
17. புன்னம் கிராமம்,
புகளூர் வட்டம்,

K T Sathy

ANNEXURE-VI

துணை இயக்குநர் அலுவலகம் புவியியல் மற்றும் சுரங்கத்துறை, கரூர்.

தமிழக அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : கரூர் வட்டம் : புகளூர்

வருவாய் கிராமம் : புன்னம் பட்டா எண் : 6624

உரிமையாளர்கள் பெயர்

1. தங்கராஜ் மனைவி சத்தியா

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	
1287	1	1 - 34.00	1.85	--	--	--	--	---- -- 11-10-2014
1287	3	0 - 49.00	0.67	--	--	--	--	---- -- 11-10-2014
		1 - 83.00	2.52					

*மா - மானாவரி

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **14/07/017/06624/60718** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 14-09-2022 அன்று 05:00:31 PM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

T. Sathy

-319-

1432- ஆம் பசலியில் கரூர் மாவட்டம் புகளூர் வட்டம் கிராமம் 17. புன்னம்

நில வரித் திட்டத்தின்படி புலமையின் விவரம்.						சாகுபடி யாளரின் பெயர்.	முதல் போகம்.				
நில அளவை எண்.	உட்பிரிவு எண்.	பரப்பு.	தீர்வை.	ஒரு போகம் அல்லது இரு போகம்.	கைப்பற்று தாரருடைய பெயரும் என்றும் அல்லது அநுபோக தாரருடைய பெயர்.	நிலத்தின் எந்த பகுதி யாராவது சாகுபடியாளரால் பயிரிடப்பட்டுள்ளது.	எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிரான / அறுவடையான பரப்பு	உண்மையான பாய்ச்சல் ஆதாரம்.	விளைச்சல் ஆகாத விருக்காடு.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1287	1	1.34.0	1.85	6624	சத்தியா	[illegible]	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—
1287	3	0.49.50	0.67	6624	சத்தியா	[illegible]	—	—	—	—	—

True copy

16/9/2024

கிராம நிர்வாக அலுவலர்,
17. புன்னம் கிராமம்,
புகளூர் வட்டம்,
கரூர் மாவட்டம்.

எண் 2

கிராமத்தில் வருடவாரி புலவாரி கைப்பற்று சாகுபடி அடங்கல் கணக்கு

இரண்டாம் போகம்.						நிலத்தின் தன்மை மற்றும் விவரங்கள்	
எந்த மாதத்தில் பயிர் செய்யப்பட்டது எந்த மாதத்தில் அறுவடை செய்யப்பட்டது.	பயிரின் பெயர்.	பயிரான / அறுவடையான பரப்பு.	உண்மையான பாய்ச்சல் ஆதாரம்.	விளைச்சல் ஆகாத விருக்காடு.	கிராம அலுவலரின் குறிப்புகள்	(அ) வனம், (ஆ) பயனற்ற பயிர் செய்ய இயலாத நிலம், (இ) விவசாயம் மற்றும் இதர காரியங்களுக்கு பயன் படுத்தப் படும் நிலம், (ஈ) பயிரிடத்தக்க தரிசு (உ) நிலையான புல் தரைகளும் மற்றும் இதர மேய்ச்சல் நிலங்களும், (ஊ) விதைக்கப்பட்ட நிகர பரப்பில் சேர்க்கப்படாத மரவகைப் பயிர்களும் தோப்புகளும், (எ) நடப்புத் தரிசுகள் (ஏ) இதர தரிசு நிலங்கள்.	பயிர் பார்வையிடும் அலுவலர் குறிப்புரைகள்.
(13)	(14)	(15)	(16)	(17)	(18)	(18அ)	(19)
					கேணி		
					கேணி		

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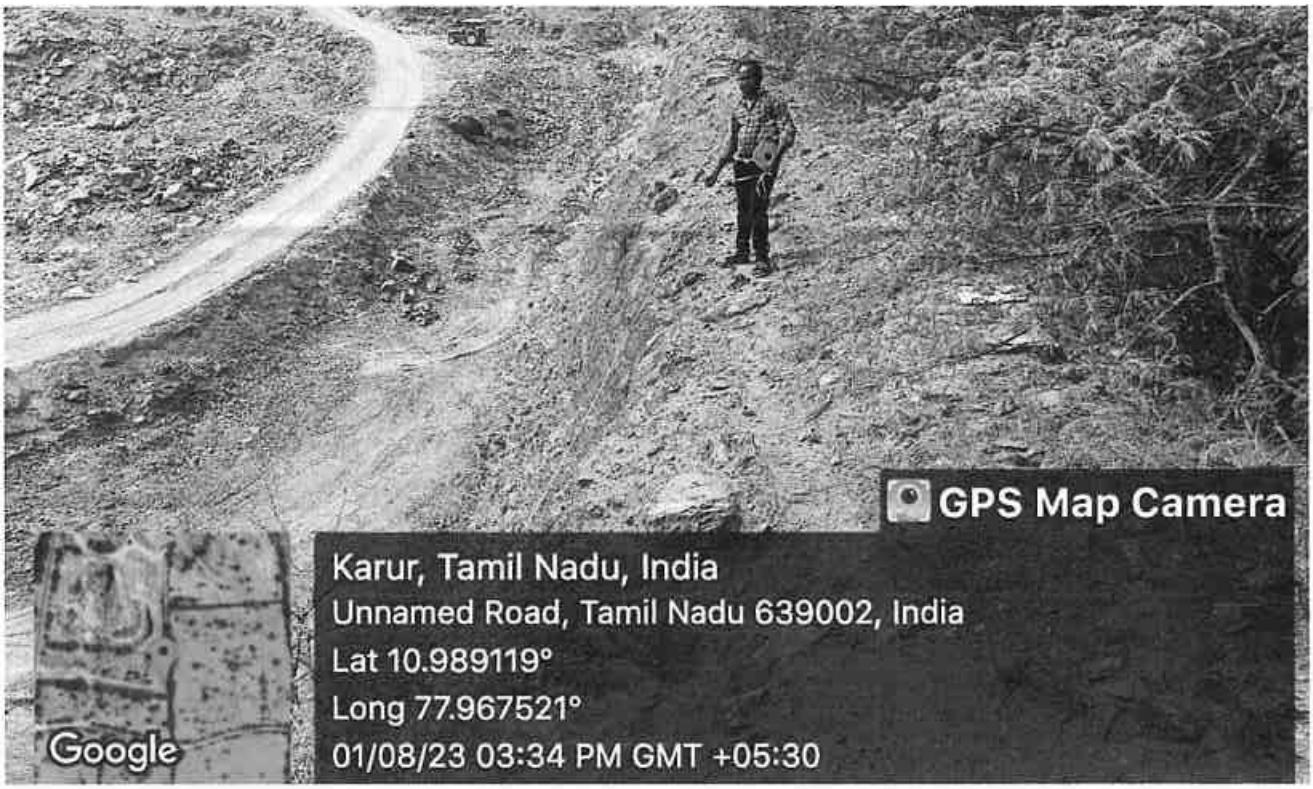
K T Sathya

ANNEXURE-V

PHOTOCOPY OF THE APPLIED LEASE AREA

Field photos in respect of rough stone and Gravel quarry lease in S.F.No.1287/1(Part), 1287/3(Part), - Patta land – over an extent of 1.80.0 hectares – Punnam Village – Pugalur Taluk - Karur District - Tamil Nadu State belongs to **Mrs.T.SATHYA.**



T. Sathya

AADHAAR

அடையாளத்திற்கான சான்று, குடியுரிமைக்கு அல்ல.

அடையாள சான்றை ஆன்லைன் ஆதன்டிகேஷன் மூலமாகப் பெறவும்.

இது எலக்ட்ரானிக் செயல்முறை மூலம் தயாரிக்கப்பட்ட கடிதமாகும்.

INFORMATION

- Aadhaar is a proof of identity, not of citizenship.
- To establish identity, authenticate online.
- This is electronically generated letter.

- ஆதார் நாடு முழுவதிலும் செல்லுபடியாகும்.
- வருங்காலத்தில் அரசு மற்றும் அரசு சாரா சேவைகளை பயன்படுத்திக் கொள்ள ஆதார் உதவிகரமாக இருக்கும்.
- Aadhaar is valid throughout the country.
- Aadhaar will be helpful in availing Government and Non-Government services in future.

ஆதார்

Address:
W/O Thangarasu, 2,
Masagoundanpudhur, P Pugalur South, Nanjai Pugalur, Karur, Tamil Nadu - 639136

5690 2527 2691

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Unique Identification Authority of India
Government of India

பதிவேட்டு எண்/Enrolment No.: 2189/80577/00092

To
சத்யா த
Sathya T
W/O Thangarasu
2
Masagoundanpudhur
P Pugalur South
Nanjai Pugalur
Karur Moolimangalam
Tamil Nadu - 639136
9443208096

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Generation Date: 25/03/2017

Signature valid

உங்கள் ஆதார் எண் / Your Aadhaar No. :

5690 2527 2691

எனது ஆதார், எனது அடையாளம்

சத்யா த
Sathya T
பிறந்த நாள்/ DOB: 29/05/1980
பெண் / FEMALE

5690 2527 2691

எனது ஆதார், எனது அடையாளம்

K T. Sathya

भारत सरकार / GOVERNMENT OF INDIA
खान मंत्रालय / MINISTRY OF MINES
भारतीय खान ब्यूरो / INDIAN BUREAU OF MINES

अर्हता प्राप्त व्यक्ति के रुप मेंमान्यता प्रमाण पत्र
(खनिज रियायत नियमावली, 1960 के नियम 22सी के तहत)

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON
(Under Rule 22C of Mineral Concession Rules, 1960)

श्री एस. करुपण्णण, मॉग्गनीकाडू, मुत्तमंपटटी पोस्ट, बोम्मीडी वयॉ , ओमलूर तालुक, सेलम डीस्टीक्ट, तमिलनाडू – 635 301, जिनका फोटो और हस्ताक्षर ऊपर दिया हुआ है, तथा जिनहोंने अपनी अर्हता और अनुभव का संतोष जनक साक्ष्य दिया है, को खनन योजना तैयार करने हेतु खनिज रियायत नियमावली 1960 के नियम 22सी के तहत अर्हता प्राप्त व्यक्ति के रूप में मान्यता प्रदान की जाती है ।

Shri S. Karuppannan, Manganikadu, Muthampatty (Post), Bommidi (Via), Omalur Taluk, Salem District, Tamilnadu – 635 301, whose **Photograph and signature** is affixed herein above, having given satisfactory evidence of his qualifications & experience hereby **RECOGNISED** under Rule 22C of the Mineral Concession Rule, 1960 as a Qualified Person to prepare Mining Plans.

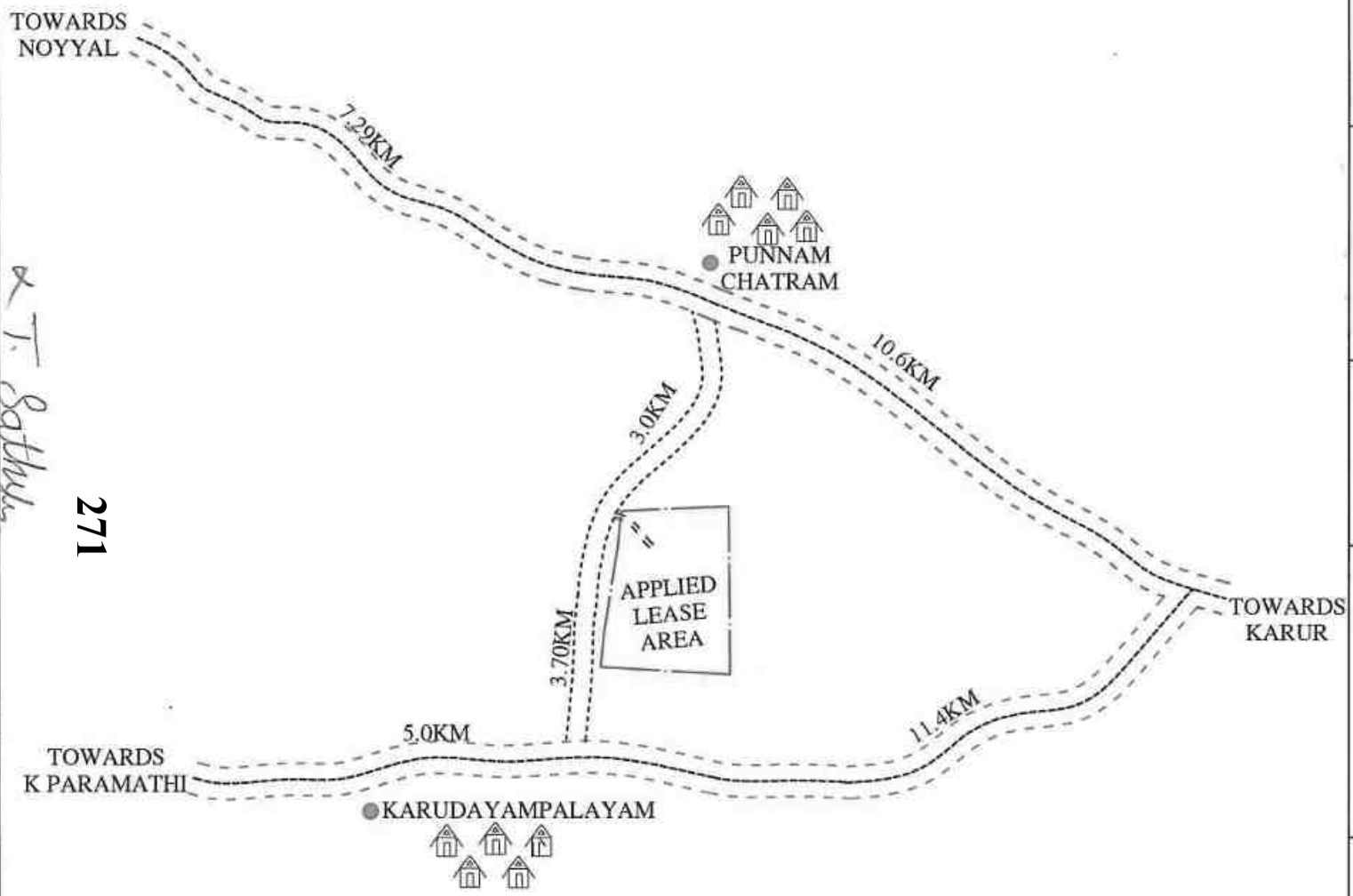
उनकीपंजीयन संख्या है
His registration number is — RQP /MAS/263/2014/A

यह मान्यता 10 वर्षों की अवधि के लिए मान्यता है जो दिनांक 15.12.2024 को समाप्त होगी।
This recognition is valid for a period of 10 years ending on 15.12.2024.

उनके द्वारा प्रस्तुत खनन योजना में गलत जानकारी / दस्तावेज पाए जाने की स्थिती में यह प्रमाण पत्र वापस लिया जाएगा / निरस्त किया जाएगा।
This certificate will liable to be withdrawn / cancelled in the event of furnishing the wrong information / documents in the Mining Plan submitted by him.

स्थान/ Place : Chennai
दिनांक/ Date : 16.12.2014.

क्षेत्रीय खाननियंत्रक / Regional Controller of Mines
भारतीय खानब्यूरो/ Indian Bureau of Mines
चेन्नई क्षेत्र / Chennai Region



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N

PLATE NO-I

APPLICANT:

Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:

S.F.NO	: 1287/1(Part) & 1287/3
EXTENT	: 1.80.0Hect
VILLAGE	: PUNNAM
TALUK	: PUGALUR
DISTRICT	: KARUR

INDEX

MINE LEASE AREA	
APPROACH ROAD	
VILLAGE ROAD	
NH - 81 ROAD	
SH - 84 ROAD	

KEY MAP

Not to Scale

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

10°59'26.37"N

77°57'59.23"E

L. T. Sathya

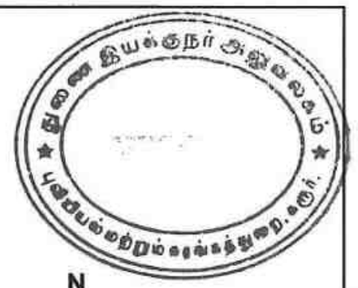

PLATE NO-IA

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:
S.F.NO : 1287/1(Part) & 1287/3
EXTENT : 1.80.0Hect
VILLAGE : PUNNAM
TALUK : PUGALUR
DISTRICT : KARUR

INDEX

MINE LEASE AREA :

TOPO SHEET NO : 58-F/13

LATITUDE : 10°59'21.05"N to 10°59'26.37"N

LONGITUDE : 77°57'59.23"E to 77°58'3.34"E

LOCATION PLAN
NOT TO SCALE

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

10°59'26.37"N

77°57'59.23"E

PLATE NO-IB

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:

S.F.NO : 1287/1(Part) & 1287/3
EXTENT : 1.80.0Hect
VILLAGE : PUNNAM
TALUK : PUGALUR
DISTRICT : KARUR

TOPO SHEET NO : 58-F/13

LATITUDE : 10°59'21.05"N to 10°59'26.37"N

LONGITUDE : 77°57'59.23"E to 77°58'3.34"E

MINE LEASE AREA

10KM RADIUS

CONVENTIONAL SYMBOLS

TOPOSHEET MAP
SCALE– 1:1,00,000

Prepared By:

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Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

K.T. Sathya

TOWARDS
PULLAIYAMPALAYAM10°59'26.37"N

77°57'59.23"E

T W. .DS
K.KALIPALAYAM

TOWARDS
PUNNANADUPPALAYAM

TOWARDS
KARUDAYAMPALAYAM

K T. Sathy

PLATE NO-IC

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:
S.F.NO : 1287/1(Part) & 1287/3
EXTENT : 1.80.0Hect
VILLAGE : PUNNAM
TALUK : PUGALUR
DISTRICT : KARUR

INDEX

MINE LEASE AREA	
SAFETY DISTANCE	
APPROACH ROAD	
CART ROAD	
VILLAGE ROAD	
100m RADIUS	
200m RADIUS	
300m RADIUS	
400m RADIUS	
500m RADIUS	
EXISTING PIT	

TOPO SHEET NO : 58-F/13

LATITUDE : 10°59'21.05"N to 10°59'26.37"N

LONGITUDE : 77°57'59.23"E to 77°58'3.34"E

SATELITE IMAGERY MAP

SCALE– 1:5000

Prepared By:

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RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

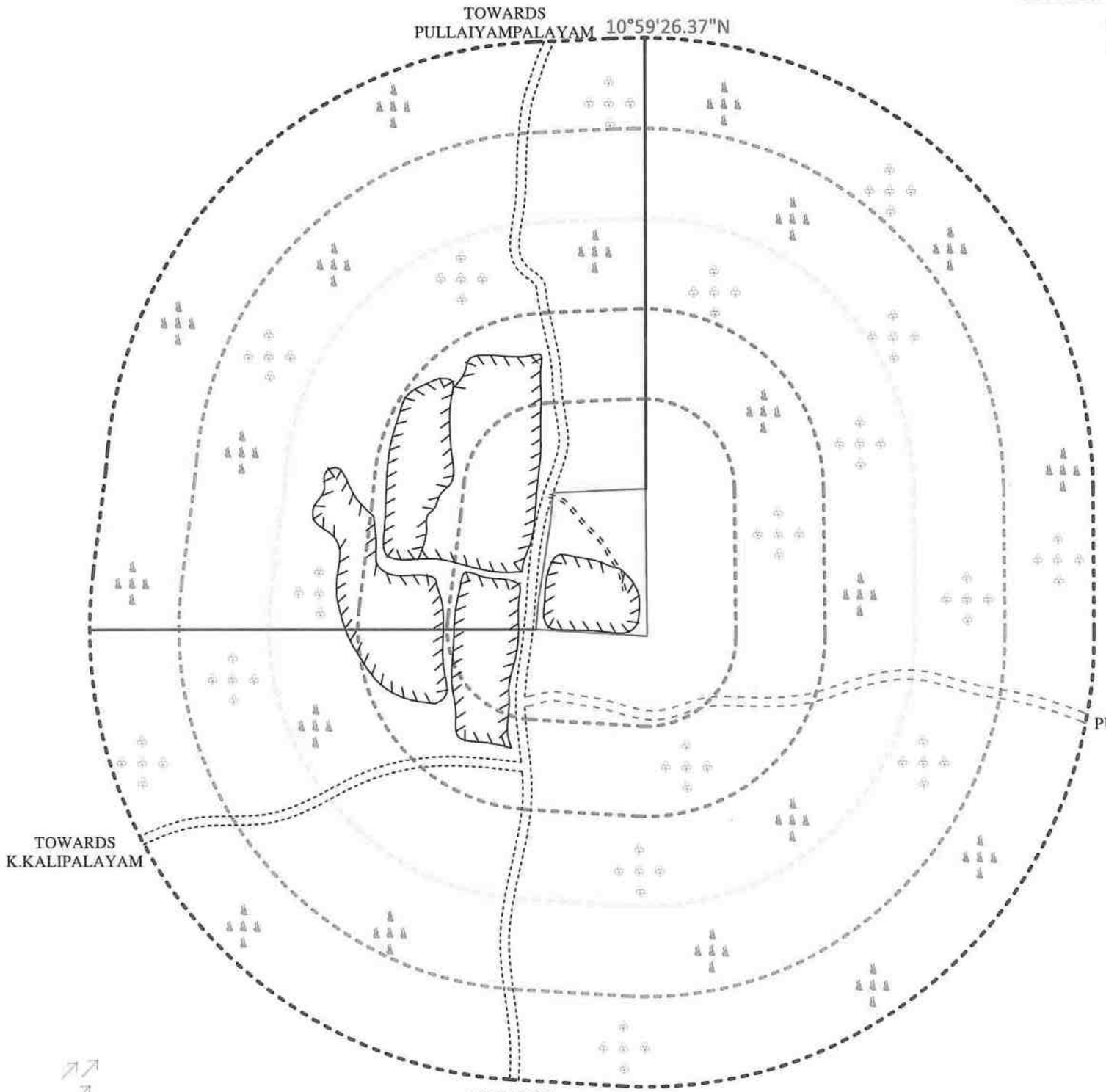

PLATE NO-ID

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:

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EXTENT	: 1.80.0Hect
VILLAGE	: PUNNAM
TALUK	: PUGALUR
DISTRICT	: KARUR

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- MINE LEASE AREA
- SAFETY DISTANCE
- APPROACH ROAD
- CART ROAD
- VILLAGE ROAD
- 100m RADIUS
- 200m RADIUS
- 300m RADIUS
- 400m RADIUS
- 500m RADIUS
- SHRUBS
- EXISTING PIT

TOPO SHEET NO : 58-F/13

LATITUDE : 10°59'21.05"N to 10°59'26.37"N

LONGITUDE : 77°57'59.23"E to 77°58'3.34"E

SATELITE IMAGERY MAP

SCALE– 1:5000

Prepared By:

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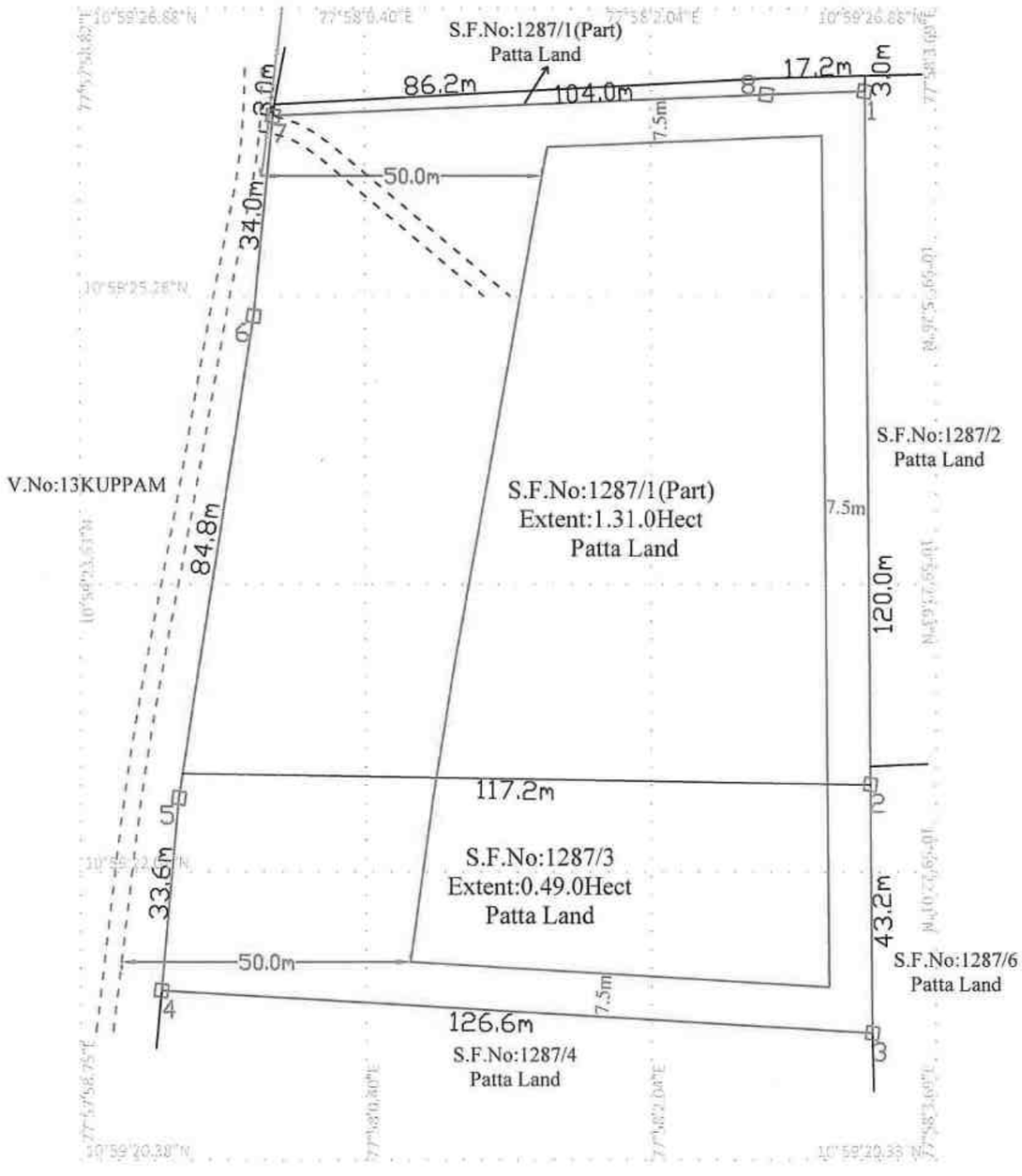
RQP/MAS/263/2014/A

K T. Sathya



PILLAR ID	LATITUDE	LONGITUDE
1	10°59'26.37"N	77°58'3.34"E
2	10°59'22.45"N	77°58'3.33"E
3	10°59'21.05"N	77°58'3.33"E
4	10°59'21.33"N	77°57'59.23"E
5	10°59'22.42"N	77°57'59.34"E
6	10°59'25.13"N	77°57'59.81"E
7	10°59'26.26"N	77°57'59.93"E
8	10°59'26.35"N	77°58'2.74"E

N

PLATE NO- II

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:
S.F.NO : 1287/1(Part) & 1287/3
EXTENT : 1.80.0Hect
VILLAGE : PUNNAM
TALUK : PUGALUR
DISTRICT : KARUR

INDEX

MINE LEASE BOUNDARY

SAFETY DISTANCE

APPROACH ROAD

BOUNDARY PILLAR STONES □1

EB LINE

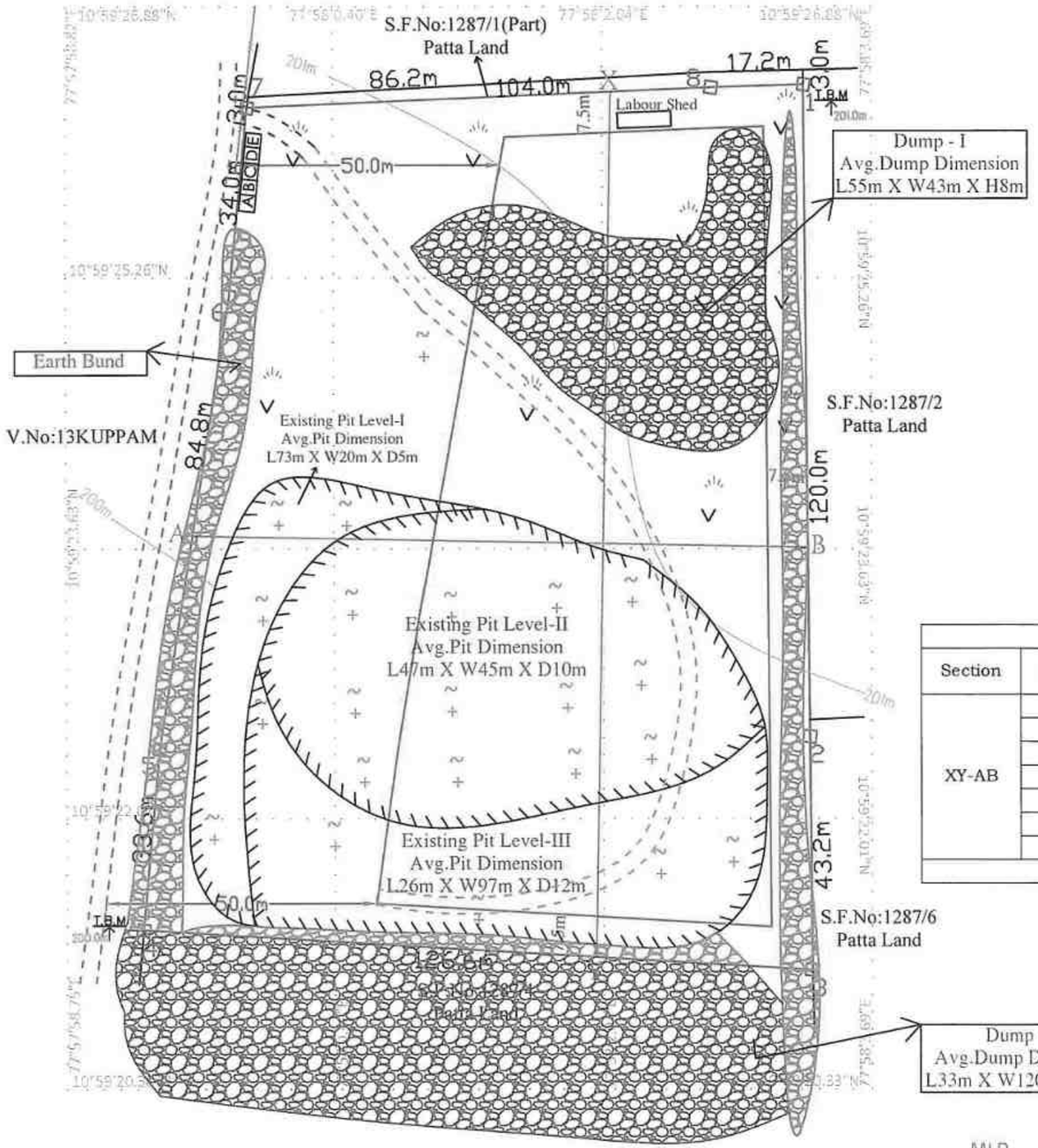
MINE LEASE PLAN
SCALE 1 : 1000

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

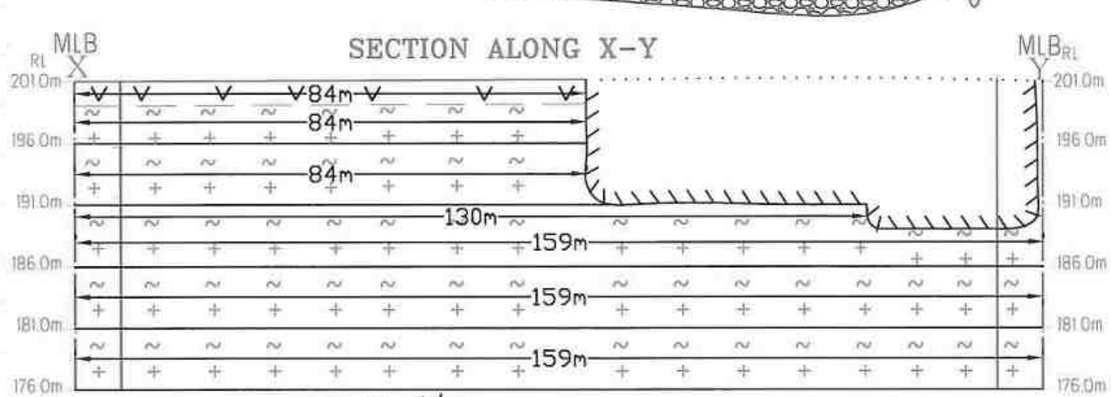
Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

K.T. Sathya



GEOLOGICAL RESOURCES

Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I	84	49	2	8232	.....	8232
	I	84	49	3	12348	12348	.....
	II	84	68	5	28560	28560	.....
	III	130	113	2	29380	29380	.....
	III	159	113	3	53901	53901	.....
	IV	159	113	5	89835	89835	.....
	V	159	113	5	89835	89835	.....
TOTAL				**25**	**312091**	**303859**	**8232**



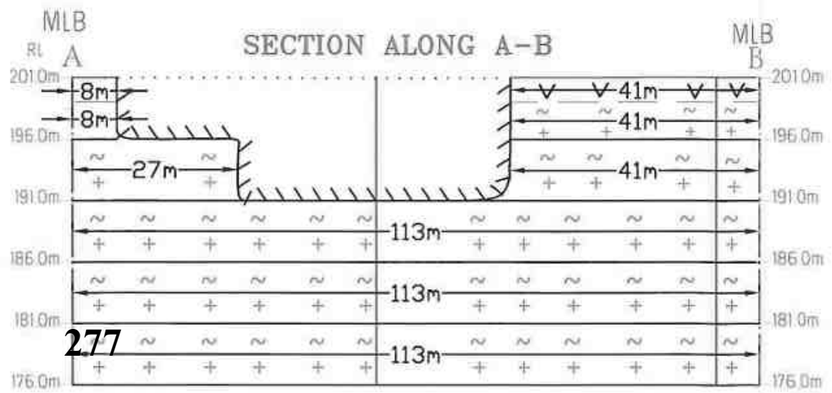


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PLATE NO- IH

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:

S.F.NO	: 1287/1(Part) & 1287/3
EXTENT	: 1.80.0Hect
VILLAGE	: PUNNAM
TALUK	: PUGALUR
DISTRICT	: KARUR

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- MINE LEASE BOUNDARY
- SAFETY DISTANCE
- APPROACH & MINE HAUL ROAD
- VILLAGE ROAD
- BOUNDARY PILLAR STONES
- ROUGH STONE
- GRAVEL
- SHRUB
- EXISTING PIT
- CONTOUR LINES
- TEMPORARY BENCH MARK
- EARTH BUND & DUMP
- EB LINE

SURFACE, GEOLOGICAL PLAN & SECTIONS

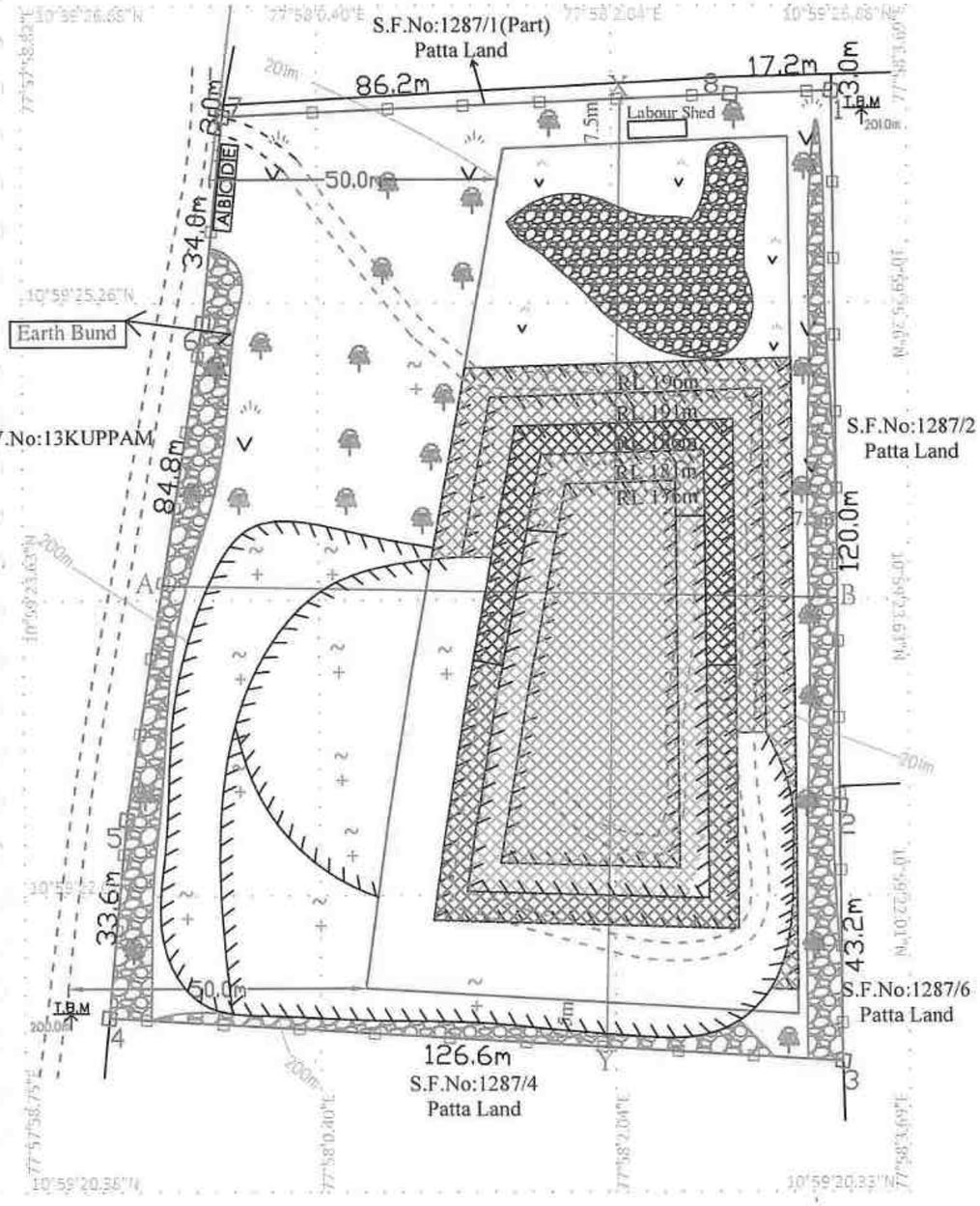
PLAN SCALE 1: 1000
SECTION HOR 1 : 1000 & VER 1: 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

A.T. Sathy

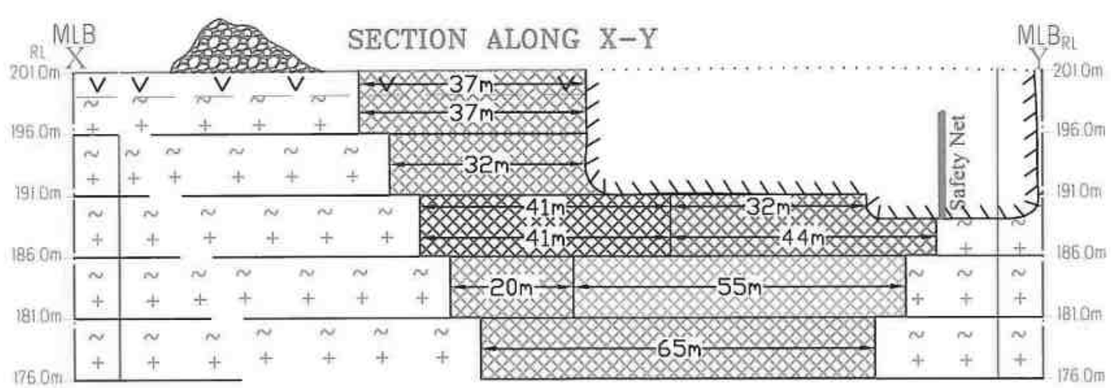


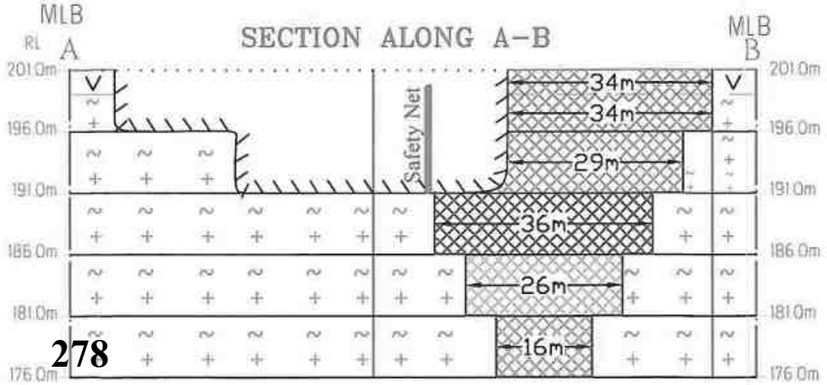
YEARWISE PRODUCTIONS								
Section	Year	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I-YEAR	I	37	34	2	2516	.....	2516
		I	37	34	3	3774	3774	.....
		II	32	29	5	4640	4640	.....
	TOTAL					**10930**	**8414**	**2516**
	II-YEAR	III	41	36	2	2952	2952	.....
		III	41	36	3	4428	4428	.....
	TOTAL					**7380**	**7380**	**0**
	III-YEAR	III	32	36	2	2304	2304	.....
		III	44	36	3	4752	4752	.....
	TOTAL					**7056**	**7056**	**0**
	IV-YEAR	IV	55	26	5	7150	7150	.....
	TOTAL					**7150**	**7150**	**0**
	V-YEAR	IV	20	26	5	2600	2600	.....
		V	65	16	5	5200	5200	.....
	TOTAL					**7800**	**7800**	**0**
	GRAND TOTAL					**40316**	**37800**	**2516**

A - OFFICE
B - STORE
C - FIRST AID
D - REST ROOM
E - TOILET + SEPTIC TANK

Plantation Proposed for I-Year

I - Year Proposed area to be Quarried
II - Year Proposed area to be Quarried
III - Year Proposed area to be Quarried
IV - Year Proposed area to be Quarried
V - Year Proposed area to be Quarried





T. Sathya

PLATE NO- IV

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:
S.F.NO : 1287/1(Part) & 1287/3
EXTENT : 1.80.0Hect
VILLAGE : PUNNAM
TALUK : PUGALUR
DISTRICT : KARUR

INDEX

- MINE LEASE BOUNDARY
- SAFETY DISTANCE
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- VILLAGE ROAD
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- ROUGH STONE
- GRAVEL
- SHRUB
- EXISTING PIT
- CONTOUR LINES
- TEMPORARY BENCH MARK
- EARTH BUND & DUMP
- EB LINE
- PROPOSED BENCH
- FENCING
- ULTIMATE BENCH

YEARWISE DEVELOPMENT, PRODUCTION PLAN & SECTIONS

PLAN SCALE 1: 1000
SECTION HOR 1 : 1000 & VER 1: 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
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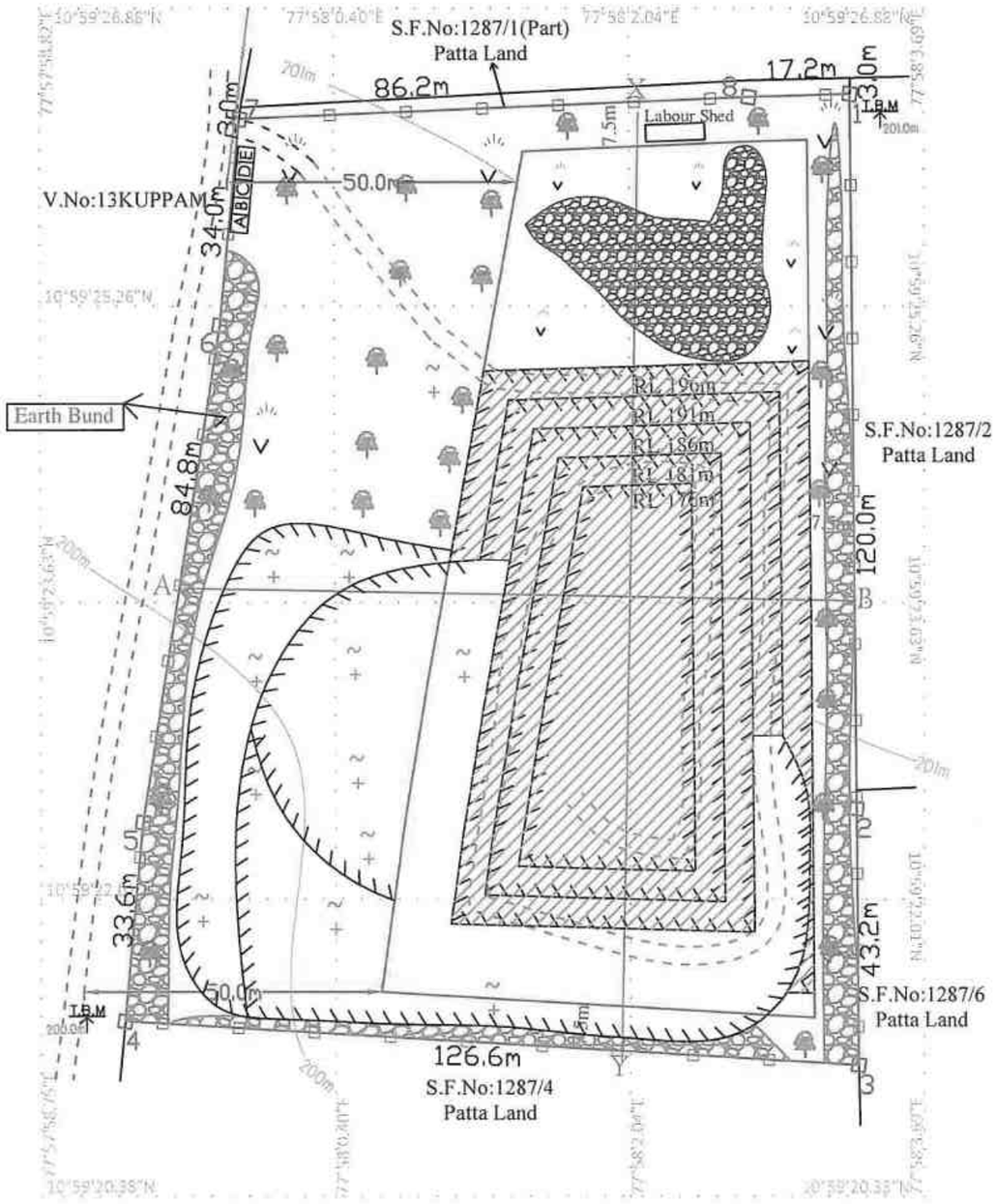

Plantation Proposed for 1-Year

A - OFFICE
B - STORE
C - FIRST AID
D - REST ROOM
E - TOILET + SEPTIC TANK

MINE LAYOUT LAND USE PATTERN

DESCRIPTION	PRESENT AREA (Hect)	AREA IN USE DURING THE QUARRYING PERIOD(Hect)	COLOR CODE
AREA UNDER QUARRYING	0.77.20	0.51.55	
INFRASTRUCTURE	NIL	0.02.0	ABICIDE
ROADS	0.03.0	0.06.0	
GREEN BELT & EARTH BUND	0.24.13	1.20.45	
UN-UTILIZED AREA	0.75.67	NIL	NIL
GRAND TOTAL	1.80.0	1.80.0	NIL

PLATE NO-V

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
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- CONTOUR LINES
- TEMPORARY BENCH MARK
- EARTH BUND & DUMP
- EB LINE
- PROPOSED BENCH
- FENCING

MINE LAYOUT PLAN AND LAND USE PATTERN
SCALE 1 : 1000

Prepared By:

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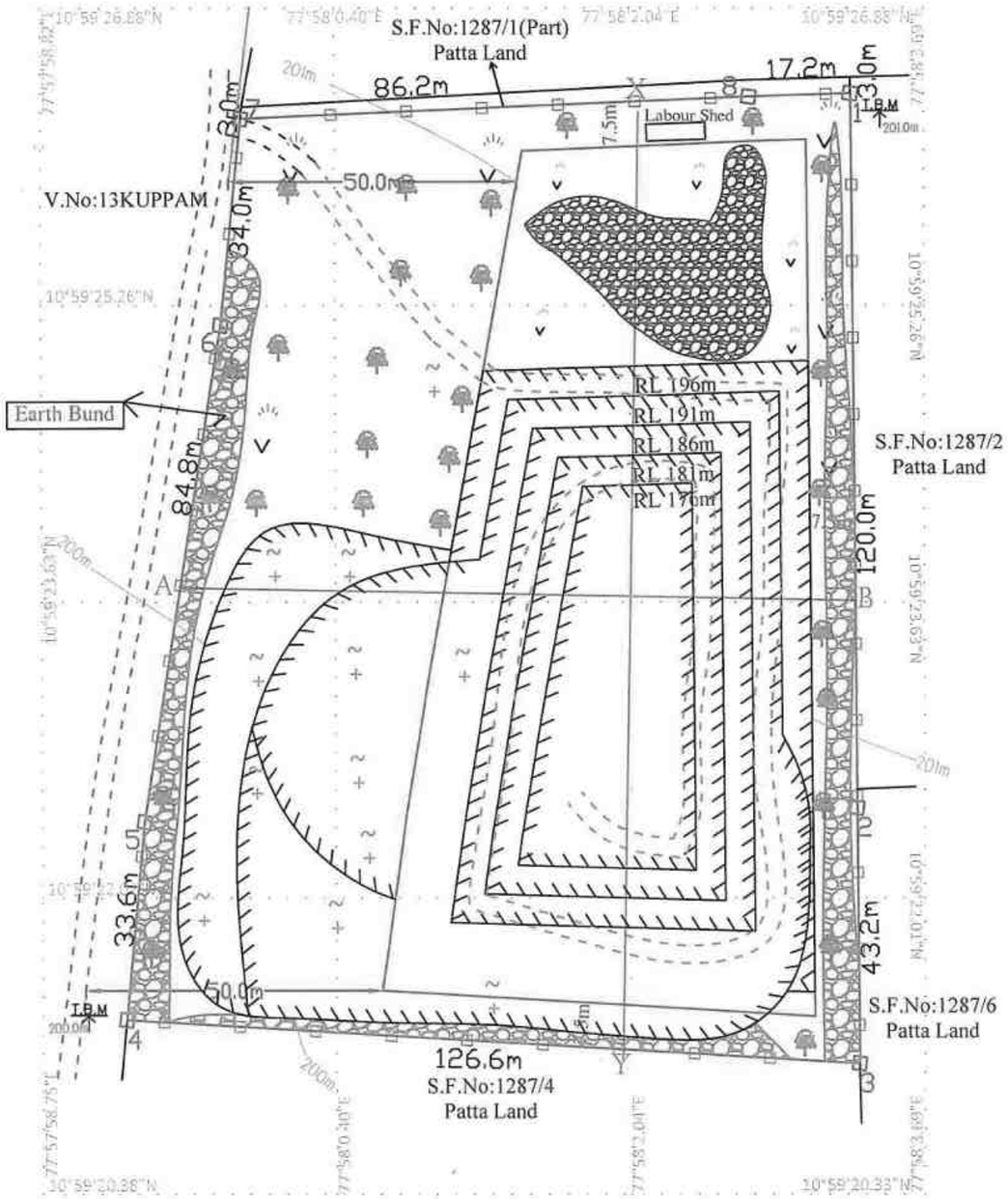
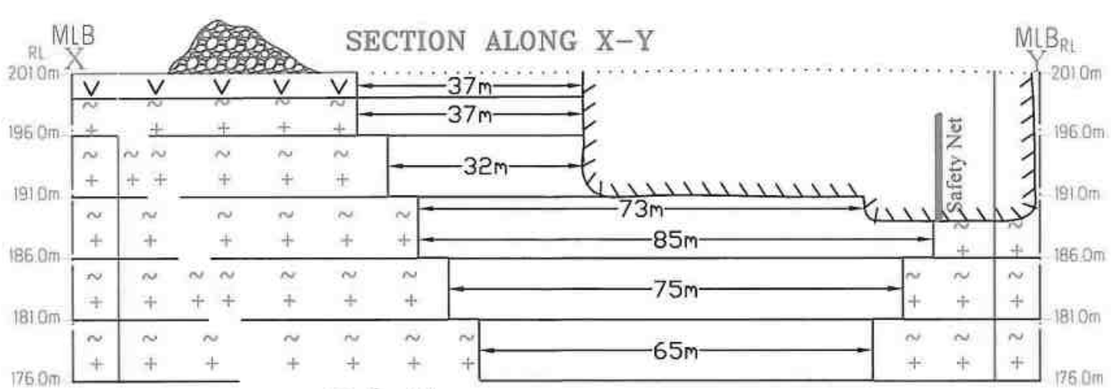
K.T. Sathya



PRODUCTION RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I	37	34	2	2516	.....	2516
	I	37	34	3	3774	3774	.....
	II	32	29	5	4640	4640	.....
	III	73	36	2	5256	5256	.....
	III	85	36	3	9180	9180	.....
	IV	75	26	5	9750	9750	.....
	V	65	16	5	5200	5200	.....
TOTAL				25	40316	37800	2516

A - OFFICE
B - STORE
C - FIRST AID
D - REST ROOM
E - TOILET + SEPTIC TANK

Plantation Proposed for I-Year



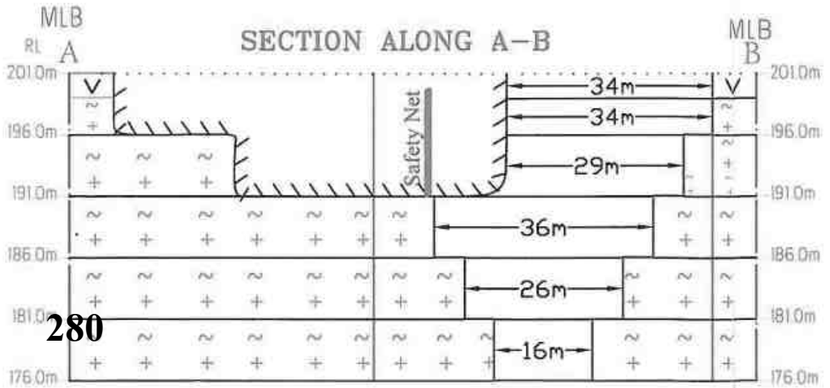


PLATE NO-VI

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:

S.F.NO	: 1287/1(Part) & 1287/3
EXTENT	: 1.80.0Hect
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TALUK	: PUGALUR
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- CONTOUR LINES
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- EARTH BUND & DUMP
- EB LINE
- PROPOSED BENCH
- FENCING
- ULTIMATE BENCH

PROGRESSIVE MINE CLOSURE PLAN& SECTIONS
PLAN SCALE 1 : 1000
SECTION HOR 1 : 1000 & VER 1: 500

Prepared By:

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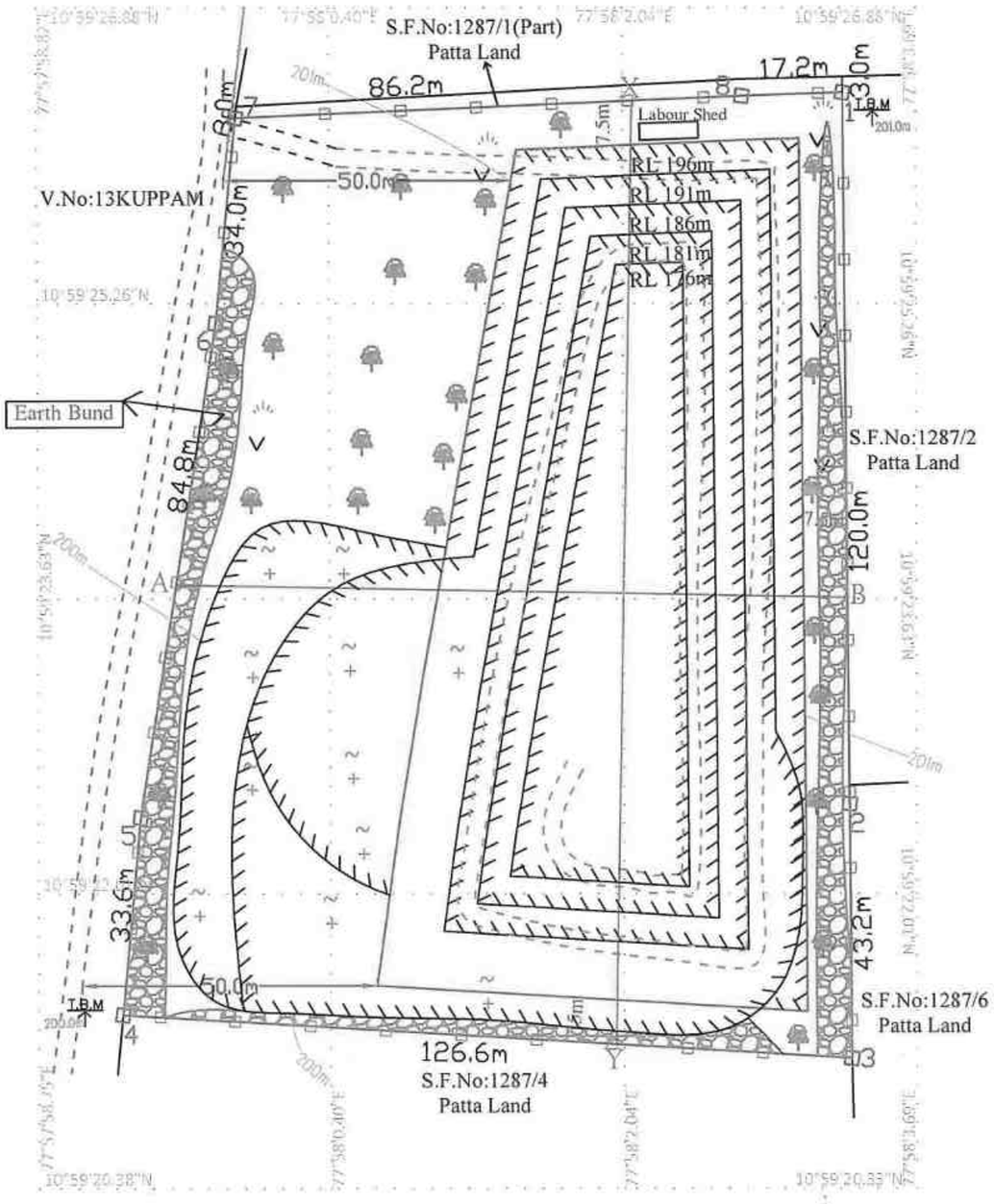
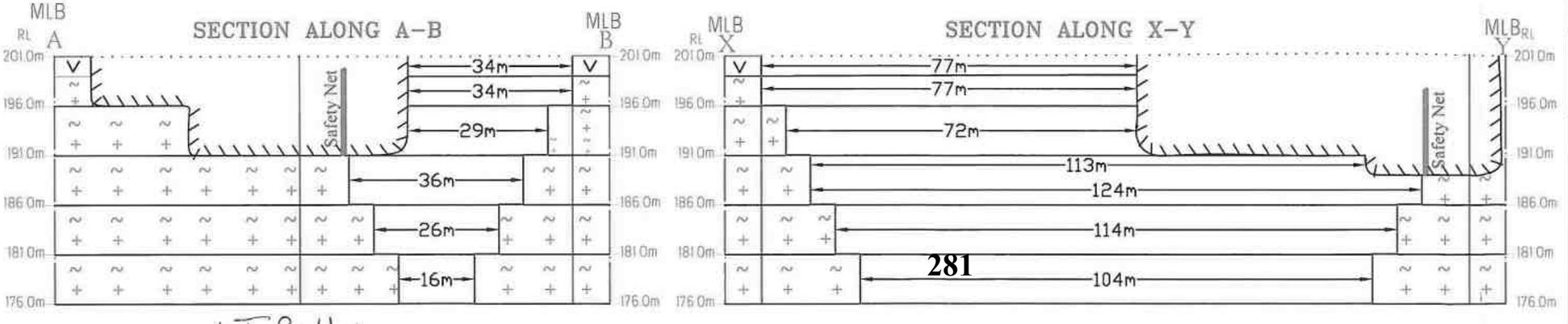
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A



MINEABLE RESERVES							
Section	Bench	Length in (m)	Width in (m)	Depth in (m)	Volume In M^3	Rough Stone in M^3	Gravel in M^3
XY-AB	I	77	34	2	5236	.....	5236
	I	77	34	3	7854	7854	.....
	II	72	29	5	10440	10440	.....
	III	113	36	2	8136	8136	.....
	III	124	36	3	13392	13392	.....
	IV	114	26	5	14820	14820	.....
	V	104	16	5	8320	8320	.....
TOTAL				**25**	**68198**	**62962**	**5236**

A - OFFICE
B - STORE
C - FIRST AID
D - REST ROOM
E - TOILET + SEPTIC TANK

Plantation Proposed for I-Year



T. Sathya

PLATE NO-VII

APPLICANT:
Mrs.T.SATHYA
W/o.THANGARASU,
D.No.2, MASAGOUNDANPUDHUR
PUNJAIPUGALUR SOUTH,
NANJAIPUGALUR, MOOLIMANGALAM,
PUGALUR TALUK,
KARUR DISTRICT.

LEASE APPLIED AREA:
S.F.NO : 1287/1(Part) & 1287/3
EXTENT : 1.80.0Hect
VILLAGE : PUNNAM
TALUK : PUGALUR
DISTRICT : KARUR

INDEX

- MINE LEASE BOUNDARY
- SAFETY DISTANCE
- APPROACH & MINE HAUL ROAD
- VILLAGE ROAD
- BOUNDARY PILLAR STONES
- ROUGH STONE
- GRAVEL
- SHRUB
- EXISTING PIT
- CONTOUR LINES
- TEMPORARY BENCH MARK
- EARTH BUND & DUMP
- EB LINE
- ULTIMATE BENCH
- FENCING

CONCEPTUAL PLAN & SECTIONS
PLAN SCALE 1: 1000
SECTION HOR 1 : 1000 & VER 1: 500

Prepared By:

I DO HEREBY CERTIFY THAT THE PLATE HAS BEEN CHECKED BY ME AND IS CORRECT TO THE BEST OF MY KNOWLEDGE

Dr.S.KARUPPANNAN,M.Sc.,Ph.D.
RECOGNIZED QUALIFIED PERSON
RQP/MAS/263/2014/A

சான்று

கரூர் மாவட்டம், புகளூர் வட்டம், 17, புன்னம்
கிராமம் புல எண்: 1278/1 part, 1287/3-ல்
(1.31.00) (0.49.0)
ஆகிய எண் மொத்தம் 1.80.0 ஹெக்டேர் பரப்பில்
பட்டா எண் 6624 படி [illegible]
சத்தியா என்பவருக்கு சொந்தமாக உள்ளது.
இந்நிலத்தில் கல்குவாரி [illegible] சாதாரண
கற்கள் வெட்டி எடுக்க குத்தகை உரிமம்
கோரி விண்ணப்பித்துள்ளனர். கல்குவாரி அமைய
இடம் [illegible]
சுற்றியும் 50 மீட்டர் சுற்றளவில், கிணறுகள்
அடிபம்புகள் இல்லை. சாலை வசதிகள்,
கிராம அமைப்புகள் மற்றும் வழிபாட்டு
தலங்கள் குடியிருப்புகள் இல்லை. மேலும் 50 மீ
இடைவெளியில் கேட்பு செய்த புல எண்களில்
சாதாரண கற்கள் வெட்டி எடுப்பதற்கு தடையில்லை.
மேலும் [illegible] 300 மீட்டர் சுற்றளவில்.
குடியிருப்புகள் உயர் மின் கோபுரங்கள் இல்லை
என்பதற்கு சான்று அளிக்கப்படுகிறது.

19/9/2023.

கிராம நிர்வாக அலுவலர்,
17. புன்னம் கிராமம்,
புகளூர் வட்டம்,
கரூர் மாவட்டம்.

Category of the Industry :

RED

CONSENT ORDER NO. 2208144806143 DATED: 13/04/2022.

PROCEEDINGS NO.F.0920KAR/RS/DEE/TNPCB/KAR/W/2022 DATED: 13/04/2022

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. T SATHYA ROUGH STONE QUARRY , S.F.No. 1287/1 & 1287/3, PUNNAM 4 PARTS village, Pugalur Taluk and Karur District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. CTO Proc. F.0920KAR/RS/DEE/TNPCB/KAR/W&A/2018 DATED: 03/10/2018.
2. Unit's application for RCO through OCMMS on 8/4/2022.
3. IR.No : F.0920KAR/RS/AEE/KAR/2022 dated 09/04/2022.

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietrix
M/s.T SATHYA ROUGH STONE QUARRY,
S.F.No. 1287/1 & 1287/3,
PUNNAM 4 PARTS Village ,
Pugalur Taluk ,
Karur District .

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending July 30, 2022

RAVICHANDRAN KANDASAMY
Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:55:13 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
	Product Details		
1.	Mining of Rough Stone over a Extent of 1.83 hectares lying in Latitude 10°59'26.39" to 10°59'21.09"and Longitude 77°58'59.89" to 77°58'03.2"	42254	cu.m over a period of Five Years

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	0.6	On Industrys own land
Effluent Type : Trade Effluent			

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall not generate trade effluent at any stage of its manufacturing process.
2. The unit shall treat and dispose the sewage generated from their premises through septic tank and soak pit arrangements.
3. The unit shall restrict the quarrying operations between 7 Am and 5 Pm.
4. No change in mining technology or scope of working shall be made without prior permission approval of the SEIAA,Chennai.
5. The unit shall comply with the conditions mentioned in the Environmental Clearance obtained from SEIAA vide Lr.No. SEIAA–TN/F-No 4274/1(a)/ EC.No 3883/ 2016 dated 5/6/2017.

RAVICHANDRAN KANDASAMY

Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:55:34 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

To
The Proprietrix,
M/s.T SATHYA ROUGH STONE QUARRY,
No.2,Masagoundenpudhur,
Punjai Pugalur South Village,
Pugalur Taluk,Karur District.,
Pin: 639113

Copy to:

1.The Commissioner, K.PARAMATHI-Panchayat Union, Pugalur Taluk, Karur District .

2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.

3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Salem for favour of kind information.

4. File

Category of the Industry :

RED

CONSENT ORDER NO. 2208244806143 DATED: 13/04/2022.

PROCEEDINGS NO.F.0920KAR/RS/DEE/TNPCB/KAR/A/2022 DATED: 13/04/2022

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT –M/s. T SATHYA ROUGH STONE QUARRY , S.F.No. 1287/1 & 1287/3, PUNNAM 4 PARTS village, Pugalur Taluk and Karur District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. CTO Proc. F.0920KAR/RS/DEE/TNPCB/KAR/W&A/2018 DATED: 03/10/2018.
2. Unit's application for RCO through OCMMS on 8/4/2022.
3. IR.No : F.0920KAR/RS/AEE/KAR/2022 dated 09/04/2022.

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietrix
M/s.T SATHYA ROUGH STONE QUARRY,
S.F.No. 1287/1 & 1287/3,
PUNNAM 4 PARTS village,
Pugalur Taluk,
Karur District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending July 30, 2022

RAVICHANDRAN KANDASAMY
Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:53:53 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
	Product Details		
1.	Mining of Rough Stone over a Extent of 1.83 hectares lying in Latitude 10°59'26.39" to 10°59'21.09"and Longitude 77°58'59.89" to 77°58'03.2"	42254	cu.m over a period of Five Years

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I	**Point source emission with stack :**			
Stack No.	**Point Emission Source**	**Air pollution Control measures**	**Stack height from Ground Level in m**	**Gaseous Discharge in Nm3/hr**
II	**Fugitive/Noise emission :**			
Sl. No.	**Fugitive or Noise Emission sources**	**Type of emission**	**Control measures**	
1.	Top Soil Removal	Fugitive	Water Sprinklers	
2.	Drilling Operations	Fugitive	Water injection	
3.	Blasting	Fugitive	Good blasting practices & Water Sprinklers	
4.	Loading,unloading and hauling	Fugitive	Water Sprinklers	
5.	Blasting	Noise	Good blasting practices	

Special Additional Conditions:

i. The unit shall install the approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.

ii. The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall operate all the APC measures continuously and efficiently so as to achieve the AAQ/Emission standards prescribed by the Board.
2. The unit shall adhere to Ambient Noise level standards prescribed by the Board.
3. The unit shall restrict the quarrying operations between 7 Am and 5 Pm.
4. No change in mining technology or scope of working shall be made without prior permission approval of the SEIAA,Chennai.
5. The unit shall comply with the conditions mentioned in the Environmental Clearance obtained from SEIAA vide Lr.No. SEIAA–TN/F-No 4274/1(a)/ EC.No 3883/ 2016 dated 5/6/2017.
6. The unit shall continue to develop green belt all along the boundary of the quarry lease area.
7. The unit shall not use "use and throwaway plastics' such as plastic sheets used for food wrapping , spreading on dining table etc., plastic plates , plastic coated tea cups, plastic tumbler , water pouches and packets, plastic straw, plastic carry bags and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm, stainless steel, glass, porcelain plates/cups/cloth bag, jute bag etc.,

RAVICHANDRAN KANDASAMY

Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:54:20 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

To
The Proprietrix,
M/s.T SATHYA ROUGH STONE QUARRY,
No.2,Masagoundenpudhur,
Punjai Pugalur South Village,
Pugalur Taluk,Karur District.,
Pin: 639113

Copy to:

1.The Commissioner, K.PARAMATHI-Panchayat Union, Pugalur Taluk, Karur District .

2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.

3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Salem for favour of kind information.

4. File

भारतसरकार
GOVERNMENT OF INDIA
पर्यावरण ,वनएवंजलवायुपरिवर्तनमंत्रालय
MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE
Regional Office/ क्षेत्रीय कार्यालय,
1st Floor, Additional Office Block for GPOA, Shastri Bhawan,
Haddows Road, Nungambakkam, Chennai – 600006

सत्यमेव जयते

EP/12.1/2023-24/SEIAA/91/TN 196 24.01.2024

To

The Member Secretary,
State Level Environment Impact Assessment Authority (SEIAA)
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai – 600 015.
Email- cmantnseiaa@yahoo.com

Subject: SEIAA - Proposed - Rough Stone - Quarry at S.F.No's. 1287/1 & 1287/3, Project extent. 1.83.0Hectares of Punnam Village – Aravakurichi Taluk - Karur District by Tmt.T.Sathya - Environmental Clearance – Reg.

Reference No: Lr. No. SEIAA-TN/F.No.4274/1(a)/Ec.No.3883/2016 Dated: 05.06.2017.
Letter dated Nil.

Sir,

Please find attached Inspection Report of a Rough stone quarry of Tmt. T. Sathya who have obtained Environmental Clearance from District Level Environmental Impact Assessment Authority (DEIAA), Salem District, Tamil Nadu for a Rough stone quarry over an extent of 1.83.0 Ha located in Punnam Village – Aravakurichi Taluk, Karur District.

2. This project was inspected by the undersigned on 29.08.2023 and on the day of inspection, it was noted that Quarry was not in operation due to expiry of EC validity.

3. This issues with the approval of the Competent Authority.

Yours faithfully,

C. Palpandi
24/01/2024

(Dr. C. Palpandi)
Scientist 'D'

Dr. C. Palpandi
Scientist 'D'
Government of India
Regional Office, MoEF&CC
Shastri Bhawan, Haddows Road,
Nungambakkam, Chennai - 600 006

Encl: As above.

Copy to:

1. Dr. Shruti Rai Bhardwaj, Scientist 'F' Monitoring Cell, IA Division, Indira Paryavaran Bhawan, MoEF&CC, Jorbagh Road, Aliganj, New Delhi – 110 003. Email- shruti.rai@nic.in
2. Regional Director, Central Pollution Control Board, Regional Directorate, Chennai, 77-A, Padi, Ambattur Industrial Estate, Chennai – 600 058. Email- vlaxmi.cpcb@nic.in
3. Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032. Email - memsec@tnpcb.gov.in
4. The District Collector, First Floor, Collectorate, Karur–639 007. Email: collrkar@nic.in.
5. Tmt.T.Sathya,No.2, Mesagoundenpudur, Punjai Pugalur (South) Village, Karur Taluk, Karur-639113.
6. Office copy/Guard file.

C. Palpandi

(Dr. C. Palpandi)
Scientist 'D'

Certified Compliance Report

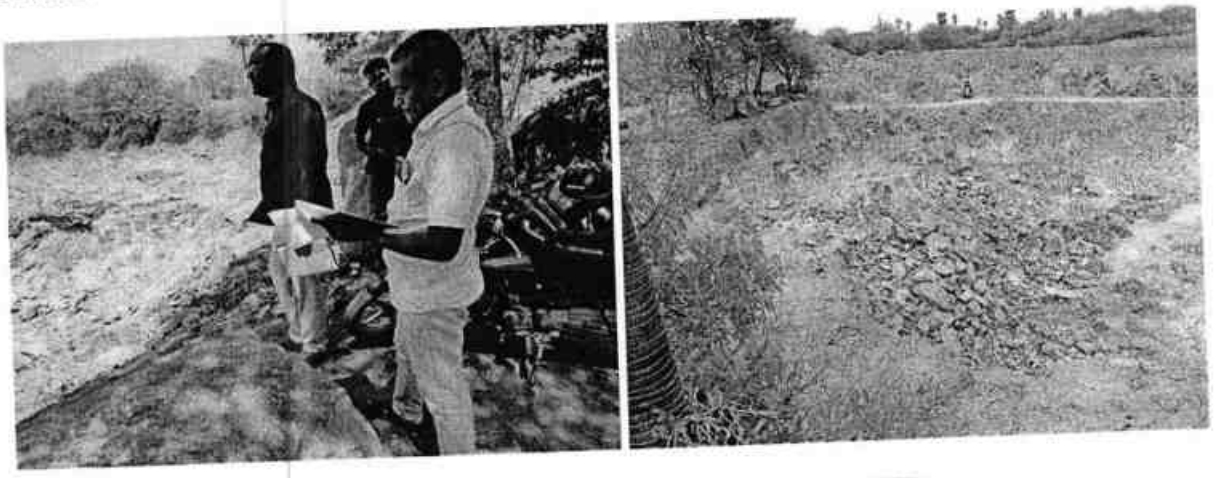
Subject: **SEIAA - Proposed - Rough Stone - Quarry at S.F.No's. 1287/1 & 1287/3, Project extent. 1.83.0Hectares of Punnam Village – Aravakurichi Taluk - Karur District by Tmt.T.Sathya - Environmental Clearance – Reg.**

EC Ref. No: **Lr. No. SEIAA-TN/F.No.4274/1(a)/Ec.No.3883/2016, Dated: 05.06.2017.**

Project Proponent:

Tmt. T. Sathya,
No.2, Mesagoundenpudur, Punjai Pugalur (South) Village,
Karur Taluk,
Karur-639113.

Present Status of the Project:



The State Level Environment Impact Assessment Authority (SEIAA) – Tamil Nadu accorded Environmental Clearance (EC) vide letter dated on 05.06.2017 to the Rough Stone Quarry of Tmt. T. Sathya, Punjai Pugalur (South) Village, Karur Taluk, Karur District, Tamil Nadu for the total Mine Lease (ML) Area of 1.83.0Ha of a depth of 14m below ground level. The method of mining is open cast, Semi-Mechanized mining. The project cost is Rs.22,50,000/- and the EMP cost is Rs. 3,50,000/-mentioned in EC. During the site visit, the quarry is not in operation. The depth of pit observed in the lease area is 12m below ground level. The present mining has not intersected the ground water table.

Environmental Clearance (EC) was issued by SEIAA –Tamil Nadu vide Lr. No. SEIAA-TN/F.No.4274/1(a)/Ec.No.3883/2016 Dated: 05.06.2017 and it is valid for 5 years from the execution of lease deed. The lease deed executed on 31.07.2017 for five years. The lease period expired on 30.07.2022. The Proponent informed that the mining work was stopped on 27.07.2022. Now, they had applied for fresh EC in SEIAA -TN.

The Project Proponent (PP) had obtained Consent to Operate (CTO) for Air and water vide proceedings No. F.0920KAR/RS/DEE/TNPCB/KAR/W&A/2018 DATED: 03/10/2018 from Tamil Nadu Pollution Control Board (TNPCB). The CTO is valid up to July 30, 2022.

In the view of the above, the Project Proponent had requested the Regional Office, Ministry of Environment, Forest & Climate Change, Chennai to provide Certified Compliance Report on the Environmental Clearance granted.

The above project was monitored on 29.08.2023 along with the Project Proponent. The status of compliance on the stipulated conditions contained in the EC cited above is given below Part III.

During the site visit, it was observed that the following non-compliances were observed.

(i) Benches not formed
(ii) No Green belt development
(iii) Environmental monitoring was not carried out
(iv) Free silica test was not conducted.
(v) Air sampling at intersection point was not carried out.
(vi) Dust extraction system was not provided
(vii) CSR activities was not undertaken
(viii) Solar light has not provided
(ix) Insurance to the workers was not provided
(x) No regular medical examination was not carried out
(xi) The proponent quarried rough stone in the safety zone allotted in the southern side of the lease area.

Date of Site inspection: **29.08.2023.**

PART – III

Environment Clearance Conditions:
Conditions to be Complied Before Commencing Mining Operations: -

S. No.	EC CONDITIONS	COMPLIANCE STATUS
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	The advertisements were given in two local newspapers (The New Indian Express & Dinamani) and the copies of Environment Clearance were submitted to TNPCB, Karur District.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	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.	Copy of Advertisement is at **Annexure-I.**
2.	Mining activity should be reviewed by the District Collector after three years and decide for further extension	No documents were produced during the site visit regarding reviewing of Mining activity by the District Collector.
3.	The Applicant has to obtain land use classification as industrial use before issue/ renewal of mining lease.	Land use classification not obtained by the proponent.
4.	NOC from the Standing committee of the NBWL shall be obtained, if protected areas are located within 10 Km from the proposed project site.	There is no Eco Sensitive areas, Protected areas as per Wildlife Protection Act, 1972 (Tiger reserve, Elephant reserve, Biospheres, National parks, Wildlife sanctuaries, community reserves and conservation reserves) available within 10 Km radius from the project site. Hence NBWL Clearance is not required.
5.	The project proponent shall comply the conditions laid down in the Section V, Rule 36 of Tamil Nadu Minor Minerals Concession Rules 1959.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
6.	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.	The proponent has not submitted copy of the environmental clearance letter to local panchayat. The proponent kept the environmental clearance at the site. The proponent could not display the letter in the website.
7.	Quarry lease area should be demarcated on the ground with wire fencing to show the boundary of the lease area on all sides	Boundary pillars were erected in the corners of the lease area. There is no barbed wire fence.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	with red flags on every pillar shall be erected before commencement of quarrying.	
8.	The proponent shall ensure that First Aid Box is available at site.	First Aid Box is available at the quarry site.
9.	The excavation activity shall not alter the natural drainage pattern of the area.	No alteration of drainage was observed in the lease area.
10.	The excavated pit shall be restored by the project proponent for useful purposes.	No restoration of the excavated pit proposed in mine closure plan. The recovery of Rough stone is 100%. The quarry pit will use for rainwater storage structure after the completion of quarry operation.
11.	The proponent shall quarry and remove only in the permitted areas as per the Approved Mining Plan details.	The proponent quarried rough stone in the allotted mine lease area was confirmed by the letter issued by Department of Geology and Mining, Karur District **Rc.No.494/Mines/2022, Dated 24.11.2023.** The letter is enclosed as **Annexure A**.
12.	The quarrying operation shall be restricted between 7AM and 5 PM.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
13.	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.	The mine was stopped the operation on 27.07.2022 and the site visit completed on 28.08.2023 i.e more than a year. Hence, this EC compliance could not be verified specifically.
14.	A minimum distance of 15 mts. From any civil structure shall be kept from the periphery of any excavation area.	During the site visit, it was observed that there is no civil structure located within 15m distance from periphery of the quarry.
15.	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.	The approved depth of the quarry in EC is 14m below ground level. As per the TWAD Board report 2022/mining plan, the Ground Water table is 70m in depth below ground level. At present the mining reached the depth of 12m BGL. Therefore, the mining activity has not intersected the ground water table.
16.	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	No Backfilling proposed in the approved mine closure plan. The recovery of Rough stone in the quarry pit is 100%. The mining will continue further.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	shall be strictly followed with back filling and tree plantation.	
17.	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.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
18.	Drilling and blasting shall be done only either by licensed explosive agent or by the proponent after obtaining required approvals from Competent Authorities.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
19.	The explosives shall be stored at site as per the conditions stipulated in the permits issued by the licensing Authority.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically. However, in the lease area it is observed that there is only one worker shed noticed and the photo of the shed is enclosed in the report. No explosives stored in the shed.
20.	Blasting shall be carried out after announcing to the public adequate through public address system to avoid any accident.	The mine workings stopped on 27.07.2022. Hence, this EC compliance could not be verified specifically.
21.	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.	No such study conducted to assess the optimum blast parameters.
22.	The Proponent shall take appropriate measures to ensure that the GLC shall comply with the revised NAAQ norms notified by MoEF, GoI on 16.11.2009.	The proponent submitted only one Ambient air quality monitoring result. As per the report, it is observed that the AAQ parameters are within the CPCB prescribed limits. The report is attached as **Annexure II.**
23.	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	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	regular interval on the main road and other service roads to suppress dust.	
24.	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.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
25.	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.	Only one report for monitoring of Ambient noise level through NABL accredited laboratory was submitted by the proponent. As per the report, the values are within the prescribed limits. Report is enclosed in **Annexure – II.**
26.	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.	The rain water is collected in the quarry pit during rainy season and allowed for percolation. This is helping to augment the ground water. However, they have not consulted RD, CGWB.
27.	Permission from the competent authority should be obtained for drawl of ground water if any, required for this project.	There is no water is required for this project. Hence, permission from the Competent Authority was not obtained for drawl of ground water.
28.	Topsoil if any, shall be stacked properly with proper slope with adequate measures and should be used for plantation purpose.	No topsoil is available in the lease area.
29.	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.	During the site visit, it was observed that the northern side of the lease area has a dump of 8m in height and in the Southern side has a dump of 3m height in the lease area. Retention wall is not constructed.
30.	Waste oils, used oils generated from the EM machines, mining operations,	During the site visit, no mining activity was carried out. Hence, this EC

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	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.	compliance could not be verified specifically.
31.	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.	The PP has not complied following EC conditions: (i) Benches not formed (ii) No Green belt development (iii) Environmental monitoring was not carried out (iv) Free silica test was not conducted. (v) Air sampling at intersection point was not carried out. (vi) Dust extraction system was not provided (vii) CSR activities was not undertaken (viii) Solar light has not provided (ix) Insurance to the workers was not provided (x) No regular medical examination was not carried out (xi) The proponent quarried rough stone in the safety zone allotted in the southern side of the lease area.
32.	Rain water harvesting to collect and utilize the entire water falling in land area should be provided.	Rain water harvesting structure had constructed in the lease area.
33.	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 rain water is collected in the quarry pit and used for dust suppression. No rain water is discharged directly to nearby stream or water body. Silt trap is not constructed in the lease area.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	the silt in the next season.	
34.	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.	The Proponent has not submitted any evidence to ensure this condition. The PP has submitted only one time water quality monitoring report that was conducted before stoppage of the mine through third party NABL accredited laboratory. Report is enclosed as **Annexure – II.**
35.	No tree-felling shall be done in the leased area, except only with the permission from competent Authority.	There is no tree was cut in the mining lease area.
36.	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.	The Proponent didn't take the mentioned studies through the involvement of a reputed academic Institution.
37.	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.	As per the 500m radius letter issued by the Deputy Director, Department of Geology and Mining. Karur District, the total extent of abandoned, expired and proposed quarries within 500m radius is 22.3Hectares. Letter is attached as **Annexure-III.**
38.	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 500 m radius from the periphery of the quarry site.	It was observed that there is no habitation within 300m radius from the periphery of the quarry site. However, in the northern side of the lease area, there is a temporary worker shed with water tank and at 200m radius there is a stone crushing unit with office is located. VAO letter is enclosed as **Annexure-IV.**

S. No.	EC CONDITIONS	COMPLIANCE STATUS
		There is no hindrance caused for public within 500m radius.
39.	Ground water quality monitoring should be conducted once in 3 months.	Proponent not conducted ground water monitoring once in 3 months.
40.	Transportation of the quarried materials shall not cause any hindrance to the Village people/Existing Village road.	The village road is located in the western side of the lease area and the proponent has left 10m safety distance for the road. The Proponent informed that the village road connects the Erode-Karur bypass road at 4km towards north. Advised the Proponent to follow the **Central Motor Vehicles Rules 1989** during transportation.
41.	Free Silica test should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.	Free silica test was not conducted.
42.	Air sampling at intersection point should be conducted and reported to TNPCB, Department of Geology and Mining and Regional Director, MoEF, GOI.	Air sampling at intersection point was not carried out.
43.	Bunds to be provided at the boundary of the project site.	Bunds provided all along the boundary of the lease area.
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 samplings should be planted on the bunds and other suitable areas in and around the work place.	Plantation/afforestation work of 400/Ha was not undertaken by the proponent. During the site visit it was observed that very few native trees such as Purusai and neem tree were grown around the lease area.
45.	At least 10 Neem trees should be planted around the boundary of the quarry site.	During the visit, it was observed that the PA has not planted 10 neem trees 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.	During the site visit, it was observed that benches were not developed in the quarry pit.
47.	The Project Proponent shall ensure a minimum of 2.5% of the annual turnover will be utilized for the CSR Activity	CSR activities were not carried out.
48.	The CSR funds should be channelized for planting programme, nature conservation support, tribal development and activities that support forest and environment.	CSR activities were not carried out.
49.	The Project Proponent shall provide solar	The Proponent has not provided solar

<table>
<tr><th>S. No.</th><th>EC CONDITIONS</th><th>COMPLIANCE STATUS</th></tr>
<tr><td></td><td>lighting system to the nearby villages.</td><td>lighting system to the nearby villages.</td></tr>
<tr><td>50.</td><td>The Project Proponent shall comply with the mining and other relevant Rules and Regulations where ever applicable.</td><td>During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.</td></tr>
<tr><td>51.</td><td>Rainwater shall be pumped out Via Settling Tank only.</td><td>Rainwater is pumped out via settling tank.</td></tr>
<tr><td>52.</td><td>Earthen bunds and barbed wire fencing around the pits with green belt all along the boundary shall be developed and maintained.</td><td>Earthen bund around the pits was constructed. Plantation/afforestation work of 400/Ha was not undertaken by the proponent. During site visit it was observed that very few native trees such as Purusai and Neem tree were grown the periphery of the lease area.</td></tr>
<tr><td>53.</td><td>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 10 Km from National Park and Sanctuaries.</td><td>Clearance from forestry and wildlife angle is not applicable to them due to following:

➢ No forest land is involved in their lease area.
➢ No wildlife sanctuary/critically polluted area/ecologically sensitive zone within 10 km from the boundary of the ML area.</td></tr>
<tr><td>54.</td><td>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.</td><td>As per the EC, the approved quantity is 42254 cu.m of rough stone.

Pit dimensions of the quarry:
<table>
<tr><th>Level</th><th>Length (M)</th><th>Width (M)</th><th>Depth (M)</th><th>Quantity</th></tr>
<tr><td>I</td><td>73</td><td>20</td><td>5</td><td>7300m^3</td></tr>
<tr><td>II</td><td>47</td><td>45</td><td>10</td><td>21150m^3</td></tr>
<tr><td>III</td><td>26</td><td>97</td><td>12</td><td>30264m^3</td></tr>
<tr><td colspan="4">Total</td><td>58714m^3</td></tr>
</table>
The AD letter states that the mining operation takes place in 2 spell each of 5 years before 2016. In the 3rd spell of 5 years (2016-2021) the Proponent quarried the quantity of 10956cu.m of rough stone up to a depth of min 5m & max. 12m below ground level in a lease area of 1.83.0ha. The same has verified in the letter issued by the D/o Geology & Mining is enclosed as Annexure A.</td></tr>
<tr><td>55.</td><td>Safety equipment's to be provided to all the employees.</td><td>During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.</td></tr>
</table>

S. No.	EC CONDITIONS	COMPLIANCE STATUS
56.	Safety distance of 50m has to be provided in case of railway, reservoir, canal/odai.	During the visit, it was observed that there is no water body, railway line, reservoir, canal/odai within 50m distance from the boundary of the lease area.
57.	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.	It is a manual mining. Therefore, no explosives were used for fragmentation of rocks.
58.	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.	The Proponent has not provided the documents regarding the baseline data covering the Air, Water, Noise quality and land environment before opening the mine.
59.	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 lease.	During the site visit it was noticed that the pillars were demarcated and the DGPS coordinates were written in each pillar.
60.	The proponent has to provide insurance protection to the workers in case of existing mining or provide the affidavit in case of fresh lease before commencing mining operation.	The Proponent has not provided insurance protection to the workers.
61.	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.	The name board showing the details of the project was displayed on the front of the quarry site.
62.	Heavy earth machinery equipment if utilized, after getting approval from the competent authority.	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
63.	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 forest and social forest, tree plantation and bio diversity, surrounding water bodies, etc	There is no reserve forest, social forest, tree plantation and bio diversity, water bodies periphery of 500m radius.
64.	The Project proponent is also directed to strictly adhere to the sustainable sand mining Management Guidelines, 2016, wherever applicable.	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
65.	The proponent shall provide Green Belt	Plantation/afforestation work of 400/Ha

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	development at the rate of not less than 400 trees/Hectare. The tree saplings shall be not less than 1m height.	was not undertaken by the proponent. During site visit it was observed that very few native trees such as Purusai and neem trees were grown around the periphery of the lease area.
66.	The quarrying activity in no way should disturb the Wildlife habitat, free migratory movement of the wildlife nor disturb the wildlife in any way.	The past mining activity has not disturbed the Wildlife habitat, free migratory movement of the Wildlife in any way as the land is barren fallow land and no reserve forests/sanctuaries located within 10km radius.

GENERAL CONDITIONS:

S. No.	EC CONDITIONS	COMPLIANCE STATUS
1.	EC is given only on the factual records, documents and the commitment furnished in non-judicial stamp paper by the proponent.	It was submitted that this condition is noted and assured to abide by this condition.
2.	The Proponent shall obtain the Consent for Establishment from the TNPC Board before commencing the activity.	Vide MoEF&CC O.M. No. 3-3/2019-IA-III dated 5.2.2020 and CPCB issued vide letter dated 02.02.2017 mentioned that all the projects requiring Environmental Clearance may be exempted from obtaining the Consent to Establish (CTE). Such projects may be directly granting Consent to Operate. However, the Proponent has obtained Consent to Operate (CTO) for air and water proc **F.0920KAR/RS/DEE /TNPCB/KAR/W&A/2018 DATED: 03/10/2018** from Tamil Nadu Pollution Control Board (TNPCB). The CTO is valid up to July 31st 2022. Copy is attached as **Annexure-V.**
3.	No change in mining technology and scope of working should be made without prior approval of the SEIAA, Tamil Nadu.	There is no change in mining technology and scope of working.
4.	No change in the calendar plan including excavation, quantum of mineral (minor mineral) should be	There is no change in the calendar plan including excavation, quantum of mineral (minor mineral) made.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	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.	During the site visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
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.	During the site visit, it was observed that there is no rainwater stagnant inside the mine pit. The traces of discharge and percolation pond observed. Water borne disease not arise in the mine.
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.	A berm had left around the lease area from the boundary of adjoining field.
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.	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
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.	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
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.	It was submitted that this condition is noted and assured to abide by this condition.
11.	All Personnel shall be provided with protective respiratory devices including safety shoes, Masks, gloves etc. Supervisory people should be	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	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.	No Regular medical examinations of the workers are carried out and records are not submitted at the time of inspection.
13.	Workers/labourer shall be provided with facilities for drinking water and sanitation facility for Female and Male separately.	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
14.	The project proponent shall ensure that child labour is not employed in the project as per the sworn affidavit furnished.	During the visit, no mining activity was carried out. Hence, this EC compliance could not be verified specifically.
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 Ministry of Environment and Forest and its Regional Office located at Chennai.	An amount of Rs.2,50,000/- spent for Environmental management purposes. However, no EMP account/records /bills/auditor statement not submitted to RO, MoEF&CC, Chennai and also during the site inspection.
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.	The Proponent has obtained following Clearances: 1. Consent to Operate from TNPCB 2. Extent Certificate obtained from Mines and Geology, TN
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	The Proponent has obtained following Clearances: 1. Consent to Operate from TNPCB 2. Extent Certificate obtained from Mines and Geology, TN

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	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.	There is no additional condition proposed.
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, Tamil Nadu that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.	It was submitted that this condition is noted and assured to abide by this condition.
20.	Failure to comply with any of the conditions mentioned above may result in with drawl of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986	The PP has not complied following EC conditions: (xii) Benches not formed (xiii) Green belt development (xiv) Free silica test was not conducted. (xv) Air sampling at intersection point was not carried out. (xvi) Environmental monitoring (xvii) Dust extraction system (xviii) CSR activities (xix) Solar light (xx) Insurance to the workers (xxi) No regular medical examination (xxii) The proponent quarried rough stone in the safety zone allotted in the southern side of the lease.
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	The rules are amended time to time. However, the changes not alter this roughstone quarry hence it comes under minor mineral.

S. No.	EC CONDITIONS	COMPLIANCE STATUS
	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.	No such conditions prescribed for this mine by the Statutory/Government authorities.
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 National Green Tribunal Act, 2010.	There is no appeal lying with National Green Tribunal (NGT) against this Environmental Clearance as on date.

This has the approval of the Competent Authority vide diary No. 223054 dated 24.01.2024.

C. Palpandi

(Dr. C. Palpandi)
Scientist 'D'

Dr. C. Palpandi
Scientist 'D'
Government of India
Regional Office, MoEF&CC
Shastri Bhawan, Haddows Road,
Nungambakkam, Chennai - 600 006

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THE NEW INDIAN EXPRESS REGION
WEDNESDAY 19.07.2017
04 TRICHY

NOTICE

This is inform that Environmental Clearance has been granted by the State Level Environmental Impact Assessment Authority, Tamilnadu to **Thiru S. Nallasamy, Punnam Kadapalayam, Punnam Post, Aravakurichi Taluk, Karur District - 639 136** for Rough Stone quarrying in the below mentioned Rough Stone Quarry. Copies of the Clearance Letters available in the State Level Environment Impact Assessment Authority Tamilnadu. It may also be seen at website address of the

SEIAA,TN at http://seiaa.tn.gov.in

Name of the Quarry	SEIAA Letter No.
Karur District, Aravakurichi Taluk, Punnam Village, S.F. No. 530 (P) - 1.520 Ha	Lr. No. SEIAA - TN / F.No. [illegible] / 1 (a) / Ec. No. [illegible] / 2016, Dated : 09.06.2017

Thiru S. NALLASAMY
Punnam Kadapalayam, Punnam Post, Aravakurichi Taluk,
KARUR DISTRICT - 639 136

NOTICE

This is inform that Environmental Clearance has been granted by the State Level Environmental Impact Assessment Authority, Tamilnadu to **Tmt. T. Sathya, No. 2, Mesagoundenpudhur, Punjai Pugalur (South) Village, Karur Taluk, Karur - 639 113** for Rough Stone quarrying in the below mentioned Rough Stone Quarry. Copies of the Clearance Letters available in the State Level Environment Impact Assessment Authority Tamilnadu. It may also be seen at website address of the

SEIAA,TN at http://seiaa.tn.gov.in

Name of the Quarry	SEIAA Letter No.
Karur District, Aravakurichi Taluk, Punnam Village, S.F. No. 1257/1 & 1257/3 (Patta Land) - 1.833 Ha	Lr. No. SEIAA - TN / F.No. 4274 / 1 (a) / Ec. No. 3683 / 2016, Dated : 06.04.2017

Tmt. T. SATHYA,
No. 2, Mesagoundenpudhur, Punjai Pugalur (South) Village,
Karur Taluk, Karur - 639 113

NOTICE

This is inform that Environmental Clearance has been granted by the State Level Environmental Impact Assessment Authority, Tamilnadu to **Thiru K. Thangarasu, Asthur, Manmangalam Taluk, Karur District - 639 002** for Rough Stone quarrying in the below mentioned Rough Stone Quarry. Copies of the Clearance Letters available in the State Level Environment Impact Assessment Authority Tamilnadu. It may also be seen at website address of the

SEIAA,TN at http://seiaa.tn.gov.in

Name of the Quarry	SEIAA Letter No
Karur District, Kadavur Taluk, Manjanaickenpatty Village, S.F. No. 514/1A, 514/1B, 621/1B, 621/2B & 621/4B (Patta Land) - 4.33.5 Ha	Lr. No. SEIAA - TN / F.No. 4044/ 1 (A) / Ec. No. 3652 / 2015, Dated : 31.05.2017

Thiru K. THANGARASU,
Aathur, Manmangalam Taluk, Karur District - 639 002

PORATION
CONTRACTORS

DATE AND TIME AT WHICH TENDERS WILL BE OPENED AT TNCSC HEAD OFFICE
FCI 04.08.2017 04.30 P.M.
Non FCI (INT) 04.08.2017 04.30 P.M.
Non-FCI (EXT) 04.08.2017 11.30 P.M.

Annexure-II

ACCURACY ANALABS

(NABL Accreditation Laboratory)

(An ISO 9001: 2015 Certified Laboratory)

Show the Hidden

TC-6429

TEST REPORT

Issued to :	**Tmt.T.Sathya,** W/o. Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South, Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District- 639 113.		
Sample Description :	**Ambient Air Quality – AAQ1**	Report No	**TC642922000000326F**
Sample drawn By :	M/s.Accuracy Analabs, Dindigul.	Sampling date & time	14.07.2022 - 24 Hourly sampling
Sampling Method :	SOP No. AAL/EM/16/22-23.	Test commenced on	15.07.2022
Report date :	19.07.2022	Test completed on	19.07.2022
Instrument Used :	Respirable Dust Sampler & Fine Particulate Sampler		
Ambient Temperature:	Min - 24.0°C, Max - 35.0°C	Relative Humidity :	Min - 58%, Max - 71%

S. No.	Parameters	RESULT	Unit	Test Methods	NAAQ Standards
		Core Area (Lease Area)			
1	Sulphur Dioxide (SO_2)	18.2	µg/m^3	IS: 5182(P-2) Reaff:2017	80
2	Nitrogen Dioxide (NO_2)	21.6	µg/m^3	IS: 5182(P-6) Reaff:2017	80
3	PM_{10}	59	µg/m^3	IS: 5182(P-23) Reaff:2017	100
4	$PM_{2.5}$	39	µg/m^3	IS: 5182(P-24) Reaff:2019	60
5	RSPM	145	µg/m^3	IS: 5182(P-23) Reaff:2017	500

Note: PM_{10}-Particulate Matter <=10 microns, $PM_{2.5}$-Particulate Matter <=2.5 microns, µg/m^3- Micrograms per cubic meter, mg/m^3 - Milligrams Per cubic meter, ppm - Parts per million ,RSPM-Raspirable Particulate Matter.

*** End of Report**

Authorized Signatory

ACCURACY ANALABS DINDIGUL

Head Office: No.7A, 17 Sri Sakthi Vinayagar Complex, Ramalakshmi Nagar Extn, Dindigul – 624 004
Mobile: +91 – 95895 54854, 99448 09484, E-mail: accuracyanalabs@gmail.com
Collection Center: Chennai, Madurai, Trichy.

ACCURACY ANALABS

(NABL Accreditation Laboratory)

(An ISO 9001: 2015 Certified Laboratory)

Show the Hidden

TC-6429

TEST REPORT

Issued to :	**Tmt.T.Sathya,** W/o. Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South, Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District- 639 113.		
Sample Description :	**Noise Level data – Day Time**	Report No	**TC642922000000327F**
Sample drawn By :	M/s. Accuracy Analabs, Dindigul.	Sampling date & time	14.07.2022
Sampling Method :	SOP No: AAL/EM/16/22-23.	Test commenced on	15.07.2022
Report date :	19.07.2022	Test completed on	19.07.2022
Instrument Used :	Noise Level Meter with accessories		

Sl. No.	Location name	Mean Leq. Noise Level, dB(A)			
		Min	Max	Avg	CPCB Norms
1	Core Area	46.2	53.4	49.8	**75.0 dB(A)**
Sound Level Meter serial number		**SL-4001-1224321**			

*** End of Report***

Authorized Signatory

ACCURACY ANALABS DINDIGUL

Head Office: No.7A, 17 Sri Sakthi Vinayagar Complex, Ramalakshmi Nagar Extn, Dindigul – 624 004
Mobile: +91 – 95895 54854, 99448 09484, E-mail: accuracyanalabs@gmail.com
Collection Center: Chennai, Madurai, Trichy.

ACCURACY ANALABS

(NABL Accreditation Laboratory)

(An ISO 9001: 2015 Certified Laboratory)

Show the Hidden

TC-6429

TEST REPORT

Issued to :	**Tmt.T.Sathya,** W/o. Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South, Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District- 639 113.		
Sample Description :	**Noise Level data – Night Time**	Report No	TC642922000000328F
Sample drawn By :	M/s. Accuracy Analabs, Dindigul.	Sampling date & time	14.07.2022
Sampling Method :	SOP No: AAL/EM/16/22-23.	Test commenced on	15.07.2022
Report date :	19.07.2022	Test completed on	19.07.2022
Instrument Used :	Noise Level Meter with accessories		

Sl. No.	Location name	Mean Leq. Noise Level, dB(A)			
		Min	Max	Avg	CPCB Norms
1	Core Area	39.6	44.2	41.9	70.0 dB(A)
Sound Level Meter serial number		SL-4001-1224321			

*** End of Report***

Authorized Signatory

ACCURACY ANALABS DINDIGUL

Head Office: No.7A, 17 Sri Sakthi Vinayagar Complex, Ramalakshmi Nagar Extn, Dindigul – 624 004
Mobile: +91 – 95895 54854, 99448 09484, E-mail: accuracyanalabs@gmail.com
Collection Center: Chennai, Madurai, Trichy.

ACCURACY ANALABS

(NABL Accreditation Laboratory)

(An ISO 9001: 2015 Certified Laboratory)

Show the Hidden

TC-6429

CHEMICAL TEST REPORT

WATER ANALYSIS

Report No : TC642922000000329F

Customer Name & Address

Tmt.T.Sathya,
W/o. Thangarasu,
Door No.2, Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk, Karur District- 639 113.

Report Date	:	19.07.2022
Sample Ref. No.	:	AAL/WR/329/22-23
Sample Description	:	Borewell Water
Sample Drawn By	:	Customer
Sample Collected Date	:	14.07.2022
Quantity of Sample	:	2 lit
Sample Received on	:	15.07.2022
Test Commenced on	:	19.07.2022
Test Completed on	:	19.07.2022

Sl. No.	PARAMETER(s)	TEST METHOD	UNIT	ACCEPTABLE LIMITS AS PER IS10500:2012	PERMISABLE LIMITS AS PER IS10500:2012	RESULT
1	Colour	IS 3025 Part 4:1983	Hazen	5	15	<0
2	Odour	IS 3025 Part 5 :1983	Odourless	Agreeable	Agreeable	Odourless
3	p^H @25°C	IS 3025 Part 11 :1983	-	6.5-8.5	No relaxation	7.54
4	Total Dissolved Solids @180°C	IS 3025 Part 16 :1984	mg/l	500	2000	472
5	Total Hardness (as CaCO3)	IS 3025 Part 21 :2009	mg/l	200	600	164
6	Calcium Hardness	IS 3025 Part 40 :1991	mg/l	-	-	154
7	Magnesium Hardness	IS 3025 Part 46 :1994	mg/l	-	-	72
8	Calcium (as Ca)	IS 3025 Part 40:1991	mg/l	75	200	51
9	Magnesium (as Mg)	IS 3025 Part 46 :1994	mg/l	30	100	21
10	Chloride (as Cl)	IS 3025 Part 32 :1988	mg/l	250	1000	93
11	Total Alkalinity (as CaCO3)	IS 3025 Part 23 :1986	mg/l	200	600	141
12	Sulphate (as So_4)	IS 3025 Part 24 :1986	mg/l	200	400	52
13	Turbidity	IS 3025 Part 10 :1984	NTU	1.0	5	<1.0

BIOLOGICAL TEST REPORT

Sl. No.	PARAMETER(s)	TEST METHOD	UNIT	Limits	RESULT	Sl. No.
14	E.coli	IS 1622:1981	MPN/100ml	1600	9	9
15	Coliform	IS 1622:1981	MPN/100ml	1600	14	14

*** End of Report***

AUTHORIZED SIGNATORY

Note: This report relates only to the particular sample submitted for test. Any correction not approved by us invalidates this report. This report shall not be reproduced except in full without our written approval. Samples are not drawn by us unless otherwise stated. Retained period of tested samples 15 days only unless otherwise

Head Office: No.7A, 17 Sri Sakthi Vinayagar Complex, Ramalakshmi Nagar Extn, Dindigul – 624 004
Mobile: +91 – 95895 54854, 99448 09484, E-mail: accuracyanalabs@gmail.com
Collection Center: Chennai, Madurai, Trichy.

Annexure-III

From
Dr.P.Jayapal, M.Sc., Ph.D.,
Deputy Director,
Geology and Mining,
Karur.

To
Tmt.T.Sathya,
W/o.Thangarasu,
Door No.2,
Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur,
Moolimangalam,
Pugalur Taluk,
Karur District.

Rc.No.494/Mines/2022, Dated:28.08.2023

Sir,

Sub: Mines and Minerals – Minor Mineral – Karur District – Pugalur Taluk – Punnam Village - S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) Over an extent 1.80.0 hectares - Quarry lease application for Rough Stone and Gravel – Preferred by Tmt.T.Sathya, – Mining Plan approved - requested for the details of Existing/ proposed/ abandoned quarries situated within 500 mts radial distance - furnished – Regarding.

Ref:
1. Quarry lease application for Rough stone and Gravel preferred by Tmt.T.Sathya, W/o.Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District dated:29.09.2022.
2. Precise Area Communication Memorandum Rc.No.494/Mines/2022, Dated:24.07.2023
3. Mining Plan submitted by Tmt.T.Sathya letter Dated: 08.08.2023
4. The Deputy Director, Geology and Mining, Karur letter Rc.No.494/Mines/2022, Dated:11.08.2023
5. Tmt.T.Sathya, letter dated:18.08.2023

In the reference 1st cited, Tmt.T.Sathya has applied quarry lease for quarrying Rough stone and Gravel in S.F.Nos.1287/1(Part) (1.31.00 hectares) and 1287/3(0.49.0 hectares) Over an extent 1.80.0 hectares of patta land in Punnam Village, Pugalur Taluk, Karur District. The

Deputy Director of Geology and Mining, Karur had issued precise area Memorandum to the proposed lease area vide reference 2nd cited.

Accordingly, the applicant has submitted the 3 copies of draft Mining Plan and the same was approved by the Deputy Director, Geology and Mining, Karur vide reference 4th cited.

In the reference 5th cited, the applicant has requested the Deputy Director of Geology and Mining, Karur to provide the details of existing, proposed and abandoned quarries situated within 500 meter radial distance from subject area and the same has been furnished as follows:-

I. Existing Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	--- Nil--					

II. Proposed Quarries: -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	Tmt.T.Sathya, W/o.Thangarasu, Door No.2, Masagoundanpudhur, Punjaipugalur South Nanjaipugalur, Moolimangalam, Pugalur Taluk, Karur District	Rough Stone & Gravel	Pugalur Taluk Punnam Village,	1287/1 (P) 1287/3	1.80.0	Proposed Area
2	Thiru.P.Devaraj, S/o.Pitchaimuthu, Pullaiyampalayam, Punnamchatram Post, Pugalur Taluk, Karur District	Rough Stone & Gravel	Pugalur Taluk Punnam Village,	104/1 105/2 105/1A(P) 104/2B1(P) 104/2A(P)	2.27.50	Adjacent area applied for quarry lease
3	Thiru.N.Sakthivel, S/o.Nallappagounder, Andipatty, Karudaiyampalayam, Kuppam village, Pugalur Taluk, Karur District.	Rough Stone & Gravel	Pugalur Taluk Punnam Village,	105/1B(P) 112/1A 112/2A	3.87.00	Adjacent area applied for quarry lease

III. Lease Expired Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
	R.Natrayan S/o. Ramasamy Gounder Suriyampalayam Karudaiyampalayam Aravakurichi Taluk Karur District.	Rough Stone	Pugalur Taluk, Kuppam	112/1B 112/2B 112/3	**1.45.5**	06.09.2017 to 05.09.2022
	Thiru.M.Arunachalam, S/o.Marnappan, Kariyam Patty, Punnam Village, Aravakurichi Taluk, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	104/2B2, 104/2B3	**1.37.5**	21.2.2018 to 20.2.2023

IV. Abandoned Quarries : -

Sl No.	Name of the lessee/firm it holder	Name of the Mineral	Taluk & Village	S.F.No.	Extent (hect)	Lease Period
1	K.Ponnusamy S/o.Karuppan Athipalayam Aravakurichi Taluk, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	108/2	**2.83.0**	5.5.2006 to 4.5.2011
2	R.Murugesan S/o.Raman Vadamalaigoundanur Athur Karur District.	Rough Stone	Pugalur Taluk, Kuppam	108/1	**5.82.0**	15.5.2006 to 14.5.2011
3	V.K.Subramani, S/o.KaruppannaGounder, Velliyampalayam, PunnamChadram, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	99/2(P)	**0.63.0**	21.10.2010 to 20.10.2015
4	K.Chellappan, Thalaiyeethupatti Kuppam Post, Karur District.	Rough Stone	Pugalur Taluk, Kuppam	106/2	**2.25.0**	8.6.2012 to 7.6.2017

28/8/23

Deputy Director,
Geology and Mining,
Karur

28/08/2023

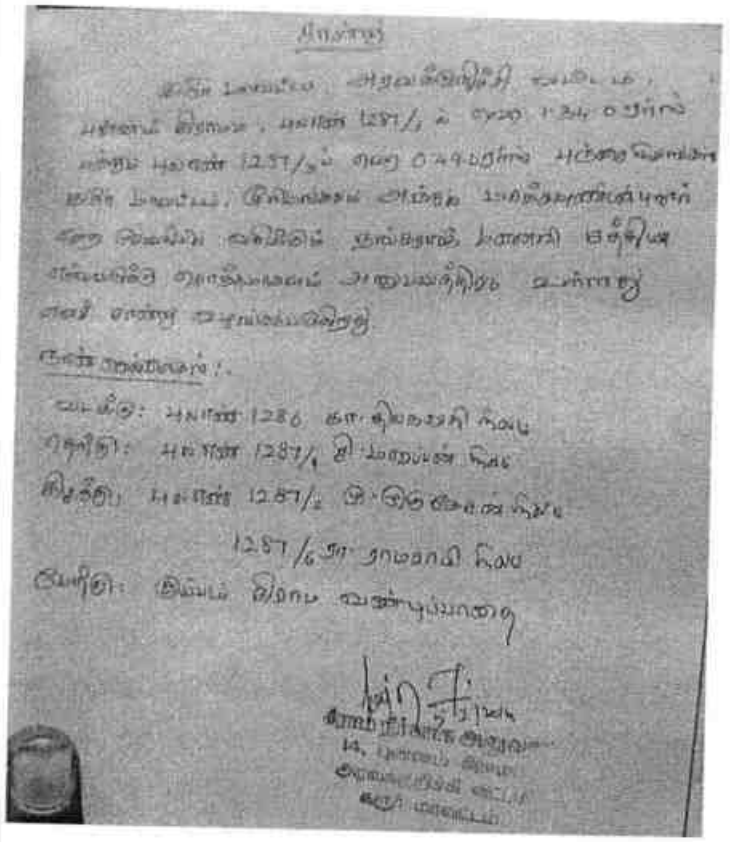


Fig. VAO letter

Annexure-V

Category of the Industry :

RED

CONSENT ORDER NO. 2208244806143 DATED: 13/04/2022.

PROCEEDINGS NO.F.0920KAR/RS/DEE/TNPCB/KAR/A/2022 DATED: 13/04/2022

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT –M/s. T SATHYA ROUGH STONE QUARRY , S.F.No. 1287/1 & 1287/3, PUNNAM 4 PARTS village, Pugalur Taluk and Karur District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. CTO Proc. F.0920KAR/RS/DEE/TNPCB/KAR/W&A/2018 DATED: 03/10/2018.
2. Unit's application for RCO through OCMMS on 8/4/2022.
3. IR.No : F.0920KAR/RS/AEE/KAR/2022 dated 09/04/2022.

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietrix
M/s.T SATHYA ROUGH STONE QUARRY,
S.F.No. 1287/1 & 1287/3,
PUNNAM 4 PARTS village,
Pugalur Taluk,
Karur District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending July 30, 2022

RAVICHANDRAN KANDASAMY
Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:53:53 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
	Product Details		
1.	Mining of Rough Stone over a Extent of 1.83 hectares lying in Latitude 10°59'26.39" to 10°59'21.09"and Longitude 77°58'59.89" to 77°58'03.2"	42254	cu.m over a period of Five Years

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I	**Point source emission with stack :**			
Stack No.	**Point Emission Source**	**Air pollution Control measures**	**Stack height from Ground Level in m**	**Gaseous Discharge in Nm3/hr**
II	**Fugitive/Noise emission :**			
Sl. No.	**Fugitive or Noise Emission sources**	**Type of emission**	**Control measures**	
1.	Top Soil Removal	Fugitive	Water Sprinklers	
2.	Drilling Operations	Fugitive	Water injection	
3.	Blasting	Fugitive	Good blasting practices & Water Sprinklers	
4.	Loading,unloading and hauling	Fugitive	Water Sprinklers	
5.	Blasting	Noise	Good blasting practices	

Special Additional Conditions:

i. The unit shall install the approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.

ii. The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall operate all the APC measures continuously and efficiently so as to achieve the AAQ/Emission standards prescribed by the Board.
2. The unit shall adhere to Ambient Noise level standards prescribed by the Board.
3. The unit shall restrict the quarrying operations between 7 Am and 5 Pm.
4. No change in mining technology or scope of working shall be made without prior permission approval of the SEIAA,Chennai.
5. The unit shall comply with the conditions mentioned in the Environmental Clearance obtained from SEIAA vide Lr.No. SEIAA–TN/F-No 4274/1(a)/ EC.No 3883/ 2016 dated 5/6/2017.
6. The unit shall continue to develop green belt all along the boundary of the quarry lease area.
7. The unit shall not use "use and throwaway plastics' such as plastic sheets used for food wrapping , spreading on dining table etc., plastic plates , plastic coated tea cups, plastic tumbler , water pouches and packets, plastic straw, plastic carry bags and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm, stainless steel, glass, porcelain plates/cups/cloth bag, jute bag etc.,

RAVICHANDRAN KANDASAMY

Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:54:20 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

To
The Proprietrix,
M/s.T SATHYA ROUGH STONE QUARRY,
No.2,Masagoundenpudhur,
Punjai Pugalur South Village,
Pugalur Taluk,Karur District.,
Pin: 639113

Copy to:

1.The Commissioner, K.PARAMATHI-Panchayat Union, Pugalur Taluk, Karur District .
2. Copy submitted to the Member Secretary. Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Salem for favour of kind information.
4. File

Category of the Industry :

RED

CONSENT ORDER NO. 2208144806143 DATED: 13/04/2022.

PROCEEDINGS NO.F.0920KAR/RS/DEE/TNPCB/KAR/W/2022 DATED: 13/04/2022

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. T SATHYA ROUGH STONE QUARRY , S.F.No. 1287/1 & 1287/3, PUNNAM 4 PARTS village, Pugalur Taluk and Karur District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. CTO Proc. F.0920KAR/RS/DEE/TNPCB/KAR/W&A/2018 DATED: 03/10/2018.
2. Unit's application for RCO through OCMMS on 8/4/2022.
3. IR.No : F.0920KAR/RS/AEE/KAR/2022 dated 09/04/2022.

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Proprietrix
M/s.T SATHYA ROUGH STONE QUARRY,
S.F.No. 1287/1 & 1287/3,
PUNNAM 4 PARTS Village ,
Pugalur Taluk ,
Karur District .

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending July 30, 2022

RAVICHANDRAN KANDASAMY
Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:55:13 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
	Product Details		
1.	Mining of Rough Stone over a Extent of 1.83 hectares lying in Latitude 10°59'26.39" to 10°59'21.09"and Longitude 77°58'59.89" to 77°58'03.2"	42254	cu.m over a period of Five Years

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	0.6	On Industrys own land
Effluent Type : Trade Effluent			

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

Additional Conditions:

1. The unit shall not generate trade effluent at any stage of its manufacturing process.
2. The unit shall treat and dispose the sewage generated from their premises through septic tank and soak pit arrangements.
3. The unit shall restrict the quarrying operations between 7 Am and 5 Pm.
4. No change in mining technology or scope of working shall be made without prior permission approval of the SEIAA,Chennai.
5. The unit shall comply with the conditions mentioned in the Environmental Clearance obtained from SEIAA vide Lr.No. SEIAA–TN/F-No 4274/1(a)/ EC.No 3883/ 2016 dated 5/6/2017.

RAVICHANDRAN KANDASAMY

Digitally signed by RAVICHANDRAN KANDASAMY
Date: 2022.04.19 13:55:34 +05'30'

District Environmental Engineer,
Tamil Nadu Pollution Control Board,
KARUR

To
The Proprietrix,
M/s.T SATHYA ROUGH STONE QUARRY,
No.2,Masagoundenpudhur,
Punjai Pugalur South Village,
Pugalur Taluk,Karur District.,
Pin: 639113

Copy to:

1.The Commissioner, K.PARAMATHI-Panchayat Union, Pugalur Taluk, Karur District .
2. Copy submitted to the Member Secretary, Tamil Nadu Pollution Control Board, Chennai for favour of kind information.
3. Copy submitted to the JCEE-Monitoring, Tamil Nadu Pollution Control Board, Salem for favour of kind information.
4. File

Annexure -A

From
Dr.P.Jayapal M.Sc., Ph.D.,,
Deputy Director,
Geology and Mining,
Karur.

To
Tmt.T.Sathiya,
W/o. Thangaraj,
Door No.2,
Mashagoundanpudhur,
Punjai pugalur South,
Punjai Pugalur,
Mulimangalam,
Pugalur Taluk,
Karur District.

Rc.No.494/Mines/2022, Dated:24.11.2023

Sir,

Sub: Mines and Minerals – Minor Mineral – Karur District – Pugalur Taluk – Punnam Village - S.F.Nos. 1287/1(Part) (1.31.00 hect) and 1287/3 (0.49.0 hect) Over an extant 1.80.00 hectares - Quarry lease application – Rough stone and Gravel – preferred by Tmt.T.Sathya - Mining Plan approved - Additional Details requested by the applicant - details furnished – Regarding.

Ref:
1. Quarry lease application for Rough stone and Gravel preferred by Tmt.T.Sathiya, W/o. Thangaraj, Door No.2, Mashagoundanpudhur, Punjai pugalur South, Punjai Pugalur, Mulimangalam, Pugalur Taluk, Karur District., dated:29.09.2022.
2. Pricise Area Communication Notice Rc.No.494/Mines/2022, Dated: 24.07.2023.
3. Mining Plan submitted by Tmt.T.Sathiya, Letter dated: 08.08.2023.
4. The Deputy Director, Geology and Mining, Karur Mining Plan approved letter Rc.No. 494/Mines/2022, Dated:11.08.2023
5. Tmt.T.Sathiya letter dated: 15.11.2023

Kind attention is invited to the reference cited above.

2. In the reference 1st cited, Tmt.T.Sathiya has applied quarry lease for quarrying Rough stone and Gravel lease in patta land of - S.F.Nos. 1287/1(Part) (1.31.00 hect) and 1287/3 (0.49.0 hect) Over an extant 1.80.00 hectares of Punnam Village, Pugalur Taluk, Karur

District. The Deputy Director of Geology and Mining, Karur has issued precise area for the applied area vide ref. 2nd cited.

Accordingly, the applicant has submitted Mining Plan and it was approved by the Deputy Director, Geology and Mining, Karur vide ref. 4th cited.

3. Tmt.T.Sathya in representation vide letter dated 15.11.2023 has requested the Deputy Director, Geology and Mining, Karur to provide the following details for want of Environmental Clearance as prescribed by SEAC.

4. In this regard the detail requested by the applicant is furnished as follows.

i. Original Pit Dimension of the existing quarry.

Average Existing Pit Dimension as per the approved Mining plan			
Level	Length (m)	Width (m)	Depth (m)
I	73	20	5
II	47	45	10
III	26	97	12

ii. Period of operation and stoppage of earlier mining operations.

From the records, it is ascertained that previously quarry leases had been granted Three times in respect of Rough Stone for five years each totally 15 years in the area proposed now for Rough Stone quarry lease and lease granted details as follows:-

1. The District Collector's Proceedings Rc.No.D.7/2002, Dt:26.07.2002 in S.F.Nos. 1287/1 (1.34.00 hect) and 1287/3 (0.49.0 hect) Over an extant 1.83.00 in favour of Thiru.K.Thangaraj for a period of 5 years from 11.10.2002 to 10.10.2007.

2. The District Collector's Proceedings Rc.No.B.257/2008, Dt:13.12.2009 in S.F.Nos. 1287/1 (1.34.00 hect) and 1287/3 (0.49.0 hect) Over an extant 1.83.00 in favour of Tmt.T.Sathya for a period of 5 years from 13.02.2009 to 12.02.2014.

3. The District Collector's Proceedings Rc.No.226/Mines/2014, Dt:13.07.2017 in S.F.Nos. 1287/1 (1.34.00 hect) and 1287/3 (0.49.0 hect) Over an extant 1.83.00 in favour of Tmt.T.Sathya for a period of 5 years from 31.07.2017 to 30.07.2022.

iii. Quantity and depth granted in earlier mining operations.

The approved quantity of previous approved mining plan and transported quantity of the previous lease Period is furnished below.

Approved quantity	:	42254
Permit obtained Quantity	:	10956
Last Permit Date	:	14.07.2022

iv. Mined out Depth as on dated Vs EC Permitted Depth.

Quarry Existing Depth	:	12 Mtrs.
SEIAA Permitted Depth	:	14 Mtrs.

v. Violation in the quarry during the past working.

- Nil

vi. Mining Carried out in Non EC area.

- Nil

24/11/23

Deputy Director,
Geology and Mining,
Karur

24/11/2023

Copy to :
The Chairman,
Tamil Nadu State Environment
Impact Assessment Authority,
3rd Floor, Panagal Maaligai,
No.1, Jeenis Road, Saidapet,
Chennai - 600 015.

Annexure-B

தமிழ்நாடு அரசு

வருவாய்த் துறை

நில உரிமை விபரங்கள் : இ. எண் 10(1) பிரிவு

மாவட்டம் : கரூர்

வட்டம் : புகழூர்

வருவாய் கிராமம் : புன்னம்

பட்டா எண் : 6624

உரிமையாளர்கள் பெயர்

1. தங்கராஜ் மனைவி சத்தியா

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	
1287	1	1 - 34.00	1.85	--	--	--	--	---- -- 11-10-2014
1287	3	0 - 49.00	0.67	--	--	--	--	---- -- 11-10-2014
		1 - 83.00	2.52					

குறிப்பு2 :

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **14/07/017/06624/60718** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.
2. இத் தகவல்கள் 27-11-2023 அன்று 09:47:45 AM நேரத்தில் அச்சடிக்கப்பட்டது.
3. கைப்பேசி கேமராவின்2D barcode படிப்பான் மூலம் படித்து 3G/GPRS வழி இணையதளத்தில் சரிபார்க்கவும்

அ-பதிவேடு விவரங்கள்

மாவட்டம் : கரூர்

வட்டம் : புகழூர்

கிராமம் : புன்னம்

1. புல எண்	**1287**	9. மண் வயனமும் ரகமும்	**8 - 4**
2. உட்பிரிவு எண்	**1**	10. மண் தரம்	**6**
3. பழைய புல உட்பிரிவு எண்	**1287 ,**	11. தீர்வை (ரூ - ஹெ)	**1.38**
4. பகுதி	**P**	12. பரப்பு (ஹெக்டேர் - ஏர்)	**1 - 34.00**
5. அரசு / ரயத்துவாரி	**ரயத்துவாரி**	13. மொத்த தீர்வை (ரூ - பை)	**1.85**
6. நிலத்தின் வகை	**புஞ்சை**	14. பட்டா எண்	**6624**
7. பாசன ஆதாரம்	**-**	15. குறிப்பு	**-**
8. இரு போகமா	**1**	16. பெயர்	**1.சத்தியா**

குறிப்பு 1:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **10718** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

அ-பதிவேடு விவரங்கள்

மாவட்டம் : கரூர்

வட்டம் : புகழூர்

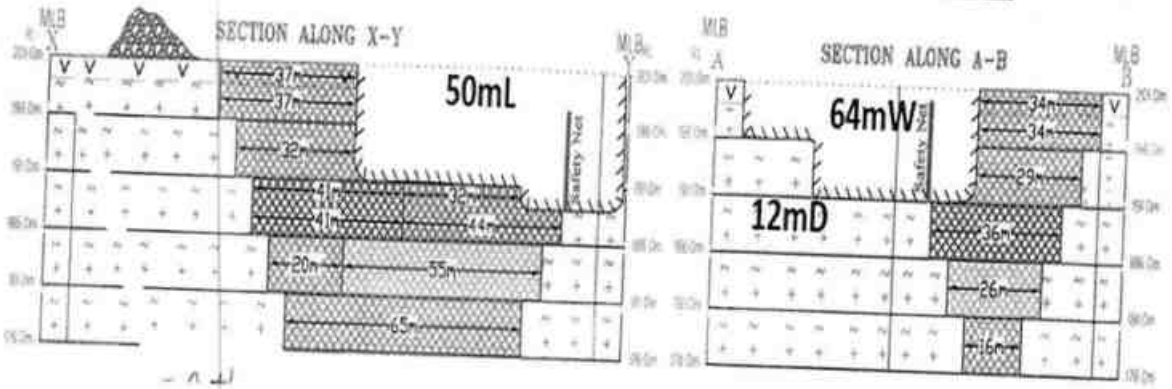
கிராமம் : புன்னம்

1. புல எண்	**1287**	9. மண் வயனமும் ரகமும்	**8 - 4**
2. உட்பிரிவு எண்	**3**	10. மண் தரம்	**6**
3. பழைய புல உட்பிரிவு எண்	**1287 ,**	11. தீர்வை (ரூ - ஹெ)	**1.38**
4. பகுதி	**P**	12. பரப்பு (ஹெக்டேர் - ஏர்)	**0 - 49.00**
5. அரசு / ரயத்துவாரி	**ரயத்துவாரி**	13. மொத்த தீர்வை (ரூ - பை)	**0.67**
6. நிலத்தின் வகை	**புஞ்சை**	14. பட்டா எண்	**6624**
7. பாசன ஆதாரம்	**-**	15. குறிப்பு	**-**
8. இரு போகமா	**1**	16. பெயர்	**1.சத்தியா**

குறிப்பு 1:

1. மேற்கண்ட தகவல் / சான்றிதழ் நகல் விவரங்கள் மின் பதிவேட்டிலிருந்து பெறப்பட்டவை. இவற்றை தாங்கள் **https://eservices.tn.gov.in** என்ற இணைய தளத்தில் **10718** என்ற குறிப்பு எண்ணை உள்ளீடு செய்து உறுதி செய்துகொள்ளவும்.

PLATE No. IV


SECTION ALONG X-Y
50mL
37m
37m
32m
41m
41m
32m
44m
20m
55m
65m
Safety Net
SECTION ALONG A-B
64mW
12mD
34m
34m
29m
36m
26m
16m
Safety Net

Mining Plan

- 131 -

MINING PLAN

FOR PUNNAM VILLAGE ROUGH STONE AND GRAVEL MINING LEASE WITH PROGRESSIVE QUARRY CLOSURE PLAN

Patta- Ryotwari land/Opencast - Manual mining/ Non- Forest/Non - Captive Use – "B2" Category

Lease period 5 Years from the date of lease execution

(Prepared under rule 41 of Tamil Nadu Minor Mineral Concession Rules, 1959)

LOCATION OF THE LEASE AREA

STATE	:	TAMILNADU
DISTRICT	:	KARUR
TALUK	:	PUGALUR
VILLAGE	:	PUNNAM
S.F. NO'S	:	1287/1 (Part) and 1287/3
EXTENT	:	1.80.0 HECTARES

ADDRESS OF THE APPLICANT

Mrs.T.Sathya,

W/o.Thangarasu,
Door No.2, Masagoundanpudhur,
Punjaipugalur South,
Nanjaipugalur, Moolimangalam,
Pugalur Taluk,
Karur District.

This Mining Plan is approved subject to the conditions/stipulations indicated in the Mining Plan approval Letter No: 494/Mines/2022 Dated: 11/08/2023

PREPARED BY

Dr.S.KARUPPANNAN.M.Sc., Ph.D.,
RQP/MAS/263/2014/A
GEO TECHNICAL MINING SOLUTIONS
No: 1/213 -B, Ground Floor, Natesan Complex,
Oddapatti, Collectorate Post office,
Dharmapuri -636705. Tamil Nadu.
Mob. : +91 9443937841, +917010076633,
E-mail: info.gtmsdpi@gmail.com ,
Website: www.gtmsind.com

T. Sathya

CONTENTS

T. Sathy

ANNEXURES

Sl. No.	Description	Annexure No.
1.	Copy of precise area communication letter	I
2.	Copy of Previous Lease Particulars a. Environmental Clearance b. Proceeding Letter	II
	c. Lease Deed	
3.	Copy of **FMB** (Field Measurement book)	III
4.	Copy of combined sketch	IV
5.	Copy of "A" registered	V
6.	Copy of Chitta & adangal	VI
7.	Photocopy of the proposed lease area	VII
8.	Copy of ID Proof of the authorized signature	VIII
9.	Copy of RQP certificate	IX

T. Sathy

LIST OF PLATES

S. No	Description	Plate No.	Scale
1	Key map	I	Not to scale
2	Location plan	I-A	Not to scale
3	Toposheet map	I-B	Scale 1:1,00,000
4.	Satellite imagery map	I-C	Scale 1: 5,000
5.	Environmental plan	I-D	Scale 1: 5,000
6.	Mine lease plan	II	Plan Scale: 1:1000
7.	Surface, Geological plan and sections	III	Plan scale: 1:1000 **Section**: HOR 1:1000 VER 1:500
8.	Year wise development, production plan and sections	IV	Plan scale: 1:1000 **Section**: HOR 1:1000 VER 1:500
9.	Mine layout plan and land use pattern	V	Plan scale: 1:1000
10.	Conceptual plan and sections	VI	Plan scale: 1:1000 **Section**: HOR 1:1000 VER 1:500

K. T. Sathy

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Geo Technical Mining Solutions

1/213B, Natesan Complex, Dharmapuri Salem Main Road, Oddapatti, Collectorate post office, Dharmapuri, Tamil Nadu-636705

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 including opencast/ underground mining	1	1 (a) (i)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in SAAC minutes dated September 13, 2022 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/23/2641 dated January 19, 2023. The accreditation needs to be renewed before the expiry date by Geo Technical Mining Solutions following due process of assessment.

Sr. Director, NABET
Dated: January 19, 2023

Certificate No.
NABET/EIA/2124/SA 0184

Valid up to
Dec 31, 2023

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